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INTERVENTO

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

**PROGETTO DI MANUTENZIONE STRAORDINARIA PER IL RESTAURO E RISANAMENTO
CONSERVATIVO DI DUE CASAMENTI A CORTE SITI IN
COMUNE DI BOLOGNA LOCALITA' CIRENAICA.
VIA LIBIA CIV. 29÷51 PER COMPLESSIVI 70 ALLOGGI
DI ERP CON RELATIVE PERTINENZE E PARTI COMUNI**

LOTTO **3053/PN_2**

PROGETTO ESECUTIVO

TAV.		OGGETTO			DATA		
TAB_03		TABULATI DI CALCOLO CIVICO 33 STATO DI FATTO			Settembre 2022		
SCALA					N. DISEGNO		
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02							
03							

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SIDEL
INGEGNERIA

TABULATI DI CALCOLO
CIVICO 33
STATO DI FATTO



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1 Risultati numerici

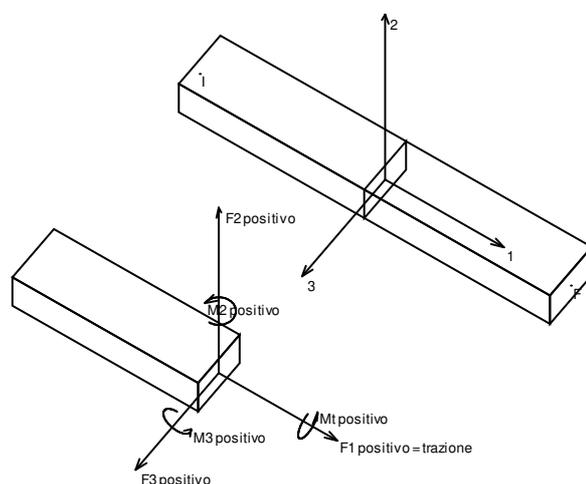
1.1 Sollecitazioni

1.1.1 Sollecitazioni aste

1.1.1.1 Convenzioni di segno aste

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

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



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

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

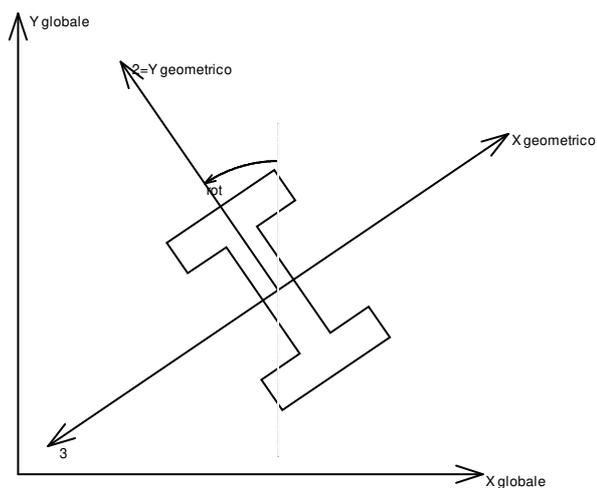
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

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

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

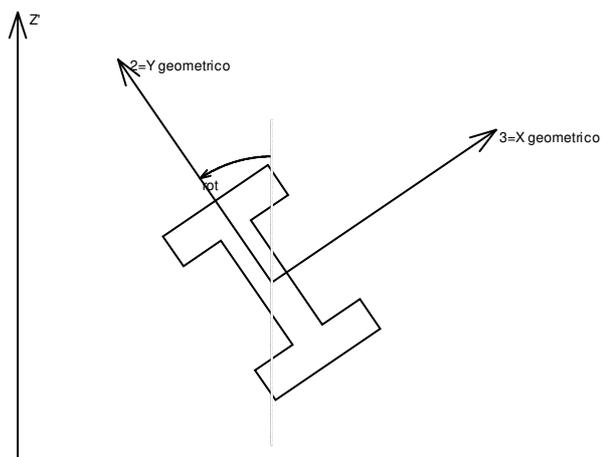


Sistema locale aste verticali



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

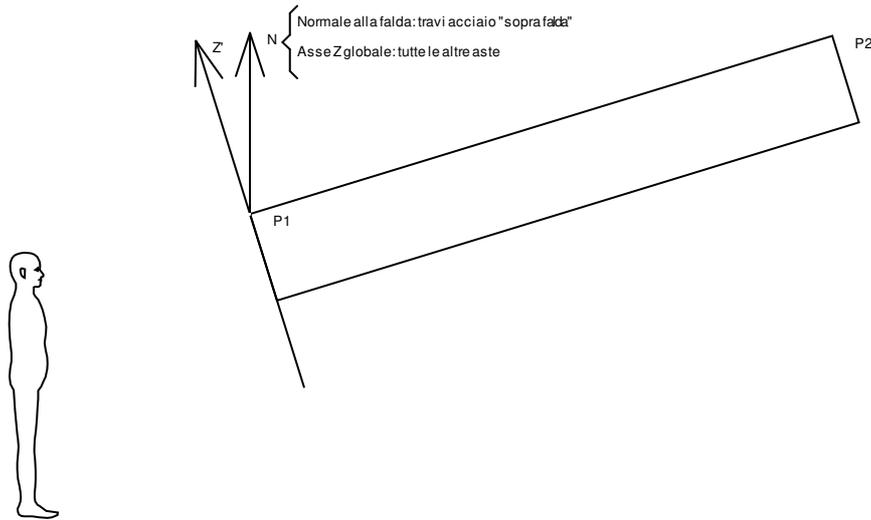
Sistema locale aste non verticali



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

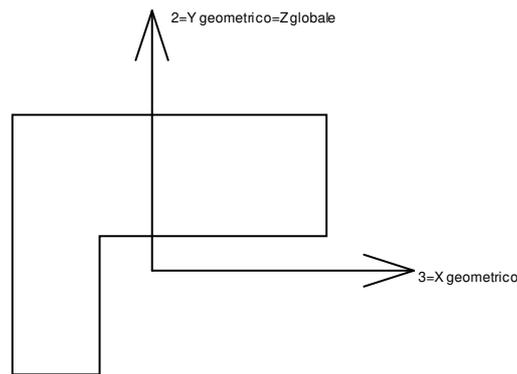
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



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

1.1.1.2 Sollecitazioni estreme aste

Asta: elemento asta a cui si riferiscono le sollecitazioni.

Ind.: indice dell'asta.

Cont.: contesto a cui si riferisce la sollecitazione

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

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

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

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

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

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

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

F1: componente F1 della sollecitazione dell'asta. [kN]

F2: componente F2 della sollecitazione dell'asta. [kN]

F3: componente F3 della sollecitazione dell'asta. [kN]

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

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

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

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

Sollecitazioni con sforzo normale (N) minimo

Vengono mostrate le sole 5 aste più sollecitate.



Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
118	SLU 79	31	-22.32	-1.07	16.97	-49.52	1.09	4.92	-0.1949	5.6066	15.1162
101	SLV 7	31	-19.56	6.6	15.71	-47.84	7.06	-1.27	0.4255	0.2029	-9.8133
100	SLV 7	31	-19.12	6.14	15.91	-46.69	5.87	-0.26	0.054	0.8991	-2.7539
99	SLV 7	31	-18.45	5.43	16.21	-45.35	3.14	1.17	-0.0282	1.0649	1.6474
120	SLU 80	31	-23.19	-1.91	16.52	-45.07	8.91	-0.56	1.1576	0.9137	5.92

Sollecitazioni con sforzo normale (N) massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
206	SLV 11	31	-18.45	-0.97	16.8	33.92	-0.41	0.2	0.005	0.2983	0.6047
101	SLV 9	1	-19.12	6.14	15.91	31.82	0.05	1.69	0.5879	-0.6901	-6.572
100	SLV 9	1	-18.45	5.43	16.21	30.11	2.41	1.02	0.2104	-1.5212	-2.2783
128	SLV Y	1	-11.02	-3.49	15.63	29.94	-0.28	0.09	-0.0034	-0.1243	-0.3801
177	SLV 7	31	-6.29	-0.97	16.79	29.48	-0.64	-0.33	-0.0049	-0.4172	0.4657

Sollecitazioni con momento M2 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
113	SLU 71	31	-20.24	0.96	18.07	-25.46	1.36	-1.38	-10.5306	-10.931	-23.0753
95	SLU 71	31	-16.42	3.31	17.13	-24.33	-5.62	-1	-1.2358	-7.0429	40.5395
96	SLU 71	1	-16.42	3.31	17.13	-24.13	1.33	1.15	-1.0484	-6.9505	40.2232
112	SLU 71	31	-20.15	1.05	18.12	-16.56	34.74	-1.94	1.8226	-6.7162	-32.8737
337	SLV 7	1	-7.64	-0.97	16.79	10.18	-4.24	8.27	0.1391	-6.714	-2.5147

Sollecitazioni con momento M2 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
57	SLU 71	1	-4.75	1.05	18.1	0.94	16.02	-11.31	12.321	12.1676	-13.4567
84	SLU 71	31	-8.31	3.35	17.12	-30.74	-5.31	0.8	1.0632	6.6434	37.9862
85	SLU 71	1	-8.31	3.35	17.12	-30.46	1.8	-1.36	0.8811	6.5392	37.6797
337	SLV 9	1	-7.64	-0.97	16.79	-12.41	2.73	-8.52	-0.0869	6.2432	2.375
344	SLV 5	31	-17.1	-0.97	16.8	-10.82	-2.06	8.91	0.0923	6.1976	2.4098

Sollecitazioni con momento M3 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
112	SLU 80	31	-20.15	1.05	18.12	-17.44	34.95	-1.34	1.8202	-6.4093	-32.9505
101	SLU 80	31	-19.56	6.6	15.71	-25.86	15.58	0.86	2.1907	1.8791	-31.2051
90	SLU 80	31	-5.21	6.6	15.71	-31.11	13.83	-1.07	-2.412	-2.4552	-30.8344
114	SLU 72	1	-20.24	0.96	18.07	-18.91	-34.02	-2.6	-1.5545	-2.5905	-29.338
67	SLU 80	1	-4.75	1.05	18.1	-16.1	-29.14	1.8	-1.697	-6.1635	-25.9412

Sollecitazioni con momento M3 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
95	SLU 71	31	-16.42	3.31	17.13	-24.33	-5.62	-1	-1.2358	-7.0429	40.5395
96	SLU 71	1	-16.42	3.31	17.13	-24.13	1.33	1.15	-1.0484	-6.9505	40.2232
84	SLU 71	31	-8.31	3.35	17.12	-30.74	-5.31	0.8	1.0632	6.6434	37.9862
85	SLU 71	1	-8.31	3.35	17.12	-30.46	1.8	-1.36	0.8811	6.5392	37.6797
97	SLU 71	1	-16.86	3.77	16.94	-24.02	8.07	0.78	-4.1368	-5.3627	35.5357

1.1.2 Sollecitazioni gusci

1.1.2.1 Convenzioni di segno gusci

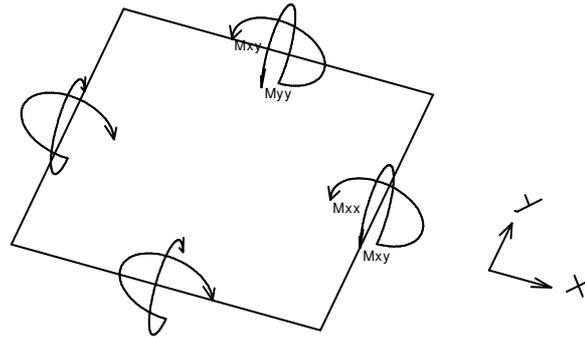
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

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

Convenzione di segno per gusci non verticali

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

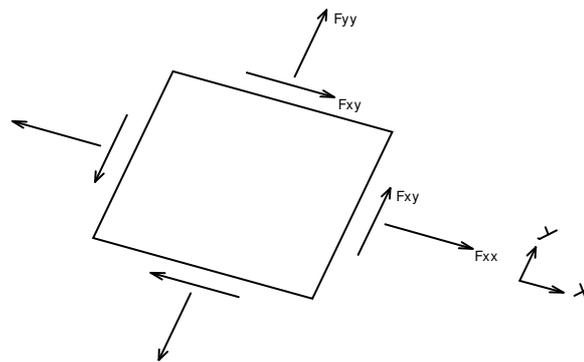
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

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

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



Si definiscono:

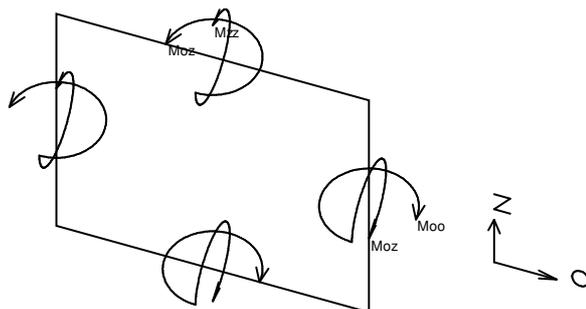
- F_{xx} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che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

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

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

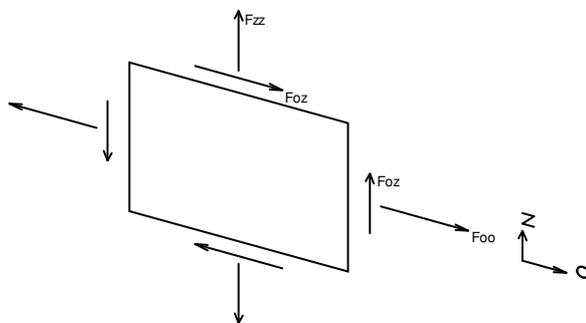
Convenzione di segno per gusci verticali

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



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

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



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

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

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

1.1.2.2 Sollecitazioni estreme gusci

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

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

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

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.

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

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

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

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

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

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

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

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

Sollecitazioni con momento M11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
			M11	M12	M22	F11	F12	F22	V13	V23
4911	SLV 5	14334	-32.99	-0.85	7.65	10	1	5	-2097	-70



Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
4930	SLV 11	14334				-32.33	1.21	-8.08	68	12	-273	-2104	44
4931	SLV 7	13883				-25.41	0.42	4.84	-132	21	-263	-1252	37
53	SLV 5	3108				-21.58	-0.71	-10.57	486	242	-429	-99	29
8461	SLV 5	11565				-20.24	-3.22	9.6	112	-99	-179	125	-50

Sollecitazioni con momento M11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
4911	SLV 11	14334				33.02	0.89	-7.67	-32	5	-12	2097	70
4930	SLV 5	14334				32.32	-1.15	7.88	-53	-1	-49	2103	-44
4931	SLV 9	13883				25.41	-0.37	-4.84	128	-14	-64	1252	-36
8461	SLV 11	11565				19.85	3.17	-9.8	-42	11	-120	-122	51
4924	SLV 5	13468				19.55	-2.44	3.61	23	-7	11	-870	-284

Sollecitazioni con momento M22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
4671	SLU 81	13168				-5.64	-1.07	-18.87	-19	13	-173	36	345
15081	SLV 1	19026				-3.23	2.79	-16.05	139	80	-26	-16	50
15191	SLV 5	19044				-2.77	3.27	-15.33	-89	-48	196	-14	39
7247	SLU 84	13167				-0.84	0	-14.45	-52	0	115	20	-205
8880	SLV 9	19045				-2.6	-2.99	-14.39	-81	38	160	13	-36

Sollecitazioni con momento M22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
9499	SLU 80	19776				8.29	3.97	41.28	-31	-34	16	-30	-174
9496	SLU 80	19776				2.19	-8.35	29.11	12	-14	-104	24	-69
9509	SLU 80	19765				8.02	1.82	26.8	-14	-28	-123	-40	-73
9508	SLU 80	19765				7.59	-1.06	26.69	-62	74	37	17	-73
9500	SLU 80	19778				0.54	3.83	21.89	-19	-13	-19	-5	-62

Sollecitazioni con sforzo F11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
9136	SLU 80	19734				-3.14	0.41	-3.42	-2460	-1078	-1675	10	-31
9137	SLU 79	19743				-0.09	-0.49	3.18	-1569	-507	-987	-19	-14
4934	SLU 71	19064				-1.86	-0.84	-2.48	-1036	-1163	-2639	33	26
12434	SLU 71	19110				0.39	-0.35	-0.25	-1036	-431	-749	10	9
4955	SLU 79	18466				-0.54	0.59	-3.19	-1003	-345	-778	-468	2

Sollecitazioni con sforzo F11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
9136	SLU 72	19795				3.74	-0.18	6.44	2545	348	-189	11	-31
9137	SLU 72	19796				-2.85	-1.6	3.75	1680	907	1579	-21	-14
12434	SLU 71	18408				-0.36	-0.02	0.85	1320	669	1096	10	9
4934	SLU 79	18467				7.49	-0.53	2.92	1079	892	1514	-424	80
12830	SLU 71	18406				-0.23	0.15	0.76	929	-552	992	-8	6

Sollecitazioni con sforzo F22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
4934	SLU 71	19064				-1.86	-0.84	-2.48	-1036	-1163	-2639	33	26
15953	SLV 9	3684				0.12	-0.55	0.61	39	-217	-1877	1	-2
9136	SLU 72	19734				-3.15	0.41	-3.41	-2451	-1074	-1678	11	-31
9137	SLU 72	19795				5.75	-0.92	7.13	672	-796	-1669	-21	-14
9526	SLU 72	19688				-1.7	-0.58	-2.99	-563	1032	-1517	-14	-32

Sollecitazioni con sforzo F22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
9137	SLU 80	19796				-2.89	-1.6	3.73	1670	908	1586	-22	-14
4934	SLU 71	18466				1.05	0.34	3.15	897	1382	1570	-383	84
15953	SLV Y	3684				-0.17	0.41	-0.37	-18	153	1288	-2	1
15927	SLV Y	3029				-0.26	-0.19	0.51	254	22	1173	-1	1
9526	SLU 80	19750				-4.88	1.32	6.21	733	-575	1148	91	-20

1.1.2.3 Sollecitazioni estreme gusci non verticali

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

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

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

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.



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

Sollecitazioni con momento Mxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
7554	SLV 1	3234				-7.16	-0.36	-3.38	17	87	74	19	9
7553	SLV 1	3234				-7.05	0.34	-3.57	34	-9	93	19	-8
7988	SLV 15	3206				-6.18	-0.51	-2.44	-185	42	-66	-28	-6
7978	SLV 15	3206				-5.13	1.01	-2.21	-195	44	-43	-14	12
9203	SLV 7	18909				-3.93	0.23	-4.28	-17	-3	15	-13	-18

Sollecitazioni con momento Mxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
17325	SLV 15	3209				5.2	0.08	3.84	-94	-43	-15	-21	1
7554	SLV X	3234				3.81	0.22	2.54	-84	-44	-84	-8	-6
7553	SLV X	3234				3.75	-0.17	2.13	-95	23	-95	-8	5
9208	SLV 5	18904				3.65	0.26	5.54	-12	-5	-19	14	25
9209	SLV 9	18904				3.55	-0.42	4.83	7	7	18	-14	-18

Sollecitazioni con momento Myy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
9208	SLV 11	18904				-3.63	-0.27	-5.81	-6	-7	-29	-15	-26
9209	SLV 11	18904				-3.14	0.36	-5.62	-3	-4	-28	16	-21
7554	SLV 3	3234				-6.65	-0.47	-4.34	34	64	98	17	11
9203	SLV 7	18909				-3.93	0.23	-4.28	-17	-3	15	-13	-18
9224	SLV 7	18888				-3.46	0.17	-4.1	-4	-3	-6	-10	-14

Sollecitazioni con momento Myy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
9208	SLV 5	18904				3.65	0.26	5.54	-12	-5	-19	14	25
9209	SLV 5	18904				3.15	-0.31	5.36	-10	-3	-18	-15	20
17325	SLV 13	3209				5.11	-0.36	3.97	-69	-36	-30	-19	1
1036	SLV 13	3268				2.45	1.76	3.81	-128	-14	-383	-4	-11
9203	SLV 9	18909				3.38	-0.31	3.56	9	-5	-89	11	15

Sollecitazioni con sforzo Fxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
7988	SLV 11	3210				-2.04	-0.98	0.19	-447	99	-58	-1	-9
7563	SLV 5	3773				0.64	0.44	0.58	-422	82	-125	7	-2
7542	SLV 7	3806				0.61	-0.42	0.7	-392	-94	-126	7	2
1035	SLV 15	2890				-1.72	-1.14	-2.13	-390	166	-139	3	5
9624	SLV 5	3021				-0.67	-0.19	-0.54	-370	-102	-65	-3	2

Sollecitazioni con sforzo Fxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
1036	SLV 7	3232				-1.16	-1.3	-1.29	217	250	538	0	4
1035	SLV Y	2878				0.44	0.15	0.15	176	-2	-2	0	1
18838	SLV X	7368				0.58	-0.31	0.44	160	-6	-5	0	0
18837	SLV X	6375				-0.42	-0.43	-0.43	156	-3	-20	1	0
7563	SLV Y	3773				-0.22	-0.13	-0.34	139	-53	72	-2	1

Sollecitazioni con sforzo Fyy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
1036	SLV 9	3268				1.69	1.4	3.65	-128	-133	-454	-2	-11
7564	SLV 5	3153				-1.53	0.4	-2.11	-256	164	-411	6	-2
7541	SLV 7	3389				-1.48	-0.24	-2.09	-227	-144	-393	6	1
25	SLU 84	67				-0.03	0.01	-0.12	-74	-11	-353	0	0
17119	SLU 84	68				-0.03	-0.01	-0.11	-70	11	-337	0	0

Sollecitazioni con sforzo Fyy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
1036	SLV 7	3232				-1.16	-1.3	-1.29	217	250	538	0	4



Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
7564	SLV Y	3153				0.67	0.01	0.88	64	-50	157	-2	0
25	SLV X	440				-0.07	0.17	-0.58	16	-35	143	0	-4
7541	SLV X	3389				0.58	0.17	0.84	112	31	133	-3	-1
2968	SLU 84	3894				-0.03	0.19	-0.15	6	59	128	2	-1

1.1.2.4 Sollecitazioni estreme gusci verticali

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

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

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

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.

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

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

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

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

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

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

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

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

Sollecitazioni con momento Moo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
4911	SLV 5	14334				-32.99	-0.85	7.65	10	1	5	-2097	-70
4930	SLV 11	14334				-32.33	1.21	-8.08	68	12	-273	-2104	44
4931	SLV 7	13883				-25.41	0.42	4.84	-132	21	-263	-1252	37
8461	SLV 5	11565				-20.24	-3.22	9.6	112	-99	-179	125	-50
4924	SLV 11	13468				-19.59	2.49	-3.65	-26	6	-18	870	286

Sollecitazioni con momento Moo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
4911	SLV 11	14334				33.02	0.89	-7.67	-32	5	-12	2097	70
4930	SLV 5	14334				32.32	-1.15	7.88	-53	-1	-49	2103	-44
4931	SLV 9	13883				25.41	-0.37	-4.84	128	-14	-64	1252	-36
53	SLV 5	3108				21.58	-0.71	10.57	486	-242	-429	-99	-29
8461	SLV 11	11565				19.85	3.17	-9.8	-42	11	-120	-122	51

Sollecitazioni con momento Mzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9499	SLU 80	19776				-8.29	3.97	-41.28	-31	34	16	-30	174
9496	SLU 80	19776				-2.19	-8.35	-29.11	12	14	-104	24	69
9509	SLU 80	19765				-8.02	1.82	-26.8	-14	28	-123	-40	73
9508	SLU 80	19765				-7.59	-1.06	-26.69	-62	-74	37	17	73
9500	SLU 80	19778				-0.54	3.83	-21.89	-19	13	-19	-5	62

Sollecitazioni con momento Mzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
15191	SLV 5	19044				2.77	3.27	15.33	-89	48	196	-14	-39
15081	SLV 15	19026				0.93	-2.28	14.64	60	62	77	8	-45
8880	SLV 9	19045				2.6	-2.99	14.39	-81	-38	160	13	-36
8501	SLV 9	11503				12.5	2.68	14.04	-93	31	-37	67	39
12797	SLU 71	19083				8.84	1.35	13.87	-8	-2	-19	-3	-52

Sollecitazioni con sforzo Foo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9136	SLU 80	19734				3.14	0.41	3.42	-2460	1078	-1675	10	31
9137	SLU 79	19743				0.09	-0.49	-3.18	-1569	507	-987	-19	14
4934	SLU 71	19064				-1.86	-0.84	-2.48	-1036	-1163	-2639	33	26
12434	SLU 71	19110				0.39	-0.35	-0.25	-1036	-431	-749	10	9
4955	SLU 79	18466				-0.54	0.59	-3.19	-1003	-345	-778	-468	2

Sollecitazioni con sforzo Foo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione										
			Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9136	SLU 72	19795				-3.74	-0.18	-6.44	2545	-348	-189	11	31
9137	SLU 72	19796				2.85	-1.6	-3.75	1680	-907	1579	-21	14
12434	SLU 71	18408				-0.36	-0.02	0.85	1320	669	1096	10	9
4934	SLU 79	18467				7.49	-0.53	2.92	1079	892	1514	-424	80
12830	SLU 71	18406				-0.23	0.15	0.76	929	-552	992	-8	6



Sollecitazioni con sforzo Fzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell Ind	Cont. N.br.	Nodo Ind	Sollecitazione							
			Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
4934	SLU 71	19064	-1.86	-0.84	-2.48	-1036	-1163	-2639	33	26
15953	SLV 9	3684	0.12	-0.55	0.61	39	-217	-1877	1	-2
9136	SLU 72	19734	3.15	0.41	3.41	-2451	1074	-1678	11	31
9137	SLU 72	19795	-5.75	-0.92	-7.13	672	796	-1669	-21	14
9526	SLU 72	19688	1.7	-0.58	2.99	-563	-1032	-1517	-14	32

Sollecitazioni con sforzo Fzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell Ind	Cont. N.br.	Nodo Ind	Sollecitazione							
			Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9137	SLU 80	19796	2.89	-1.6	-3.73	1670	-908	1586	-22	14
4934	SLU 71	18466	1.05	0.34	3.15	897	1382	1570	-383	84
15953	SLV Y	3684	-0.17	0.41	-0.37	-18	153	1288	-2	1
15927	SLV Y	3029	-0.26	-0.19	0.51	254	22	1173	-1	1
9526	SLU 80	19750	4.88	1.32	-6.21	733	575	1148	91	20

1.1.3 Sollecitazioni gusci armati

1.1.3.1 Convenzioni di segno gusci

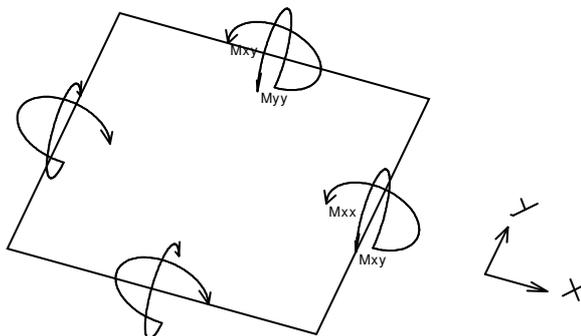
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

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

Convenzione di segno per gusci non verticali

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

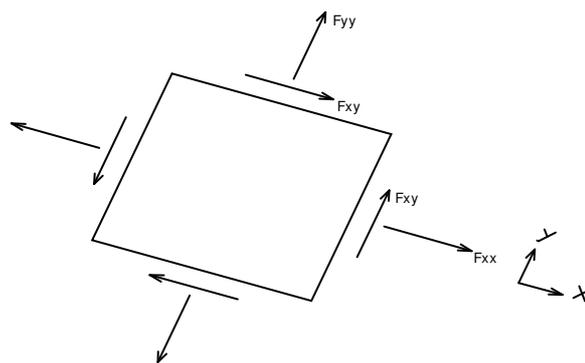
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

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

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



Si definiscono:

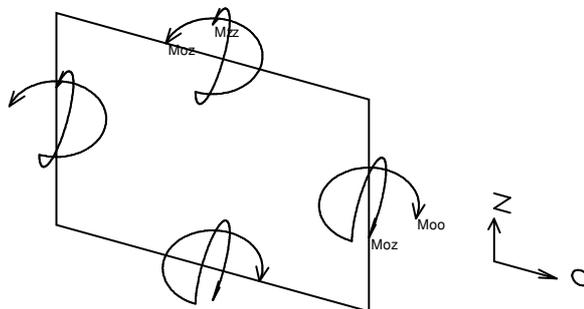
- F_{xx} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che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

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

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

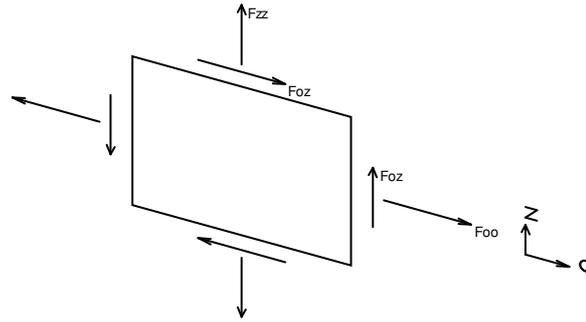
Convenzione di segno per gusci verticali

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



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

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



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

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

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

1.1.4 Sollecitazioni gusci muratura

1.1.4.1 Convenzioni di segno gusci muratura

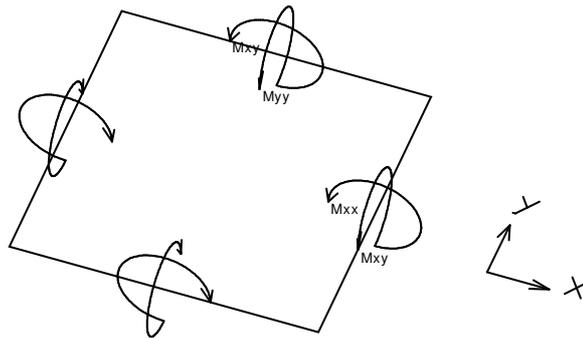
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio muratura si riferisce:

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

Convenzione di segno per gusci non verticali

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

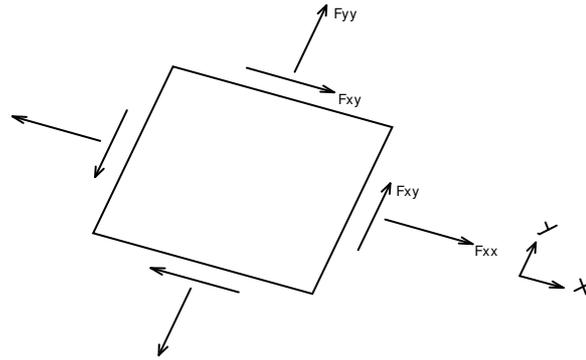
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

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

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

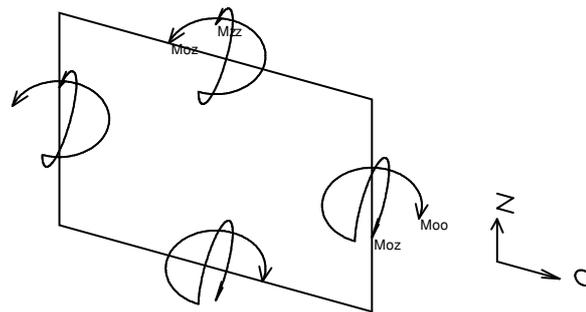


Si definiscono:

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

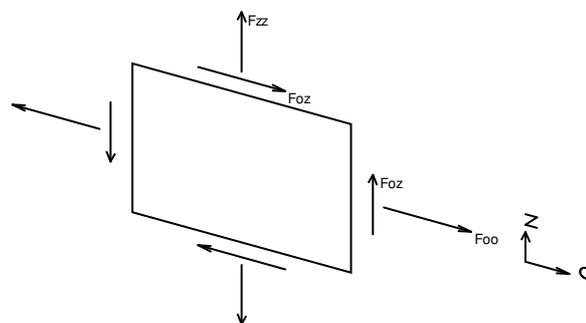
Convenzione di segno per gusci verticali

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



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

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



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



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

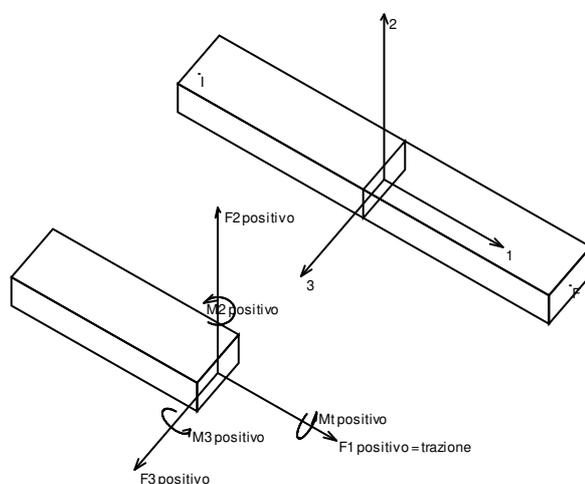
- F_{oz} : sforzo tagliante distribuito [Forza/Lunghezza] applicato sui bordi (verso positivo indicato dalla freccia in figura).

1.1.5 Sollecitazioni aste in muratura

1.1.5.1 Convenzioni di segno aste

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

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



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

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

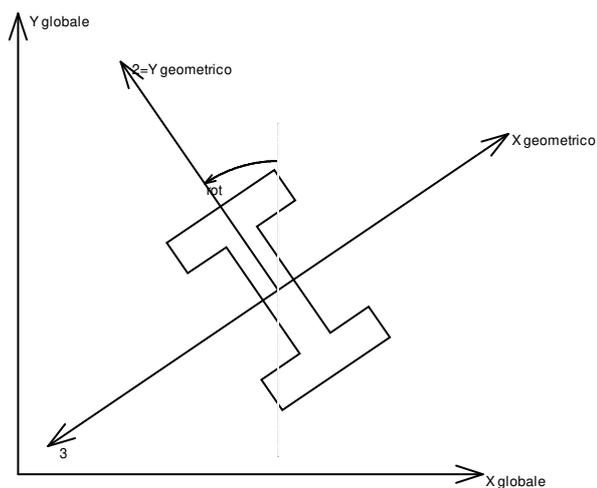
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

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

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

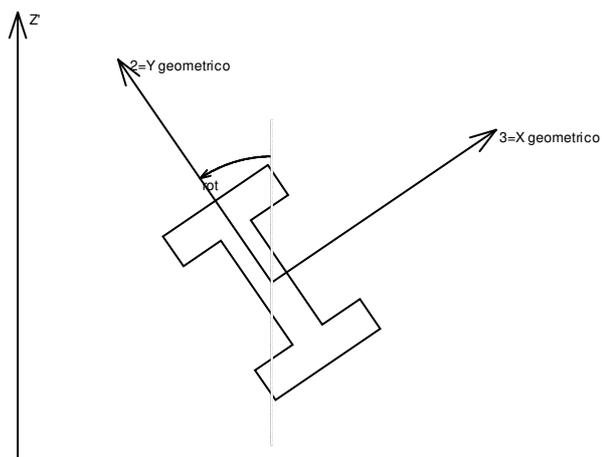


Sistema locale aste verticali



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

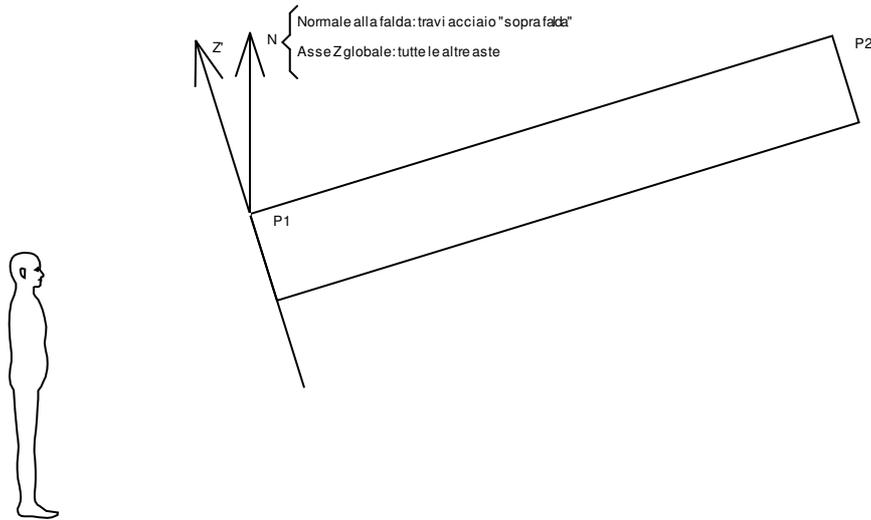
Sistema locale aste non verticali



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

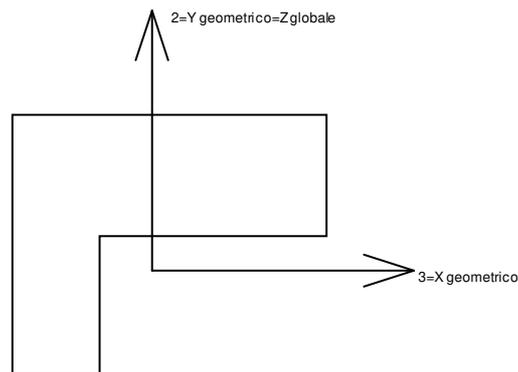
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



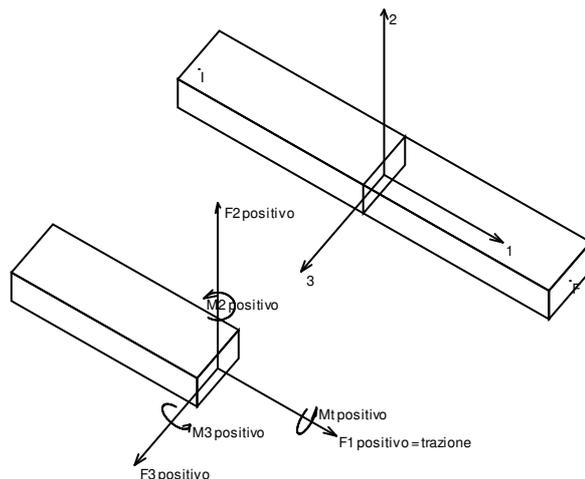
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli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

1.1.6 Sollecitazioni aste in muratura FRCM

1.1.6.1 Convenzioni di segno aste

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

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



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

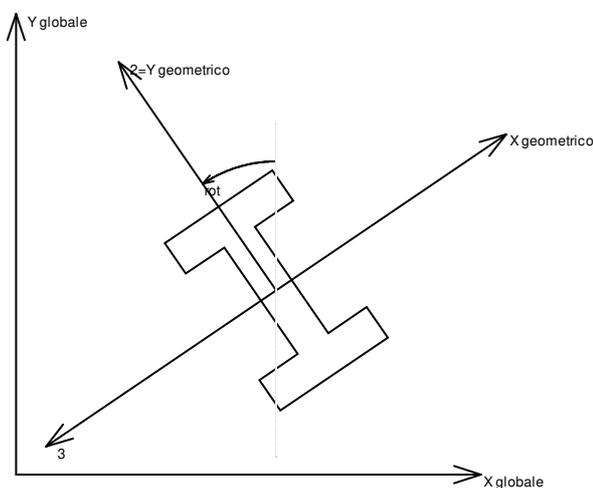
presa un'asta con nodo iniziale i e nodo finale f , asse 1 che va da i a f , assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da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

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

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

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

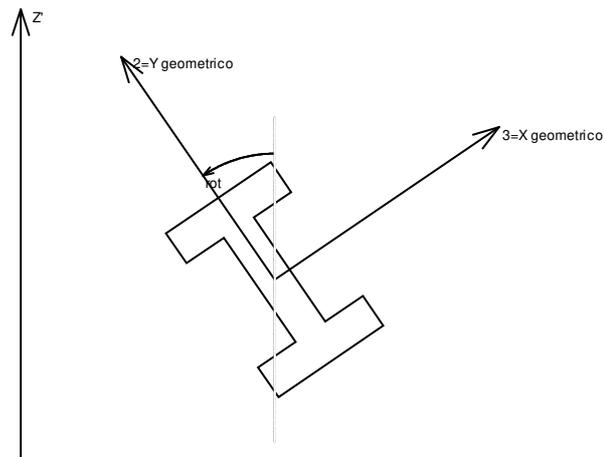
Sistema locale aste verticali



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



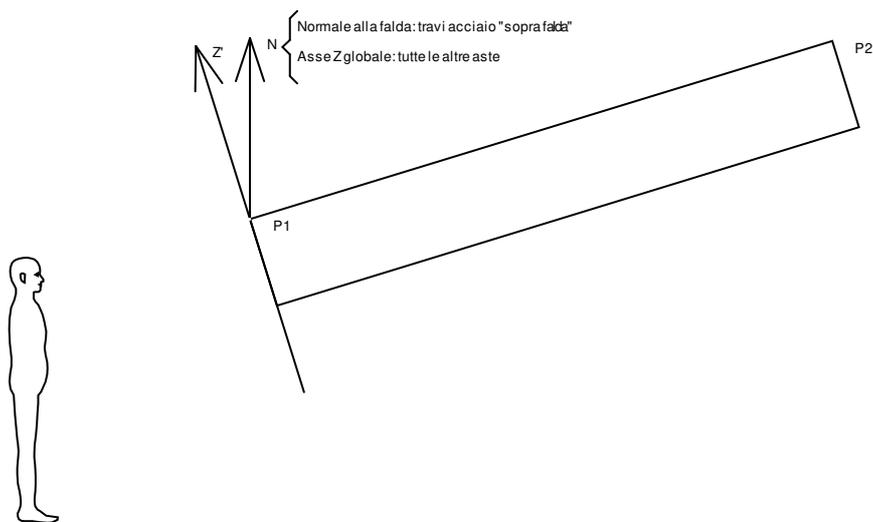
Sistema locale aste non verticali



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

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

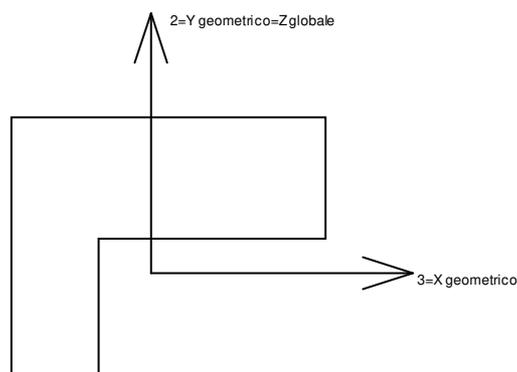
- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



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



Sistema locale aste derivanti da travi in c.a.



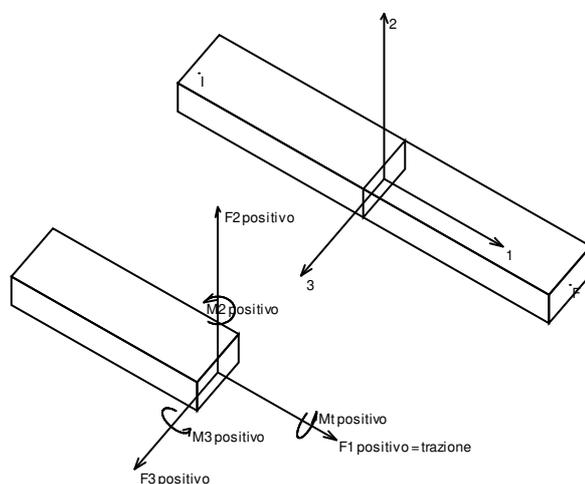
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli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

1.1.7 Sollecitazioni aste in muratura armata

1.1.7.1 Convenzioni di segno aste

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

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



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

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

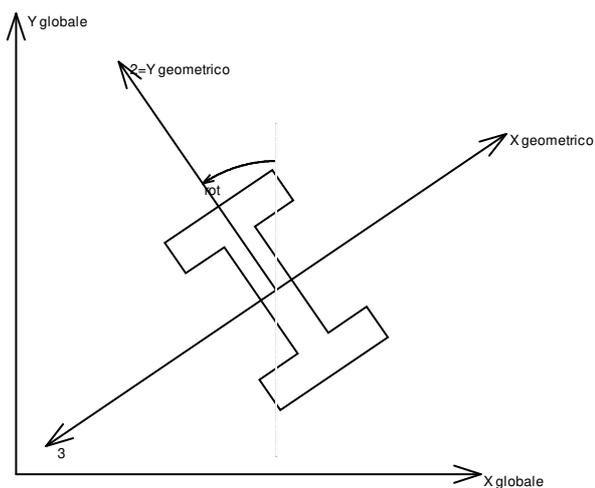
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

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

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

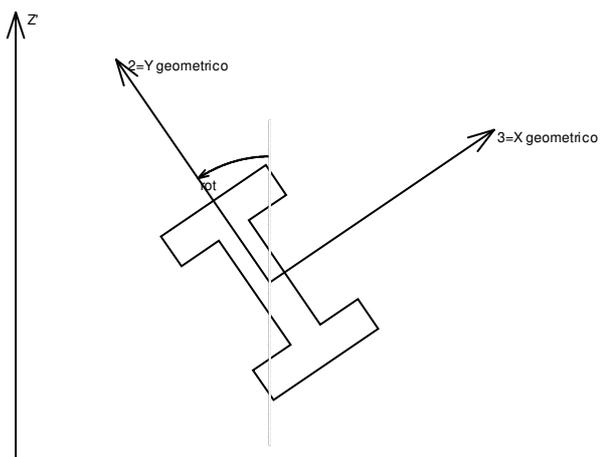


Sistema locale aste verticali



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

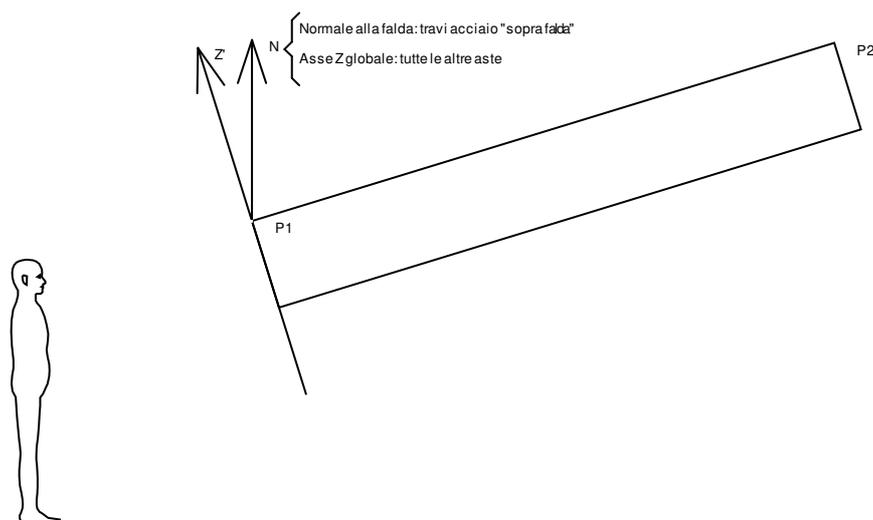
Sistema locale aste non verticali



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

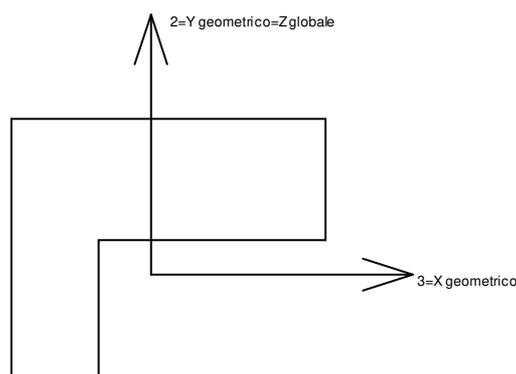
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



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

1.2 Reazioni nodali

1.2.1 Reazioni nodali estreme

Nodo: Nodo sollecitato dalla reazione vincolare.

Ind.: indice del nodo.

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

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

Reazione a traslazione: reazione vincolare traslazionale del nodo.

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

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

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

Reazione a rotazione: reazione vincolare rotazionale del nodo.

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

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

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

Reazioni Fx minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
219	SLV 15	-35.7	0.07	124.35	0.1652	-1.8647	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
218	SLV 15		x	-35.11	0.03	100.73	0.2522	-1.6646	0.0008
201	SLV 15		x	-34.45	0.05	94.03	-0.0478	-1.757	-0.0002
187	SLV 15		x	-34.06	0.66	115.74	0.0677	-1.0517	0.0143
217	SLV 15		x	-33.75	-0.32	89.18	0.3491	-1.5637	0.0011

Reazioni Fx massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
180	SLV 3		x	40.33	0.19	108.82	-0.0327	1.9252	0
181	SLV 3		x	40.05	0.14	96.85	-0.0443	1.8827	-0.0001
182	SLV 3		x	38.63	0.06	79.88	-0.0378	1.794	0.0001
165	SLV 3		x	36.76	-0.5	131.17	0.1805	2.0611	-0.0005
166	SLV 3		x	36.7	-0.15	108.84	0.2684	1.3333	-0.007

Reazioni Fy minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
328	SLV 11		x	0.06	-32.8	55.13	1.7812	0.0523	0.0001
189	SLV 11		x	1.76	-31.35	158.04	0.8737	-0.1156	-0.0065
286	SLV 7		x	0.66	-30.24	103.83	1.6839	-0.1732	-0.001
323	SLV 7		x	-0.08	-25.41	62	1.0199	-0.0718	-0.0001
285	SLV 11		x	-0.05	-25.25	48.81	1.3997	-0.0383	0

Reazioni Fy massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
31	SLV 5		x	0.07	33.59	62.69	-1.5867	0.021	0.0001
32	SLV 5		x	-0.08	32.42	60.45	-1.5452	-0.0341	-0.0002
98	SLV 9		x	-0.63	31.19	117.71	-1.5226	0.1532	-0.001
97	SLV 5		x	0.6	30.6	117.43	-1.7485	-0.1707	0.0011
35	SLV 5		x	0.09	27.99	55.76	-1.1429	0.0281	-0.0006

Reazioni Fz minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
221	SLV X		x	-17.56	9.17	-78.29	9.4378	-0.6702	-3.9412
198	SLV X		x	-22.77	0.08	-68.53	-0.058	-1.3717	0.0002
197	SLV X		x	-21.34	-0.39	-62.31	-0.0386	-0.7528	-0.0089
44	SLV X		x	-10.31	-5.7	-59.77	0.0831	-0.3416	0.0028
179	SLV X		x	-20.49	2.77	-57.43	-0.1254	-1.1793	0.0051

Reazioni Fz massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
221	SLV 3		x	34.22	-22.61	173.64	-19.6817	1.2446	7.6021
220	SLV 15		x	-32.3	-22.61	170.94	19.4727	-1.116	0.1888
179	SLV 3		x	32.52	-9.18	162.78	0.2844	1.8118	-0.018
186	SLV 15		x	-30.57	-0.21	161.2	0.157	-1.7482	-0.0004
189	SLV 11		x	1.76	-31.35	158.04	0.8737	-0.1156	-0.0065

1.2.2 Reazioni nodali in combinazioni di carico

Nodo: Nodo sollecitato dalla reazione vincolare.

Ind.: indice del nodo.

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

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

Reazione a traslazione: reazione vincolare traslazionale del nodo.

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

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

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

Reazione a rotazione: reazione vincolare rotazionale del nodo.

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

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

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

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
2	SLU 1		x	3.83	2.77	19.49	2.6172	0.1071	-0.8716
2	SLU 2		x	3.79	1.99	16.41	2.4902	0.1088	-0.8628
2	SLU 3		x	3.85	2.73	19.29	2.6067	0.1083	-0.8762
2	SLU 4		x	3.83	2.27	17.45	2.5305	0.1094	-0.8708
2	SLU 5		x	3.81	1.93	16.12	2.4705	0.11	-0.8654
2	SLU 6		x	3.86	2.68	19	2.587	0.1095	-0.8788
2	SLU 7		x	3.84	2.21	17.15	2.5108	0.1105	-0.8735
2	SLU 8		x	3.86	2.65	18.9	2.5779	0.1094	-0.8769
2	SLU 9		x	3.83	2.19	17.06	2.5017	0.1104	-0.8716
2	SLU 10		x	4	2.15	16.86	2.5685	0.1162	-0.9105
2	SLU 11		x	4.06	2.89	19.73	2.6849	0.1157	-0.9238



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
5	SLU 82	5.58	-0.1	26.99	0.0664	0.2301	-0.0002
5	SLU 83	5.59	-0.1	27.34	0.0667	0.2311	-0.0002
5	SLU 84	5.72	-0.1	26.89	0.0665	0.2354	-0.0002
5	SLE RA 1	3.63	-0.07	20.15	0.0454	0.1507	-0.0001
5	SLE RA 2	3.77	-0.07	19.65	0.0452	0.1554	-0.0001
5	SLE RA 3	3.71	-0.07	20.13	0.0456	0.154	-0.0001
5	SLE RA 4	3.79	-0.07	19.83	0.0455	0.1568	-0.0001
5	SLE RA 5	3.85	-0.07	19.59	0.0453	0.1589	-0.0001
5	SLE RA 6	3.8	-0.07	20.07	0.0456	0.1575	-0.0001
5	SLE RA 7	3.88	-0.07	19.77	0.0455	0.1603	-0.0001
5	SLE RA 8	3.81	-0.07	20.03	0.0455	0.1577	-0.0001
5	SLE RA 9	3.89	-0.07	19.73	0.0454	0.1606	-0.0001
5	SLE RA 10	4.08	-0.08	20.18	0.0484	0.1679	-0.0001
5	SLE RA 11	4.02	-0.08	20.66	0.0488	0.1665	-0.0001
5	SLE RA 12	4.1	-0.08	20.36	0.0487	0.1694	-0.0001
5	SLE RA 13	4.17	-0.08	20.12	0.0484	0.1715	-0.0001
5	SLE RA 14	4.11	-0.08	20.6	0.0488	0.1701	-0.0001
5	SLE RA 15	4.19	-0.08	20.3	0.0487	0.1729	-0.0001
5	SLE RA 16	4.12	-0.07	20.55	0.0487	0.1703	-0.0001
5	SLE RA 17	4.2	-0.07	20.26	0.0486	0.1731	-0.0001
5	SLE RA 18	4.07	-0.08	20.9	0.0499	0.1686	-0.0002
5	SLE RA 19	4.15	-0.08	20.6	0.0498	0.1714	-0.0002
5	SLE RA 20	4.16	-0.08	20.84	0.05	0.1721	-0.0002
5	SLE RA 21	4.24	-0.08	20.54	0.0499	0.175	-0.0002
5	SLE FR 1	3.63	-0.07	20.15	0.0454	0.1507	-0.0001
5	SLE FR 2	3.66	-0.07	20.05	0.0454	0.1516	-0.0001
5	SLE FR 3	3.66	-0.07	20.13	0.0454	0.1521	-0.0001
5	SLE FR 4	3.79	-0.07	20.28	0.0467	0.157	-0.0001
5	SLE FR 5	3.8	-0.07	20.35	0.0468	0.1575	-0.0001
5	SLE FR 6	3.85	-0.07	20.53	0.0477	0.1597	-0.0001
5	SLE QP 1	3.63	-0.07	20.15	0.0454	0.1507	-0.0001
5	SLE QP 2	3.76	-0.07	20.38	0.0468	0.1561	-0.0001
5	SLD 1	8.21	-0.15	28.34	0.1145	0.3531	-0.0004
5	SLD 2	8.21	-0.15	28.34	0.1145	0.3531	-0.0004
5	SLD 3	7.22	-0.08	25.4	0.0641	0.3117	-0.0002
5	SLD 4	7.22	-0.08	25.4	0.0641	0.3117	-0.0002
5	SLD 5	6.6	-0.21	27.23	0.1436	0.278	-0.0004
5	SLD 6	6.6	-0.21	27.23	0.1436	0.278	-0.0004
5	SLD 7	3.29	0.03	17.42	-0.0246	0.14	0.0001
5	SLD 8	3.29	0.03	17.42	-0.0246	0.14	0.0001
5	SLD 9	4.23	-0.18	23.33	0.1181	0.1722	-0.0003
5	SLD 10	4.23	-0.18	23.33	0.1181	0.1722	-0.0003
5	SLD 11	0.92	0.06	13.53	-0.0501	0.0342	0.0002
5	SLD 12	0.92	0.06	13.53	-0.0501	0.0342	0.0002
5	SLD 13	0.3	-0.06	15.36	0.0294	0.0004	-0.0001
5	SLD 14	0.3	-0.06	15.36	0.0294	0.0004	-0.0001
5	SLD 15	-0.69	0.01	12.41	-0.021	-0.041	0.0001
5	SLD 16	-0.69	0.01	12.41	-0.021	-0.041	0.0001
5	SLV 1	14.18	-0.26	39.12	0.2054	0.6173	-0.0007
5	SLV 2	14.18	-0.26	39.12	0.2054	0.6173	-0.0007
5	SLV 3	11.84	-0.09	32.03	0.0875	0.5198	-0.0003
5	SLV 4	11.84	-0.09	32.03	0.0875	0.5198	-0.0003
5	SLV 5	10.44	-0.38	36.76	0.2733	0.4422	-0.0008
5	SLV 6	10.44	-0.38	36.76	0.2733	0.4422	-0.0008
5	SLV 7	2.63	0.17	13.11	-0.12	0.1174	0.0003
5	SLV 8	2.63	0.17	13.11	-0.12	0.1174	0.0003
5	SLV 9	4.89	-0.32	27.64	0.2135	0.1948	-0.0006
5	SLV 10	4.89	-0.32	27.64	0.2135	0.1948	-0.0006
5	SLV 11	-2.92	0.23	3.99	-0.1798	-0.1301	0.0005
5	SLV 12	-2.92	0.23	3.99	-0.1798	-0.1301	0.0005
5	SLV 13	-4.32	-0.05	8.72	0.006	-0.2077	0
5	SLV 14	-4.32	-0.05	8.72	0.006	-0.2077	0
5	SLV 15	-6.66	0.11	1.63	-0.1119	-0.3051	0.0004
5	SLV 16	-6.66	0.11	1.63	-0.1119	-0.3051	0.0004
6	SLU 1	3.56	-0.11	21.22	0.0618	0.1473	-0.0002
6	SLU 2	3.71	-0.11	20.7	0.0593	0.1533	-0.0002
6	SLU 3	3.72	-0.11	21.3	0.0623	0.1534	-0.0002
6	SLU 4	3.81	-0.11	20.99	0.0608	0.157	-0.0002
6	SLU 5	3.88	-0.1	20.74	0.0595	0.1599	-0.0002
6	SLU 6	3.89	-0.11	21.34	0.0625	0.16	-0.0002
6	SLU 7	3.98	-0.11	21.03	0.061	0.1636	-0.0002
6	SLU 8	3.9	-0.11	21.29	0.0622	0.1605	-0.0002
6	SLU 9	3.99	-0.1	20.98	0.0607	0.1641	-0.0002
6	SLU 10	4.28	-0.11	21.85	0.0661	0.1754	-0.0002
6	SLU 11	4.28	-0.12	22.45	0.0691	0.1756	-0.0002
6	SLU 12	4.37	-0.11	22.14	0.0676	0.1792	-0.0002
6	SLU 13	4.45	-0.11	21.88	0.0663	0.182	-0.0002
6	SLU 14	4.45	-0.12	22.48	0.0693	0.1822	-0.0002
6	SLU 15	4.54	-0.11	22.17	0.0678	0.1857	-0.0002
6	SLU 16	4.47	-0.12	22.43	0.069	0.1827	-0.0002
6	SLU 17	4.56	-0.11	22.12	0.0675	0.1862	-0.0002
6	SLU 18	4.37	-0.12	22.85	0.0715	0.179	-0.0002
6	SLU 19	4.46	-0.12	22.54	0.07	0.1825	-0.0002
6	SLU 20	4.54	-0.12	22.89	0.0717	0.1856	-0.0002
6	SLU 21	4.63	-0.12	22.58	0.0702	0.1891	-0.0002
6	SLU 22	3.88	-0.11	21.82	0.0658	0.1599	-0.0002
6	SLU 23	4.03	-0.11	21.31	0.0633	0.1659	-0.0002
6	SLU 24	4.04	-0.11	21.91	0.0663	0.166	-0.0002
6	SLU 25	4.13	-0.11	21.6	0.0648	0.1696	-0.0002
6	SLU 26	4.2	-0.11	21.34	0.0635	0.1724	-0.0002



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
8	SLU 7	5.18	-0.11	26.19	0.0616	0.2072	-0.0002
8	SLU 8	5.17	-0.11	26.36	0.0646	0.2067	-0.0002
8	SLU 9	5.2	-0.11	26.17	0.0614	0.2077	-0.0002
8	SLU 10	5.59	-0.12	27.51	0.066	0.223	-0.0002
8	SLU 11	5.76	-0.13	28.23	0.0721	0.2297	-0.0002
8	SLU 12	5.79	-0.12	28.03	0.0689	0.2307	-0.0002
8	SLU 13	5.82	-0.12	27.87	0.0666	0.2319	-0.0002
8	SLU 14	5.99	-0.13	28.59	0.0726	0.2386	-0.0002
8	SLU 15	6.01	-0.12	28.39	0.0695	0.2397	-0.0002
8	SLU 16	6.01	-0.13	28.56	0.0724	0.2392	-0.0002
8	SLU 17	6.03	-0.12	28.37	0.0693	0.2402	-0.0002
8	SLU 18	5.91	-0.13	28.79	0.0746	0.2352	-0.0002
8	SLU 19	5.93	-0.13	28.59	0.0715	0.2362	-0.0002
8	SLU 20	6.13	-0.13	29.15	0.0752	0.2442	-0.0002
8	SLU 21	6.16	-0.13	28.95	0.072	0.2452	-0.0002
8	SLU 22	5.18	-0.12	26.85	0.0679	0.2067	-0.0002
8	SLU 23	5.21	-0.11	26.52	0.0626	0.2083	-0.0002
8	SLU 24	5.39	-0.12	27.24	0.0687	0.2151	-0.0002
8	SLU 25	5.41	-0.12	27.04	0.0656	0.2161	-0.0002
8	SLU 26	5.44	-0.11	26.88	0.0632	0.2173	-0.0002
8	SLU 27	5.62	-0.12	27.6	0.0693	0.224	-0.0002
8	SLU 28	5.64	-0.12	27.4	0.0661	0.225	-0.0002
8	SLU 29	5.63	-0.12	27.57	0.0691	0.2246	-0.0002
8	SLU 30	5.65	-0.12	27.38	0.0659	0.2256	-0.0002
8	SLU 31	6.04	-0.12	28.72	0.0705	0.2408	-0.0002
8	SLU 32	6.22	-0.13	29.44	0.0766	0.2475	-0.0002
8	SLU 33	6.24	-0.13	29.24	0.0734	0.2486	-0.0002
8	SLU 34	6.27	-0.12	29.08	0.0711	0.2498	-0.0002
8	SLU 35	6.45	-0.13	29.8	0.0772	0.2565	-0.0002
8	SLU 36	6.47	-0.13	29.6	0.074	0.2575	-0.0002
8	SLU 37	6.46	-0.13	29.77	0.0769	0.2571	-0.0002
8	SLU 38	6.49	-0.13	29.58	0.0738	0.2581	-0.0002
8	SLU 39	6.36	-0.14	29.99	0.0791	0.2531	-0.0002
8	SLU 40	6.39	-0.13	29.8	0.076	0.2541	-0.0002
8	SLU 41	6.59	-0.14	30.35	0.0797	0.262	-0.0002
8	SLU 42	6.61	-0.13	30.16	0.0766	0.263	-0.0002
8	SLU 43	5.98	-0.14	32.92	0.0809	0.2393	-0.0002
8	SLU 44	6.01	-0.14	32.59	0.0756	0.241	-0.0002
8	SLU 45	6.19	-0.14	33.31	0.0817	0.2477	-0.0002
8	SLU 46	6.21	-0.14	33.11	0.0785	0.2487	-0.0002
8	SLU 47	6.24	-0.14	32.95	0.0762	0.25	-0.0002
8	SLU 48	6.42	-0.15	33.67	0.0823	0.2567	-0.0002
8	SLU 49	6.44	-0.14	33.47	0.0791	0.2577	-0.0002
8	SLU 50	6.43	-0.15	33.64	0.082	0.2572	-0.0002
8	SLU 51	6.46	-0.14	33.44	0.0789	0.2582	-0.0002
8	SLU 52	6.85	-0.15	34.79	0.0835	0.2735	-0.0002
8	SLU 53	7.02	-0.16	35.51	0.0895	0.2802	-0.0003
8	SLU 54	7.05	-0.15	35.31	0.0864	0.2812	-0.0003
8	SLU 55	7.07	-0.15	35.15	0.084	0.2824	-0.0002
8	SLU 56	7.25	-0.16	35.87	0.0901	0.2892	-0.0003
8	SLU 57	7.27	-0.15	35.67	0.087	0.2902	-0.0003
8	SLU 58	7.26	-0.16	35.84	0.0899	0.2897	-0.0003
8	SLU 59	7.29	-0.15	35.64	0.0867	0.2907	-0.0003
8	SLU 60	7.17	-0.16	36.06	0.0921	0.2857	-0.0003
8	SLU 61	7.19	-0.16	35.87	0.0889	0.2867	-0.0003
8	SLU 62	7.39	-0.16	36.42	0.0927	0.2947	-0.0003
8	SLU 63	7.42	-0.16	36.23	0.0895	0.2957	-0.0003
8	SLU 64	6.44	-0.15	34.13	0.0854	0.2572	-0.0003
8	SLU 65	6.47	-0.14	33.8	0.0801	0.2589	-0.0002
8	SLU 66	6.65	-0.15	34.52	0.0862	0.2656	-0.0003
8	SLU 67	6.67	-0.15	34.32	0.083	0.2666	-0.0002
8	SLU 68	6.7	-0.14	34.16	0.0807	0.2678	-0.0002
8	SLU 69	6.88	-0.15	34.88	0.0868	0.2745	-0.0003
8	SLU 70	6.9	-0.15	34.68	0.0836	0.2755	-0.0002
8	SLU 71	6.89	-0.15	34.85	0.0866	0.2751	-0.0003
8	SLU 72	6.91	-0.15	34.65	0.0834	0.2761	-0.0002
8	SLU 73	7.3	-0.16	36	0.088	0.2913	-0.0003
8	SLU 74	7.48	-0.17	36.72	0.0941	0.2981	-0.0003
8	SLU 75	7.5	-0.16	36.52	0.0909	0.2991	-0.0003
8	SLU 76	7.53	-0.16	36.36	0.0886	0.3003	-0.0003
8	SLU 77	7.71	-0.17	37.08	0.0946	0.307	-0.0003
8	SLU 78	7.73	-0.16	36.88	0.0915	0.308	-0.0003
8	SLU 79	7.72	-0.17	37.05	0.0944	0.3076	-0.0003
8	SLU 80	7.74	-0.16	36.85	0.0912	0.3086	-0.0003
8	SLU 81	7.62	-0.17	37.27	0.0966	0.3036	-0.0003
8	SLU 82	7.65	-0.16	37.08	0.0934	0.3046	-0.0003
8	SLU 83	7.85	-0.17	37.63	0.0972	0.3125	-0.0003
8	SLU 84	7.87	-0.17	37.44	0.094	0.3136	-0.0003
8	SLE RA 1	4.85	-0.11	25.99	0.0647	0.1939	-0.0002
8	SLE RA 2	4.87	-0.11	25.77	0.0612	0.195	-0.0002
8	SLE RA 3	4.99	-0.12	26.24	0.0652	0.1995	-0.0002
8	SLE RA 4	5.01	-0.11	26.11	0.0631	0.2002	-0.0002
8	SLE RA 5	5.03	-0.11	26.01	0.0616	0.201	-0.0002
8	SLE RA 6	5.14	-0.12	26.49	0.0656	0.2055	-0.0002
8	SLE RA 7	5.16	-0.11	26.35	0.0635	0.2061	-0.0002
8	SLE RA 8	5.15	-0.12	26.47	0.0655	0.2058	-0.0002
8	SLE RA 9	5.17	-0.11	26.34	0.0634	0.2065	-0.0002
8	SLE RA 10	5.43	-0.12	27.24	0.0664	0.2167	-0.0002
8	SLE RA 11	5.55	-0.12	27.71	0.0705	0.2212	-0.0002
8	SLE RA 12	5.56	-0.12	27.58	0.0684	0.2218	-0.0002



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
9	SLV 3	13.7	-0.25	38.97	0.1498	0.575	-0.0002
9	SLV 4	13.7	-0.25	38.97	0.1498	0.575	-0.0002
9	SLV 5	14.46	-0.55	54.06	0.3618	0.5912	-0.001
9	SLV 6	14.46	-0.55	54.06	0.3618	0.5912	-0.001
9	SLV 7	2.5	0.22	15.43	-0.1583	0.1049	0.0006
9	SLV 8	2.5	0.22	15.43	-0.1583	0.1049	0.0006
9	SLV 9	8.45	-0.38	45.48	0.2538	0.3342	-0.0008
9	SLV 10	8.45	-0.38	45.48	0.2538	0.3342	-0.0008
9	SLV 11	-3.52	0.39	6.85	-0.2664	-0.1522	0.0008
9	SLV 12	-3.52	0.39	6.85	-0.2664	-0.1522	0.0008
9	SLV 13	-2.76	0.09	21.94	-0.0544	-0.136	0
9	SLV 14	-2.76	0.09	21.94	-0.0544	-0.136	0
9	SLV 15	-6.35	0.32	10.35	-0.2104	-0.2819	0.0005
9	SLV 16	-6.35	0.32	10.35	-0.2104	-0.2819	0.0005
10	SLU 1	4.67	0	33.17	0.0143	0.1808	0
10	SLU 2	4.65	0.01	32.82	0.01	0.1806	0
10	SLU 3	4.87	0	33.93	0.0142	0.1889	0
10	SLU 4	4.87	0	33.72	0.0116	0.1888	0
10	SLU 5	4.87	0.01	33.57	0.0098	0.1891	0
10	SLU 6	5.09	0	34.67	0.014	0.1974	0
10	SLU 7	5.08	0	34.47	0.0114	0.1973	0
10	SLU 8	5.1	0	34.66	0.014	0.1978	0
10	SLU 9	5.09	0	34.46	0.0114	0.1977	0
10	SLU 10	5.54	0	36.55	0.0118	0.2144	0
10	SLU 11	5.76	0	37.65	0.016	0.2226	0
10	SLU 12	5.75	0	37.44	0.0134	0.2225	0
10	SLU 13	5.75	0.01	37.3	0.0116	0.2229	0
10	SLU 14	5.97	0	38.4	0.0159	0.2311	0
10	SLU 15	5.97	0	38.19	0.0133	0.231	0
10	SLU 16	5.98	0	38.39	0.0158	0.2316	0
10	SLU 17	5.98	0	38.18	0.0132	0.2315	0
10	SLU 18	5.93	0	38.49	0.0169	0.2291	0
10	SLU 19	5.92	0	38.28	0.0143	0.229	0
10	SLU 20	6.15	0	39.24	0.0167	0.2376	0
10	SLU 21	6.14	0	39.03	0.0141	0.2375	0
10	SLU 22	5.13	0	35.21	0.0154	0.1985	0
10	SLU 23	5.12	0.01	34.87	0.0111	0.1983	0
10	SLU 24	5.34	0	35.97	0.0153	0.2065	0
10	SLU 25	5.33	0	35.76	0.0127	0.2064	0
10	SLU 26	5.33	0.01	35.62	0.0109	0.2068	0
10	SLU 27	5.55	0	36.72	0.0152	0.215	0
10	SLU 28	5.54	0	36.51	0.0126	0.2149	0
10	SLU 29	5.56	0	36.71	0.0151	0.2154	0
10	SLU 30	5.55	0	36.5	0.0125	0.2153	0
10	SLU 31	6	0	38.59	0.0129	0.2321	0
10	SLU 32	6.22	0	39.69	0.0172	0.2403	0
10	SLU 33	6.21	0	39.49	0.0146	0.2402	0
10	SLU 34	6.22	0.01	39.34	0.0127	0.2406	0
10	SLU 35	6.44	0	40.44	0.017	0.2488	0
10	SLU 36	6.43	0	40.24	0.0144	0.2487	0
10	SLU 37	6.45	0	40.43	0.0169	0.2492	0
10	SLU 38	6.44	0	40.23	0.0143	0.2491	0
10	SLU 39	6.39	0	40.53	0.018	0.2467	0
10	SLU 40	6.38	0	40.33	0.0154	0.2466	0
10	SLU 41	6.61	0	41.28	0.0179	0.2552	0
10	SLU 42	6.6	0	41.07	0.0153	0.2551	0
10	SLU 43	5.91	0	42.42	0.0182	0.229	0
10	SLU 44	5.9	0	42.07	0.0139	0.2288	0
10	SLU 45	6.12	0	43.17	0.0181	0.2371	0
10	SLU 46	6.11	0	42.97	0.0155	0.237	0
10	SLU 47	6.11	0.01	42.82	0.0137	0.2373	0
10	SLU 48	6.33	0	43.92	0.0179	0.2455	0
10	SLU 49	6.32	0	43.72	0.0153	0.2454	0
10	SLU 50	6.34	0	43.91	0.0179	0.246	0
10	SLU 51	6.33	0	43.71	0.0153	0.2459	0
10	SLU 52	6.78	0	45.8	0.0157	0.2626	0
10	SLU 53	7	0	46.9	0.0199	0.2708	0
10	SLU 54	6.99	0	46.69	0.0173	0.2707	0
10	SLU 55	7	0.01	46.55	0.0155	0.2711	0
10	SLU 56	7.22	0	47.65	0.0198	0.2793	0
10	SLU 57	7.21	0	47.44	0.0172	0.2792	0
10	SLU 58	7.23	0	47.64	0.0197	0.2798	0
10	SLU 59	7.22	0	47.43	0.0171	0.2797	0
10	SLU 60	7.17	0	47.74	0.0208	0.2773	0
10	SLU 61	7.16	0	47.53	0.0182	0.2772	0
10	SLU 62	7.39	0	48.49	0.0206	0.2858	0
10	SLU 63	7.38	0	48.28	0.018	0.2857	0
10	SLU 64	6.37	0	44.46	0.0193	0.2467	0
10	SLU 65	6.36	0	44.12	0.015	0.2465	0
10	SLU 66	6.58	0	45.22	0.0192	0.2547	0
10	SLU 67	6.57	0	45.01	0.0166	0.2546	0
10	SLU 68	6.57	0.01	44.87	0.0148	0.255	0
10	SLU 69	6.8	0	45.97	0.0191	0.2632	0
10	SLU 70	6.79	0	45.76	0.0165	0.2631	0
10	SLU 71	6.81	0	45.96	0.019	0.2636	0
10	SLU 72	6.8	0	45.75	0.0164	0.2635	0
10	SLU 73	7.24	0	47.84	0.0168	0.2803	0
10	SLU 74	7.46	0	48.94	0.0211	0.2885	0
10	SLU 75	7.45	0	48.74	0.0185	0.2884	0
10	SLU 76	7.46	0	48.59	0.0166	0.2888	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
16	SLU 17	1.43	-0.16	34.64	0.0511	0.0626	0.0004
16	SLU 18	1	-0.14	34.11	0.0425	0.0464	0.0004
16	SLU 19	1.01	-0.15	34.03	0.0489	0.0469	0.0004
16	SLU 20	1.23	-0.15	35.27	0.0442	0.0556	0.0004
16	SLU 21	1.24	-0.16	35.19	0.0506	0.0561	0.0004
16	SLU 22	0.97	-0.13	30.48	0.0403	0.0435	0.0003
16	SLU 23	0.99	-0.15	30.35	0.0509	0.0443	0.0003
16	SLU 24	1.17	-0.14	31.55	0.0418	0.0513	0.0003
16	SLU 25	1.18	-0.15	31.47	0.0482	0.0519	0.0003
16	SLU 26	1.23	-0.15	31.51	0.0526	0.0536	0.0004
16	SLU 27	1.4	-0.14	32.71	0.0434	0.0606	0.0003
16	SLU 28	1.41	-0.15	32.63	0.0498	0.0611	0.0004
16	SLU 29	1.44	-0.14	32.79	0.0436	0.0619	0.0003
16	SLU 30	1.45	-0.15	32.71	0.05	0.0624	0.0004
16	SLU 31	1.11	-0.16	34.32	0.0536	0.0507	0.0004
16	SLU 32	1.29	-0.15	35.52	0.0445	0.0577	0.0004
16	SLU 33	1.3	-0.16	35.45	0.0508	0.0582	0.0004
16	SLU 34	1.34	-0.17	35.48	0.0553	0.0599	0.0004
16	SLU 35	1.52	-0.16	36.68	0.0461	0.0669	0.0004
16	SLU 36	1.53	-0.16	36.6	0.0525	0.0674	0.0004
16	SLU 37	1.55	-0.16	36.76	0.0463	0.0683	0.0004
16	SLU 38	1.57	-0.17	36.68	0.0527	0.0688	0.0004
16	SLU 39	1.14	-0.15	36.15	0.0441	0.0526	0.0004
16	SLU 40	1.15	-0.16	36.07	0.0505	0.0531	0.0004
16	SLU 41	1.37	-0.16	37.31	0.0458	0.0618	0.0004
16	SLU 42	1.39	-0.16	37.23	0.0522	0.0623	0.0004
16	SLU 43	1.03	-0.16	36.27	0.0498	0.0464	0.0004
16	SLU 44	1.05	-0.17	36.14	0.0604	0.0473	0.0004
16	SLU 45	1.23	-0.16	37.34	0.0512	0.0543	0.0004
16	SLU 46	1.24	-0.17	37.27	0.0576	0.0548	0.0004
16	SLU 47	1.28	-0.18	37.3	0.062	0.0565	0.0004
16	SLU 48	1.46	-0.17	38.5	0.0529	0.0635	0.0004
16	SLU 49	1.47	-0.18	38.42	0.0592	0.064	0.0004
16	SLU 50	1.49	-0.17	38.58	0.053	0.0648	0.0004
16	SLU 51	1.51	-0.18	38.5	0.0594	0.0653	0.0004
16	SLU 52	1.17	-0.19	40.11	0.0631	0.0536	0.0004
16	SLU 53	1.34	-0.18	41.31	0.0539	0.0606	0.0004
16	SLU 54	1.36	-0.18	41.24	0.0603	0.0611	0.0004
16	SLU 55	1.4	-0.19	41.27	0.0647	0.0628	0.0005
16	SLU 56	1.58	-0.18	42.47	0.0556	0.0698	0.0004
16	SLU 57	1.59	-0.19	42.39	0.0619	0.0703	0.0005
16	SLU 58	1.61	-0.18	42.55	0.0557	0.0712	0.0004
16	SLU 59	1.63	-0.19	42.48	0.0621	0.0717	0.0005
16	SLU 60	1.2	-0.18	41.94	0.0536	0.0555	0.0004
16	SLU 61	1.21	-0.19	41.87	0.06	0.056	0.0005
16	SLU 62	1.43	-0.18	43.1	0.0552	0.0647	0.0005
16	SLU 63	1.44	-0.19	43.02	0.0616	0.0652	0.0005
16	SLU 64	1.17	-0.16	38.31	0.0514	0.0526	0.0004
16	SLU 65	1.19	-0.18	38.18	0.062	0.0534	0.0004
16	SLU 66	1.37	-0.17	39.38	0.0528	0.0604	0.0004
16	SLU 67	1.38	-0.18	39.31	0.0592	0.0609	0.0004
16	SLU 68	1.43	-0.19	39.34	0.0636	0.0626	0.0004
16	SLU 69	1.6	-0.18	40.54	0.0545	0.0696	0.0004
16	SLU 70	1.61	-0.19	40.46	0.0609	0.0702	0.0004
16	SLU 71	1.64	-0.18	40.62	0.0547	0.071	0.0004
16	SLU 72	1.65	-0.19	40.54	0.061	0.0715	0.0004
16	SLU 73	1.31	-0.19	42.15	0.0647	0.0598	0.0005
16	SLU 74	1.49	-0.18	43.35	0.0555	0.0668	0.0005
16	SLU 75	1.5	-0.19	43.28	0.0619	0.0673	0.0005
16	SLU 76	1.54	-0.2	43.31	0.0663	0.069	0.0005
16	SLU 77	1.72	-0.19	44.51	0.0572	0.076	0.0005
16	SLU 78	1.73	-0.2	44.43	0.0635	0.0765	0.0005
16	SLU 79	1.75	-0.19	44.59	0.0573	0.0773	0.0005
16	SLU 80	1.77	-0.2	44.52	0.0637	0.0779	0.0005
16	SLU 81	1.34	-0.18	43.98	0.0552	0.0616	0.0005
16	SLU 82	1.35	-0.19	43.91	0.0616	0.0621	0.0005
16	SLU 83	1.57	-0.19	45.14	0.0569	0.0708	0.0005
16	SLU 84	1.59	-0.2	45.06	0.0632	0.0714	0.0005
16	SLE RA 1	0.87	-0.12	29.02	0.0392	0.0391	0.0003
16	SLE RA 2	0.88	-0.14	28.93	0.0462	0.0397	0.0003
16	SLE RA 3	1	-0.13	29.73	0.0401	0.0443	0.0003
16	SLE RA 4	1.01	-0.13	29.68	0.0444	0.0447	0.0003
16	SLE RA 5	1.04	-0.14	29.71	0.0473	0.0458	0.0003
16	SLE RA 6	1.16	-0.13	30.51	0.0412	0.0505	0.0003
16	SLE RA 7	1.16	-0.14	30.45	0.0455	0.0508	0.0003
16	SLE RA 8	1.18	-0.13	30.56	0.0414	0.0514	0.0003
16	SLE RA 9	1.19	-0.14	30.51	0.0456	0.0517	0.0003
16	SLE RA 10	0.96	-0.14	31.58	0.048	0.0439	0.0003
16	SLE RA 11	1.08	-0.14	32.38	0.0419	0.0486	0.0003
16	SLE RA 12	1.09	-0.14	32.33	0.0462	0.0489	0.0003
16	SLE RA 13	1.12	-0.15	32.35	0.0491	0.05	0.0004
16	SLE RA 14	1.24	-0.14	33.15	0.043	0.0547	0.0003
16	SLE RA 15	1.24	-0.15	33.1	0.0473	0.055	0.0004
16	SLE RA 16	1.26	-0.14	33.21	0.0431	0.0556	0.0003
16	SLE RA 17	1.27	-0.15	33.16	0.0474	0.0559	0.0004
16	SLE RA 18	0.98	-0.14	32.8	0.0417	0.0451	0.0003
16	SLE RA 19	0.99	-0.14	32.75	0.046	0.0455	0.0004
16	SLE RA 20	1.14	-0.14	33.57	0.0428	0.0513	0.0004
16	SLE RA 21	1.15	-0.15	33.52	0.0471	0.0516	0.0004
16	SLE FR 1	0.87	-0.12	29.02	0.0392	0.0391	0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
19	SLU 32	-0.67	11.63	75.91	-0.3862	-0.045	0.0002
19	SLU 33	-0.66	11.51	75.4	-0.3807	-0.0439	0.0002
19	SLU 34	-0.65	11.46	75.33	-0.3785	-0.0431	0.0002
19	SLU 35	-0.67	12.26	79.3	-0.4096	-0.0456	0.0002
19	SLU 36	-0.66	12.13	78.79	-0.404	-0.0445	0.0002
19	SLU 37	-0.67	12.29	79.57	-0.411	-0.0455	0.0002
19	SLU 38	-0.65	12.17	79.05	-0.4055	-0.0444	0.0002
19	SLU 39	-0.79	11.61	76.17	-0.383	-0.0496	0.0002
19	SLU 40	-0.77	11.48	75.66	-0.3775	-0.0485	0.0002
19	SLU 41	-0.78	12.23	79.56	-0.4063	-0.0502	0.0002
19	SLU 42	-0.77	12.1	79.05	-0.4008	-0.0491	0.0002
19	SLU 43	-0.44	11.12	76.16	-0.3618	-0.0359	0.0002
19	SLU 44	-0.41	10.91	75.3	-0.3526	-0.0342	0.0002
19	SLU 45	-0.44	11.71	79.27	-0.3837	-0.0366	0.0002
19	SLU 46	-0.42	11.58	78.76	-0.3782	-0.0355	0.0002
19	SLU 47	-0.41	11.53	78.69	-0.3759	-0.0347	0.0002
19	SLU 48	-0.43	12.33	82.66	-0.407	-0.0372	0.0002
19	SLU 49	-0.42	12.2	82.15	-0.4015	-0.0361	0.0002
19	SLU 50	-0.43	12.36	82.93	-0.4085	-0.0371	0.0002
19	SLU 51	-0.42	12.24	82.42	-0.4029	-0.0361	0.0002
19	SLU 52	-0.68	12.21	83.19	-0.3961	-0.0465	0.0002
19	SLU 53	-0.7	13	87.16	-0.4272	-0.0489	0.0002
19	SLU 54	-0.69	12.88	86.65	-0.4217	-0.0479	0.0002
19	SLU 55	-0.68	12.83	86.57	-0.4195	-0.0471	0.0002
19	SLU 56	-0.7	13.62	90.54	-0.4506	-0.0495	0.0002
19	SLU 57	-0.69	13.5	90.03	-0.445	-0.0485	0.0002
19	SLU 58	-0.7	13.66	90.81	-0.452	-0.0495	0.0002
19	SLU 59	-0.68	13.53	90.3	-0.4465	-0.0484	0.0002
19	SLU 60	-0.82	12.97	87.42	-0.424	-0.0536	0.0002
19	SLU 61	-0.8	12.85	86.91	-0.4185	-0.0525	0.0002
19	SLU 62	-0.81	13.59	90.8	-0.4473	-0.0542	0.0002
19	SLU 63	-0.8	13.47	90.29	-0.4418	-0.0531	0.0002
19	SLU 64	-0.49	12.07	81.17	-0.3954	-0.0393	0.0002
19	SLU 65	-0.47	11.86	80.31	-0.3862	-0.0376	0.0002
19	SLU 66	-0.49	12.65	84.28	-0.4173	-0.04	0.0002
19	SLU 67	-0.48	12.53	83.77	-0.4118	-0.0389	0.0002
19	SLU 68	-0.47	12.48	83.7	-0.4095	-0.0382	0.0002
19	SLU 69	-0.49	13.28	87.67	-0.4406	-0.0406	0.0002
19	SLU 70	-0.48	13.15	87.16	-0.4351	-0.0395	0.0002
19	SLU 71	-0.49	13.31	87.94	-0.4421	-0.0405	0.0002
19	SLU 72	-0.47	13.19	87.42	-0.4366	-0.0395	0.0002
19	SLU 73	-0.74	13.16	88.2	-0.4297	-0.0499	0.0002
19	SLU 74	-0.76	13.95	92.17	-0.4608	-0.0524	0.0002
19	SLU 75	-0.75	13.83	91.65	-0.4553	-0.0513	0.0002
19	SLU 76	-0.73	13.78	91.58	-0.4531	-0.0505	0.0002
19	SLU 77	-0.76	14.57	95.55	-0.4842	-0.053	0.0002
19	SLU 78	-0.74	14.45	95.04	-0.4787	-0.0519	0.0002
19	SLU 79	-0.75	14.61	95.82	-0.4856	-0.0529	0.0002
19	SLU 80	-0.74	14.48	95.31	-0.4801	-0.0518	0.0002
19	SLU 81	-0.87	13.92	92.43	-0.4576	-0.057	0.0002
19	SLU 82	-0.86	13.8	91.92	-0.4521	-0.0559	0.0002
19	SLU 83	-0.87	14.54	95.81	-0.4809	-0.0576	0.0002
19	SLU 84	-0.86	14.42	95.3	-0.4754	-0.0565	0.0002
19	SLE RA 1	-0.37	9.08	61.33	-0.2968	-0.0295	0.0001
19	SLE RA 2	-0.35	8.94	60.77	-0.2906	-0.0283	0.0001
19	SLE RA 3	-0.37	9.47	63.41	-0.3114	-0.03	0.0001
19	SLE RA 4	-0.36	9.38	63.07	-0.3077	-0.0292	0.0001
19	SLE RA 5	-0.35	9.35	63.02	-0.3062	-0.0287	0.0001
19	SLE RA 6	-0.36	9.88	65.67	-0.3269	-0.0303	0.0001
19	SLE RA 7	-0.35	9.8	65.33	-0.3232	-0.0296	0.0001
19	SLE RA 8	-0.36	9.91	65.85	-0.3279	-0.0303	0.0001
19	SLE RA 9	-0.35	9.82	65.51	-0.3242	-0.0296	0.0001
19	SLE RA 10	-0.53	9.8	66.02	-0.3197	-0.0366	0.0002
19	SLE RA 11	-0.54	10.33	68.67	-0.3404	-0.0382	0.0002
19	SLE RA 12	-0.53	10.25	68.33	-0.3367	-0.0375	0.0002
19	SLE RA 13	-0.53	10.22	68.28	-0.3352	-0.037	0.0002
19	SLE RA 14	-0.54	10.74	70.93	-0.356	-0.0386	0.0002
19	SLE RA 15	-0.53	10.66	70.58	-0.3523	-0.0379	0.0002
19	SLE RA 16	-0.54	10.77	71.1	-0.3569	-0.0385	0.0002
19	SLE RA 17	-0.53	10.69	70.76	-0.3532	-0.0378	0.0002
19	SLE RA 18	-0.62	10.31	68.84	-0.3382	-0.0413	0.0002
19	SLE RA 19	-0.61	10.23	68.5	-0.3345	-0.0406	0.0002
19	SLE RA 20	-0.62	10.72	71.1	-0.3538	-0.0417	0.0002
19	SLE RA 21	-0.61	10.64	70.76	-0.3501	-0.041	0.0002
19	SLE FR 1	-0.37	9.08	61.33	-0.2968	-0.0295	0.0001
19	SLE FR 2	-0.36	9.05	61.22	-0.2955	-0.0293	0.0001
19	SLE FR 3	-0.37	9.24	62.24	-0.303	-0.0297	0.0001
19	SLE FR 4	-0.44	9.42	63.47	-0.308	-0.0328	0.0001
19	SLE FR 5	-0.44	9.61	64.49	-0.3154	-0.0332	0.0001
19	SLE FR 6	-0.49	9.69	65.09	-0.3175	-0.0354	0.0002
19	SLE QP 1	-0.37	9.08	61.33	-0.2968	-0.0295	0.0001
19	SLE QP 2	-0.44	9.45	63.59	-0.3092	-0.033	0.0001
19	SLD 1	2.64	12.66	79.9	-0.4334	0.1104	0
19	SLD 2	2.64	12.66	79.9	-0.4334	0.1104	0
19	SLD 3	3.19	9.9	66.69	-0.3184	0.1381	-0.0001
19	SLD 4	3.19	9.9	66.69	-0.3184	0.1381	-0.0001
19	SLD 5	-0.36	14.6	88.51	-0.5209	-0.0319	0.0002
19	SLD 6	-0.36	14.6	88.51	-0.5209	-0.0319	0.0002
19	SLD 7	1.49	5.39	44.48	-0.1375	0.0602	0
19	SLD 8	1.49	5.39	44.48	-0.1375	0.0602	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
40	SLU 47		0.01	11.72	58.42	-0.5346	0.0044	-0.0005
40	SLU 48		0.02	12.67	59.88	-0.5792	0.0049	-0.0005
40	SLU 49		0.01	12.52	60.02	-0.5721	0.0046	-0.0005
40	SLU 50		0.02	12.69	59.83	-0.5807	0.0049	-0.0005
40	SLU 51		0.01	12.55	59.97	-0.5736	0.0046	-0.0005
40	SLU 52		0.01	12.59	63.62	-0.5709	0.0055	-0.0005
40	SLU 53		0.02	13.53	65.08	-0.6155	0.006	-0.0005
40	SLU 54		0.02	13.39	65.22	-0.6084	0.0057	-0.0005
40	SLU 55		0.02	13.32	65.26	-0.6051	0.0055	-0.0005
40	SLU 56		0.02	14.26	66.72	-0.6497	0.006	-0.0005
40	SLU 57		0.02	14.12	66.86	-0.6425	0.0057	-0.0005
40	SLU 58		0.02	14.28	66.67	-0.6511	0.006	-0.0005
40	SLU 59		0.02	14.14	66.81	-0.644	0.0057	-0.0005
40	SLU 60		0.02	13.51	66.32	-0.613	0.0065	-0.0005
40	SLU 61		0.02	13.36	66.46	-0.6059	0.0062	-0.0005
40	SLU 62		0.02	14.24	67.96	-0.6472	0.0065	-0.0005
40	SLU 63		0.02	14.09	68.1	-0.64	0.0062	-0.0005
40	SLU 64		0.02	12.53	61.2	-0.5694	0.0055	-0.0005
40	SLU 65		0.01	12.3	61.43	-0.5575	0.0049	-0.0005
40	SLU 66		0.02	13.24	62.89	-0.6021	0.0054	-0.0005
40	SLU 67		0.01	13.1	63.03	-0.595	0.0051	-0.0005
40	SLU 68		0.01	13.03	63.07	-0.5917	0.0049	-0.0005
40	SLU 69		0.02	13.97	64.53	-0.6363	0.0054	-0.0005
40	SLU 70		0.01	13.83	64.67	-0.6291	0.0051	-0.0005
40	SLU 71		0.02	13.99	64.48	-0.6378	0.0054	-0.0005
40	SLU 72		0.01	13.85	64.62	-0.6306	0.0051	-0.0005
40	SLU 73		0.01	13.89	68.27	-0.628	0.006	-0.0006
40	SLU 74		0.02	14.83	69.73	-0.6725	0.0065	-0.0006
40	SLU 75		0.02	14.69	69.87	-0.6654	0.0062	-0.0006
40	SLU 76		0.01	14.62	69.92	-0.6621	0.006	-0.0006
40	SLU 77		0.02	15.56	71.38	-0.7067	0.0065	-0.0006
40	SLU 78		0.02	15.42	71.52	-0.6996	0.0062	-0.0006
40	SLU 79		0.02	15.59	71.33	-0.7082	0.0065	-0.0006
40	SLU 80		0.02	15.45	71.47	-0.7011	0.0062	-0.0006
40	SLU 81		0.02	14.81	70.97	-0.67	0.007	-0.0006
40	SLU 82		0.02	14.67	71.11	-0.6629	0.0067	-0.0006
40	SLU 83		0.02	15.54	72.62	-0.7042	0.007	-0.0006
40	SLU 84		0.02	15.4	72.76	-0.6971	0.0067	-0.0006
40	SLE RA 1		0.01	9.35	46.05	-0.4255	0.0041	-0.0004
40	SLE RA 2		0.01	9.2	46.21	-0.4175	0.0037	-0.0004
40	SLE RA 3		0.01	9.82	47.18	-0.4473	0.0041	-0.0004
40	SLE RA 4		0.01	9.73	47.28	-0.4425	0.0039	-0.0004
40	SLE RA 5		0.01	9.68	47.3	-0.4403	0.0037	-0.0004
40	SLE RA 6		0.01	10.31	48.28	-0.47	0.0041	-0.0004
40	SLE RA 7		0.01	10.22	48.37	-0.4653	0.0038	-0.0004
40	SLE RA 8		0.01	10.33	48.24	-0.471	0.0041	-0.0004
40	SLE RA 9		0.01	10.23	48.34	-0.4663	0.0038	-0.0004
40	SLE RA 10		0.01	10.26	50.77	-0.4645	0.0045	-0.0004
40	SLE RA 11		0.01	10.89	51.74	-0.4942	0.0048	-0.0004
40	SLE RA 12		0.01	10.79	51.84	-0.4895	0.0046	-0.0004
40	SLE RA 13		0.01	10.75	51.86	-0.4873	0.0044	-0.0004
40	SLE RA 14		0.01	11.37	52.84	-0.517	0.0048	-0.0004
40	SLE RA 15		0.01	11.28	52.93	-0.5122	0.0046	-0.0004
40	SLE RA 16		0.01	11.39	52.8	-0.518	0.0048	-0.0004
40	SLE RA 17		0.01	11.3	52.9	-0.5132	0.0046	-0.0004
40	SLE RA 18		0.01	10.87	52.57	-0.4926	0.0051	-0.0004
40	SLE RA 19		0.01	10.78	52.66	-0.4878	0.0049	-0.0004
40	SLE RA 20		0.01	11.36	53.66	-0.5153	0.0051	-0.0004
40	SLE RA 21		0.01	11.26	53.76	-0.5106	0.0049	-0.0004
40	SLE FR 1		0.01	9.35	46.05	-0.4255	0.0041	-0.0004
40	SLE FR 2		0.01	9.32	46.08	-0.4239	0.004	-0.0004
40	SLE FR 3		0.01	9.55	46.49	-0.4346	0.0041	-0.0004
40	SLE FR 4		0.01	9.78	48.04	-0.444	0.0043	-0.0004
40	SLE FR 5		0.01	10	48.45	-0.4547	0.0044	-0.0004
40	SLE FR 6		0.01	10.11	49.31	-0.459	0.0046	-0.0004
40	SLE QP 1		0.01	9.35	46.05	-0.4255	0.0041	-0.0004
40	SLE QP 2		0.01	9.81	48.01	-0.4456	0.0044	-0.0004
40	SLD 1		-0.04	13.78	58.08	-0.6259	-0.0058	-0.0008
40	SLD 2		-0.04	13.78	58.08	-0.6259	-0.0058	-0.0008
40	SLD 3		-0.07	9.82	53.34	-0.4439	-0.0145	-0.0006
40	SLD 4		-0.07	9.82	53.34	-0.4439	-0.0145	-0.0006
40	SLD 5		0.04	17.02	58.22	-0.7758	0.0146	-0.0008
40	SLD 6		0.04	17.02	58.22	-0.7758	0.0146	-0.0008
40	SLD 7		-0.06	3.79	42.41	-0.169	-0.0145	-0.0002
40	SLD 8		-0.06	3.79	42.41	-0.169	-0.0145	-0.0002
40	SLD 9		0.09	15.82	53.6	-0.7222	0.0233	-0.0006
40	SLD 10		0.09	15.82	53.6	-0.7222	0.0233	-0.0006
40	SLD 11		-0.02	2.6	37.79	-0.1154	-0.0058	0
40	SLD 12		-0.02	2.6	37.79	-0.1154	-0.0058	0
40	SLD 13		0.1	9.8	42.68	-0.4473	0.0233	-0.0001
40	SLD 14		0.1	9.8	42.68	-0.4473	0.0233	-0.0001
40	SLD 15		0.06	5.83	37.93	-0.2653	0.0146	0
40	SLD 16		0.06	5.83	37.93	-0.2653	0.0146	0
40	SLV 1		-0.12	19.16	71.7	-0.8697	-0.0221	-0.0014
40	SLV 2		-0.12	19.16	71.7	-0.8697	-0.0221	-0.0014
40	SLV 3		-0.19	9.87	60.5	-0.4434	-0.0426	-0.001
40	SLV 4		-0.19	9.87	60.5	-0.4434	-0.0426	-0.001
40	SLV 5		0.08	26.7	72.11	-1.2193	0.0275	-0.0013
40	SLV 6		0.08	26.7	72.11	-1.2193	0.0275	-0.0013
40	SLV 7		-0.16	-4.26	34.76	0.2016	-0.0407	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
40	SLV 8	-0.16	-4.26	34.76	0.2016	-0.0407	0
40	SLV 9	0.19	23.88	61.26	-1.0927	0.0495	-0.0008
40	SLV 10	0.19	23.88	61.26	-1.0927	0.0495	-0.0008
40	SLV 11	-0.06	-7.09	23.9	0.3281	-0.0187	0.0005
40	SLV 12	-0.06	-7.09	23.9	0.3281	-0.0187	0.0005
40	SLV 13	0.22	9.75	35.52	-0.4478	0.0514	0.0003
40	SLV 14	0.22	9.75	35.52	-0.4478	0.0514	0.0003
40	SLV 15	0.15	0.46	24.31	-0.0215	0.0309	0.0007
40	SLV 16	0.15	0.46	24.31	-0.0215	0.0309	0.0007
41	SLU 1	0.38	1.04	37.94	-0.3446	0.0683	-0.0233
41	SLU 2	0.36	0.1	39.99	-0.2891	0.0661	-0.0228
41	SLU 3	0.39	1.07	38.67	-0.3511	0.0696	-0.0237
41	SLU 4	0.37	0.5	39.91	-0.3178	0.0683	-0.0234
41	SLU 5	0.36	0.11	40.51	-0.2935	0.0669	-0.023
41	SLU 6	0.39	1.08	39.19	-0.3556	0.0705	-0.024
41	SLU 7	0.38	0.52	40.43	-0.3223	0.0692	-0.0237
41	SLU 8	0.39	1.06	38.98	-0.3534	0.07	-0.0239
41	SLU 9	0.37	0.5	40.21	-0.3201	0.0686	-0.0235
41	SLU 10	0.41	0.38	44.94	-0.3271	0.0757	-0.0261
41	SLU 11	0.44	1.36	43.62	-0.3891	0.0793	-0.0271
41	SLU 12	0.43	0.79	44.85	-0.3558	0.078	-0.0268
41	SLU 13	0.42	0.4	45.46	-0.3315	0.0765	-0.0264
41	SLU 14	0.45	1.37	44.14	-0.3935	0.0801	-0.0274
41	SLU 15	0.43	0.8	45.37	-0.3602	0.0788	-0.0271
41	SLU 16	0.44	1.35	43.92	-0.3914	0.0796	-0.0272
41	SLU 17	0.43	0.79	45.16	-0.3581	0.0783	-0.0269
41	SLU 18	0.46	1.45	45	-0.3988	0.082	-0.0281
41	SLU 19	0.44	0.88	46.23	-0.3655	0.0807	-0.0278
41	SLU 20	0.46	1.46	45.52	-0.4032	0.0829	-0.0284
41	SLU 21	0.45	0.9	46.76	-0.3699	0.0816	-0.0281
41	SLU 22	0.42	1.25	41.95	-0.3729	0.0762	-0.026
41	SLU 23	0.4	0.31	44	-0.3174	0.074	-0.0255
41	SLU 24	0.43	1.28	42.68	-0.3795	0.0775	-0.0264
41	SLU 25	0.42	0.71	43.92	-0.3462	0.0762	-0.0261
41	SLU 26	0.4	0.32	44.52	-0.3218	0.0748	-0.0258
41	SLU 27	0.43	1.29	43.21	-0.3839	0.0784	-0.0267
41	SLU 28	0.42	0.73	44.44	-0.3506	0.0771	-0.0264
41	SLU 29	0.43	1.27	42.99	-0.3818	0.0779	-0.0266
41	SLU 30	0.42	0.71	44.22	-0.3485	0.0765	-0.0263
41	SLU 31	0.45	0.6	48.95	-0.3554	0.0836	-0.0288
41	SLU 32	0.48	1.57	47.63	-0.4175	0.0872	-0.0298
41	SLU 33	0.47	1	48.86	-0.3842	0.0859	-0.0295
41	SLU 34	0.46	0.61	49.47	-0.3598	0.0845	-0.0291
41	SLU 35	0.49	1.58	48.15	-0.4219	0.088	-0.0301
41	SLU 36	0.48	1.02	49.39	-0.3886	0.0867	-0.0298
41	SLU 37	0.49	1.56	47.93	-0.4197	0.0875	-0.0299
41	SLU 38	0.47	1	49.17	-0.3864	0.0862	-0.0296
41	SLU 39	0.5	1.66	49.01	-0.4272	0.0899	-0.0308
41	SLU 40	0.49	1.1	50.25	-0.3939	0.0886	-0.0305
41	SLU 41	0.51	1.67	49.53	-0.4316	0.0908	-0.0311
41	SLU 42	0.49	1.11	50.77	-0.3983	0.0895	-0.0308
41	SLU 43	0.48	1.28	47.94	-0.4382	0.0861	-0.0293
41	SLU 44	0.45	0.33	50	-0.3827	0.0839	-0.0288
41	SLU 45	0.48	1.31	48.68	-0.4448	0.0874	-0.0298
41	SLU 46	0.47	0.74	49.91	-0.4115	0.0861	-0.0295
41	SLU 47	0.46	0.35	50.52	-0.3871	0.0847	-0.0291
41	SLU 48	0.49	1.32	49.2	-0.4492	0.0883	-0.0301
41	SLU 49	0.48	0.75	50.43	-0.4159	0.0869	-0.0298
41	SLU 50	0.49	1.3	48.98	-0.4471	0.0877	-0.0299
41	SLU 51	0.47	0.74	50.21	-0.4138	0.0864	-0.0296
41	SLU 52	0.51	0.62	54.94	-0.4207	0.0935	-0.0322
41	SLU 53	0.54	1.59	53.63	-0.4828	0.097	-0.0332
41	SLU 54	0.53	1.03	54.86	-0.4495	0.0957	-0.0328
41	SLU 55	0.51	0.63	55.46	-0.4251	0.0943	-0.0325
41	SLU 56	0.54	1.61	54.15	-0.4872	0.0979	-0.0334
41	SLU 57	0.53	1.04	55.38	-0.4539	0.0966	-0.0331
41	SLU 58	0.54	1.59	53.93	-0.485	0.0974	-0.0333
41	SLU 59	0.53	1.02	55.16	-0.4517	0.096	-0.033
41	SLU 60	0.55	1.69	55.01	-0.4925	0.0998	-0.0342
41	SLU 61	0.54	1.12	56.24	-0.4592	0.0985	-0.0338
41	SLU 62	0.56	1.7	55.53	-0.4969	0.1007	-0.0344
41	SLU 63	0.55	1.14	56.76	-0.4636	0.0993	-0.0341
41	SLU 64	0.52	1.49	51.95	-0.4666	0.094	-0.032
41	SLU 65	0.5	0.55	54.01	-0.4111	0.0918	-0.0315
41	SLU 66	0.53	1.52	52.69	-0.4731	0.0953	-0.0325
41	SLU 67	0.51	0.95	53.92	-0.4398	0.094	-0.0322
41	SLU 68	0.5	0.56	54.53	-0.4155	0.0926	-0.0318
41	SLU 69	0.53	1.53	53.21	-0.4776	0.0962	-0.0328
41	SLU 70	0.52	0.97	54.44	-0.4443	0.0948	-0.0325
41	SLU 71	0.53	1.51	52.99	-0.4754	0.0956	-0.0326
41	SLU 72	0.52	0.95	54.23	-0.4421	0.0943	-0.0323
41	SLU 73	0.55	0.83	58.95	-0.449	0.1014	-0.0349
41	SLU 74	0.58	1.81	57.64	-0.5111	0.105	-0.0359
41	SLU 75	0.57	1.24	58.87	-0.4778	0.1036	-0.0356
41	SLU 76	0.56	0.85	59.47	-0.4535	0.1022	-0.0352
41	SLU 77	0.59	1.82	58.16	-0.5155	0.1058	-0.0362
41	SLU 78	0.57	1.25	59.39	-0.4822	0.1045	-0.0359
41	SLU 79	0.58	1.8	57.94	-0.5134	0.1053	-0.036
41	SLU 80	0.57	1.24	59.17	-0.4801	0.1039	-0.0357
41	SLU 81	0.6	1.9	59.02	-0.5208	0.1077	-0.0369



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
41	SLU 82			0.59	1.33	60.25	-0.4875	0.1064	-0.0366
41	SLU 83			0.6	1.91	59.54	-0.5252	0.1086	-0.0372
41	SLU 84			0.59	1.35	60.77	-0.4919	0.1072	-0.0368
41	SLE RA 1			0.39	1.1	39.08	-0.3527	0.0705	-0.024
41	SLE RA 2			0.38	0.47	40.45	-0.3157	0.0691	-0.0237
41	SLE RA 3			0.4	1.12	39.57	-0.357	0.0714	-0.0243
41	SLE RA 4			0.39	0.74	40.4	-0.3348	0.0706	-0.0241
41	SLE RA 5			0.38	0.48	40.8	-0.3186	0.0696	-0.0239
41	SLE RA 6			0.4	1.13	39.92	-0.36	0.072	-0.0245
41	SLE RA 7			0.39	0.75	40.74	-0.3378	0.0711	-0.0243
41	SLE RA 8			0.4	1.11	39.78	-0.3586	0.0717	-0.0244
41	SLE RA 9			0.39	0.74	40.6	-0.3364	0.0708	-0.0242
41	SLE RA 10			0.41	0.66	43.75	-0.341	0.0755	-0.026
41	SLE RA 11			0.43	1.31	42.87	-0.3824	0.0779	-0.0266
41	SLE RA 12			0.42	0.93	43.69	-0.3602	0.077	-0.0264
41	SLE RA 13			0.42	0.67	44.1	-0.3439	0.0761	-0.0261
41	SLE RA 14			0.44	1.32	43.22	-0.3853	0.0784	-0.0268
41	SLE RA 15			0.43	0.94	44.04	-0.3631	0.0775	-0.0266
41	SLE RA 16			0.43	1.31	43.07	-0.3839	0.0781	-0.0267
41	SLE RA 17			0.42	0.93	43.9	-0.3617	0.0772	-0.0265
41	SLE RA 18			0.44	1.37	43.79	-0.3888	0.0797	-0.0273
41	SLE RA 19			0.43	1	44.61	-0.3666	0.0788	-0.0271
41	SLE RA 20			0.45	1.38	44.14	-0.3918	0.0803	-0.0275
41	SLE RA 21			0.44	1	44.96	-0.3696	0.0794	-0.0273
41	SLE FR 1			0.39	1.1	39.08	-0.3527	0.0705	-0.024
41	SLE FR 2			0.39	0.97	39.36	-0.3453	0.0702	-0.024
41	SLE FR 3			0.39	1.1	39.22	-0.3538	0.0708	-0.0241
41	SLE FR 4			0.4	1.05	40.77	-0.3561	0.073	-0.0249
41	SLE FR 5			0.41	1.18	40.63	-0.3647	0.0735	-0.0251
41	SLE FR 6			0.42	1.24	41.44	-0.3707	0.0751	-0.0257
41	SLE QP 1			0.39	1.1	39.08	-0.3527	0.0705	-0.024
41	SLE QP 2			0.41	1.18	40.49	-0.3635	0.0733	-0.025
41	SLD 1			0.55	3.92	48.01	-0.3666	0.1096	-0.0315
41	SLD 2			0.55	3.92	48.01	-0.3666	0.1096	-0.0315
41	SLD 3			0.45	0.49	45.07	-0.1631	0.0925	-0.0258
41	SLD 4			0.45	0.49	45.07	-0.1631	0.0925	-0.0258
41	SLD 5			0.6	7.2	47.22	-0.673	0.1101	-0.0356
41	SLD 6			0.6	7.2	47.22	-0.673	0.1101	-0.0356
41	SLD 7			0.27	-4.23	37.4	0.0052	0.0531	-0.0167
41	SLD 8			0.27	-4.23	37.4	0.0052	0.0531	-0.0167
41	SLD 9			0.54	6.59	43.59	-0.7322	0.0935	-0.0334
41	SLD 10			0.54	6.59	43.59	-0.7322	0.0935	-0.0334
41	SLD 11			0.21	-4.84	33.77	-0.054	0.0365	-0.0145
41	SLD 12			0.21	-4.84	33.77	-0.054	0.0365	-0.0145
41	SLD 13			0.36	1.87	35.92	-0.5639	0.0541	-0.0242
41	SLD 14			0.36	1.87	35.92	-0.5639	0.0541	-0.0242
41	SLD 15			0.26	-1.56	32.98	-0.3605	0.037	-0.0185
41	SLD 16			0.26	-1.56	32.98	-0.3605	0.037	-0.0185
41	SLV 1			0.75	7.69	58.16	-0.3762	0.1584	-0.0403
41	SLV 2			0.75	7.69	58.16	-0.3762	0.1584	-0.0403
41	SLV 3			0.52	-0.45	51.18	0.1147	0.1179	-0.0269
41	SLV 4			0.52	-0.45	51.18	0.1147	0.1179	-0.0269
41	SLV 5			0.86	15.48	56.37	-1.112	0.1602	-0.0499
41	SLV 6			0.86	15.48	56.37	-1.112	0.1602	-0.0499
41	SLV 7			0.09	-11.65	33.12	0.5246	0.0253	-0.0053
41	SLV 8			0.09	-11.65	33.12	0.5246	0.0253	-0.0053
41	SLV 9			0.72	14.01	47.87	-1.2516	0.1213	-0.0448
41	SLV 10			0.72	14.01	47.87	-1.2516	0.1213	-0.0448
41	SLV 11			-0.05	-13.12	24.62	0.385	-0.0136	-0.0001
41	SLV 12			-0.05	-13.12	24.62	0.385	-0.0136	-0.0001
41	SLV 13			0.29	2.81	29.81	-0.8418	0.0287	-0.0231
41	SLV 14			0.29	2.81	29.81	-0.8418	0.0287	-0.0231
41	SLV 15			0.06	-5.33	22.83	-0.3508	-0.0118	-0.0097
41	SLV 16			0.06	-5.33	22.83	-0.3508	-0.0118	-0.0097
42	SLU 1			-0.05	-0.16	0.43	0.0124	-0.0117	0.0021
42	SLU 2			-0.05	-0.18	0.39	0.0129	-0.0121	0.0022
42	SLU 3			-0.05	-0.22	0.26	0.0144	-0.0118	0.0021
42	SLU 4			-0.05	-0.23	0.24	0.0147	-0.012	0.0022
42	SLU 5			-0.05	-0.21	0.29	0.0142	-0.0121	0.0022
42	SLU 6			-0.05	-0.26	0.16	0.0157	-0.0118	0.0021
42	SLU 7			-0.05	-0.27	0.14	0.0159	-0.012	0.0022
42	SLU 8			-0.05	-0.23	0.23	0.0149	-0.0117	0.0021
42	SLU 9			-0.05	-0.24	0.21	0.0152	-0.012	0.0022
42	SLU 10			-0.08	0.27	2.51	0.0053	-0.0228	0.004
42	SLU 11			-0.08	0.23	2.38	0.0068	-0.0225	0.004
42	SLU 12			-0.08	0.22	2.36	0.007	-0.0228	0.004
42	SLU 13			-0.08	0.23	2.41	0.0065	-0.0228	0.004
42	SLU 14			-0.08	0.19	2.28	0.008	-0.0225	0.004
42	SLU 15			-0.08	0.18	2.26	0.0083	-0.0228	0.004
42	SLU 16			-0.08	0.21	2.35	0.0073	-0.0224	0.004
42	SLU 17			-0.08	0.2	2.32	0.0076	-0.0227	0.004
42	SLU 18			-0.09	0.48	3.45	0.0015	-0.027	0.0047
42	SLU 19			-0.09	0.47	3.43	0.0018	-0.0273	0.0048
42	SLU 20			-0.09	0.44	3.35	0.0028	-0.027	0.0047
42	SLU 21			-0.1	0.43	3.33	0.0031	-0.0273	0.0048
42	SLU 22			-0.06	-0.31	0.12	0.0181	-0.014	0.0025
42	SLU 23			-0.06	-0.32	0.09	0.0186	-0.0145	0.0026
42	SLU 24			-0.06	-0.36	-0.04	0.0201	-0.0141	0.0025
42	SLU 25			-0.06	-0.37	-0.06	0.0203	-0.0144	0.0026
42	SLU 26			-0.06	-0.35	-0.01	0.0198	-0.0145	0.0026



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
42	SLU 27			-0.06	-0.4	-0.14	0.0213	-0.0141	0.0026
42	SLU 28			-0.06	-0.41	-0.16	0.0216	-0.0144	0.0026
42	SLU 29			-0.06	-0.38	-0.08	0.0206	-0.014	0.0025
42	SLU 30			-0.06	-0.39	-0.1	0.0209	-0.0143	0.0026
42	SLU 31			-0.09	0.13	2.21	0.0109	-0.0252	0.0044
42	SLU 32			-0.09	0.08	2.08	0.0124	-0.0248	0.0044
42	SLU 33			-0.09	0.08	2.05	0.0127	-0.0251	0.0044
42	SLU 34			-0.09	0.09	2.11	0.0122	-0.0252	0.0044
42	SLU 35			-0.09	0.05	1.98	0.0137	-0.0249	0.0044
42	SLU 36			-0.09	0.04	1.95	0.0139	-0.0251	0.0044
42	SLU 37			-0.09	0.07	2.04	0.0129	-0.0248	0.0044
42	SLU 38			-0.09	0.06	2.02	0.0132	-0.025	0.0044
42	SLU 39			-0.1	0.33	3.15	0.0072	-0.0293	0.0051
42	SLU 40			-0.1	0.32	3.13	0.0075	-0.0296	0.0052
42	SLU 41			-0.1	0.3	3.05	0.0084	-0.0294	0.0051
42	SLU 42			-0.1	0.29	3.03	0.0087	-0.0296	0.0052
42	SLU 43			-0.06	-0.16	0.66	0.0142	-0.0144	0.0026
42	SLU 44			-0.06	-0.18	0.63	0.0147	-0.0148	0.0027
42	SLU 45			-0.06	-0.22	0.5	0.0162	-0.0145	0.0026
42	SLU 46			-0.06	-0.23	0.47	0.0165	-0.0147	0.0027
42	SLU 47			-0.06	-0.21	0.53	0.016	-0.0148	0.0027
42	SLU 48			-0.06	-0.26	0.4	0.0174	-0.0145	0.0026
42	SLU 49			-0.06	-0.26	0.37	0.0177	-0.0147	0.0027
42	SLU 50			-0.06	-0.23	0.46	0.0167	-0.0144	0.0026
42	SLU 51			-0.06	-0.24	0.44	0.017	-0.0146	0.0027
42	SLU 52			-0.09	0.27	2.74	0.0071	-0.0255	0.0045
42	SLU 53			-0.09	0.23	2.61	0.0086	-0.0252	0.0045
42	SLU 54			-0.09	0.22	2.59	0.0088	-0.0255	0.0045
42	SLU 55			-0.09	0.23	2.64	0.0083	-0.0255	0.0045
42	SLU 56			-0.09	0.19	2.51	0.0098	-0.0252	0.0045
42	SLU 57			-0.1	0.18	2.49	0.0101	-0.0255	0.0045
42	SLU 58			-0.09	0.21	2.58	0.0091	-0.0251	0.0044
42	SLU 59			-0.09	0.2	2.56	0.0094	-0.0254	0.0045
42	SLU 60			-0.11	0.48	3.69	0.0033	-0.0297	0.0052
42	SLU 61			-0.11	0.47	3.66	0.0036	-0.0299	0.0053
42	SLU 62			-0.11	0.44	3.59	0.0046	-0.0297	0.0052
42	SLU 63			-0.11	0.43	3.56	0.0048	-0.03	0.0053
42	SLU 64			-0.07	-0.3	0.36	0.0199	-0.0167	0.003
42	SLU 65			-0.07	-0.32	0.32	0.0204	-0.0172	0.0031
42	SLU 66			-0.07	-0.36	0.19	0.0219	-0.0168	0.003
42	SLU 67			-0.07	-0.37	0.17	0.0221	-0.0171	0.0031
42	SLU 68			-0.07	-0.35	0.22	0.0216	-0.0172	0.0031
42	SLU 69			-0.07	-0.4	0.09	0.0231	-0.0168	0.003
42	SLU 70			-0.07	-0.41	0.07	0.0234	-0.0171	0.0031
42	SLU 71			-0.07	-0.38	0.16	0.0224	-0.0167	0.003
42	SLU 72			-0.07	-0.39	0.14	0.0227	-0.017	0.0031
42	SLU 73			-0.1	0.13	2.44	0.0127	-0.0279	0.0049
42	SLU 74			-0.1	0.08	2.31	0.0142	-0.0275	0.0049
42	SLU 75			-0.1	0.08	2.29	0.0145	-0.0278	0.0049
42	SLU 76			-0.1	0.09	2.34	0.014	-0.0279	0.0049
42	SLU 77			-0.1	0.05	2.21	0.0155	-0.0275	0.0049
42	SLU 78			-0.1	0.04	2.19	0.0157	-0.0278	0.0049
42	SLU 79			-0.1	0.07	2.27	0.0147	-0.0275	0.0049
42	SLU 80			-0.1	0.06	2.25	0.015	-0.0277	0.0049
42	SLU 81			-0.11	0.33	3.38	0.009	-0.032	0.0056
42	SLU 82			-0.12	0.32	3.36	0.0093	-0.0323	0.0057
42	SLU 83			-0.12	0.3	3.28	0.0102	-0.032	0.0056
42	SLU 84			-0.12	0.29	3.26	0.0105	-0.0323	0.0057
42	SLE RA 1			-0.05	-0.2	0.34	0.0141	-0.0123	0.0022
42	SLE RA 2			-0.05	-0.21	0.32	0.0144	-0.0126	0.0023
42	SLE RA 3			-0.05	-0.24	0.23	0.0154	-0.0124	0.0022
42	SLE RA 4			-0.05	-0.25	0.22	0.0156	-0.0126	0.0023
42	SLE RA 5			-0.05	-0.24	0.25	0.0152	-0.0126	0.0023
42	SLE RA 6			-0.05	-0.27	0.16	0.0162	-0.0124	0.0022
42	SLE RA 7			-0.05	-0.27	0.15	0.0164	-0.0126	0.0023
42	SLE RA 8			-0.05	-0.25	0.21	0.0157	-0.0124	0.0022
42	SLE RA 9			-0.05	-0.26	0.19	0.0159	-0.0125	0.0023
42	SLE RA 10			-0.07	0.09	1.73	0.0093	-0.0198	0.0035
42	SLE RA 11			-0.07	0.06	1.64	0.0103	-0.0196	0.0035
42	SLE RA 12			-0.07	0.05	1.63	0.0105	-0.0197	0.0035
42	SLE RA 13			-0.07	0.06	1.66	0.0101	-0.0198	0.0035
42	SLE RA 14			-0.07	0.03	1.58	0.0111	-0.0196	0.0035
42	SLE RA 15			-0.07	0.03	1.56	0.0113	-0.0197	0.0035
42	SLE RA 16			-0.07	0.05	1.62	0.0106	-0.0195	0.0035
42	SLE RA 17			-0.07	0.04	1.61	0.0108	-0.0197	0.0035
42	SLE RA 18			-0.08	0.22	2.36	0.0068	-0.0226	0.004
42	SLE RA 19			-0.08	0.22	2.34	0.007	-0.0227	0.004
42	SLE RA 20			-0.08	0.2	2.29	0.0076	-0.0226	0.004
42	SLE RA 21			-0.08	0.19	2.28	0.0078	-0.0227	0.004
42	SLE FR 1			-0.05	-0.2	0.34	0.0141	-0.0123	0.0022
42	SLE FR 2			-0.05	-0.21	0.34	0.0141	-0.0124	0.0022
42	SLE FR 3			-0.05	-0.21	0.32	0.0144	-0.0123	0.0022
42	SLE FR 4			-0.06	-0.08	0.94	0.0119	-0.0155	0.0028
42	SLE FR 5			-0.06	-0.09	0.92	0.0122	-0.0154	0.0028
42	SLE FR 6			-0.07	0.01	1.35	0.0104	-0.0174	0.0031
42	SLE QP 1			-0.05	-0.2	0.34	0.0141	-0.0123	0.0022
42	SLE QP 2			-0.06	-0.08	0.95	0.0119	-0.0154	0.0028
42	SLD 1			-0.31	-0.22	0.58	0.0168	-0.0578	0.0108
42	SLD 2			-0.31	-0.22	0.58	0.0168	-0.0578	0.0108
42	SLD 3			-0.28	-1.66	-3.23	0.0674	-0.0534	0.0099



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
44	SLU 62	10.07	14.3	103.22	-0.2462	0.1703	0.0018
44	SLU 63	9.66	15.03	105.08	-0.2682	0.142	0.0023
44	SLU 64	9.36	13.58	97.33	-0.2352	0.1547	0.0018
44	SLU 65	8.67	14.8	100.45	-0.2718	0.1075	0.0026
44	SLU 66	9.66	14.02	100.46	-0.2429	0.1597	0.0018
44	SLU 67	9.24	14.75	102.33	-0.2648	0.1314	0.0023
44	SLU 68	8.94	15.16	103.04	-0.2782	0.1125	0.0027
44	SLU 69	9.92	14.38	103.05	-0.2492	0.1648	0.0019
44	SLU 70	9.51	15.11	104.92	-0.2712	0.1364	0.0024
44	SLU 71	9.88	14.3	102.51	-0.2479	0.1647	0.0019
44	SLU 72	9.47	15.03	104.38	-0.2699	0.1364	0.0024
44	SLU 73	9.66	15.89	109.2	-0.2878	0.1275	0.0027
44	SLU 74	10.65	15.12	109.21	-0.2589	0.1797	0.0019
44	SLU 75	10.24	15.85	111.08	-0.2808	0.1514	0.0024
44	SLU 76	9.93	16.25	111.79	-0.2942	0.1325	0.0027
44	SLU 77	10.91	15.48	111.8	-0.2652	0.1848	0.0019
44	SLU 78	10.5	16.21	113.67	-0.2872	0.1564	0.0025
44	SLU 79	10.87	15.4	111.26	-0.2639	0.1847	0.0019
44	SLU 80	10.46	16.13	113.13	-0.2859	0.1564	0.0024
44	SLU 81	10.77	15.14	109.83	-0.2581	0.1833	0.0019
44	SLU 82	10.36	15.87	111.7	-0.28	0.1549	0.0024
44	SLU 83	11.04	15.5	112.42	-0.2644	0.1883	0.0019
44	SLU 84	10.62	16.23	114.29	-0.2864	0.16	0.0024
44	SLE RA 1	6.99	10.18	72.85	-0.1769	0.1151	0.0013
44	SLE RA 2	6.53	10.99	74.93	-0.2013	0.0836	0.0019
44	SLE RA 3	7.18	10.48	74.94	-0.182	0.1184	0.0014
44	SLE RA 4	6.91	10.96	76.18	-0.1967	0.0995	0.0017
44	SLE RA 5	6.7	11.23	76.65	-0.2056	0.0869	0.0019
44	SLE RA 6	7.36	10.72	76.66	-0.1863	0.1218	0.0014
44	SLE RA 7	7.08	11.2	77.91	-0.2009	0.1029	0.0018
44	SLE RA 8	7.33	10.66	76.3	-0.1854	0.1218	0.0014
44	SLE RA 9	7.06	11.15	77.54	-0.2	0.1029	0.0017
44	SLE RA 10	7.19	11.72	80.76	-0.212	0.0969	0.002
44	SLE RA 11	7.84	11.21	80.77	-0.1927	0.1318	0.0014
44	SLE RA 12	7.57	11.69	82.01	-0.2073	0.1129	0.0018
44	SLE RA 13	7.36	11.96	82.48	-0.2162	0.1003	0.002
44	SLE RA 14	8.02	11.45	82.49	-0.1969	0.1351	0.0015
44	SLE RA 15	7.74	11.93	83.74	-0.2116	0.1162	0.0018
44	SLE RA 16	8	11.39	82.13	-0.1961	0.1351	0.0014
44	SLE RA 17	7.72	11.88	83.38	-0.2107	0.1162	0.0018
44	SLE RA 18	7.93	11.22	81.18	-0.1922	0.1341	0.0014
44	SLE RA 19	7.66	11.71	82.43	-0.2068	0.1152	0.0017
44	SLE RA 20	8.1	11.46	82.91	-0.1964	0.1374	0.0014
44	SLE RA 21	7.83	11.95	84.15	-0.211	0.1186	0.0018
44	SLE FR 1	6.99	10.18	72.85	-0.1769	0.1151	0.0013
44	SLE FR 2	6.9	10.34	73.27	-0.1818	0.1088	0.0015
44	SLE FR 3	7.06	10.28	73.54	-0.1786	0.1164	0.0014
44	SLE FR 4	7.18	10.66	75.77	-0.1864	0.1145	0.0015
44	SLE FR 5	7.34	10.59	76.04	-0.1832	0.1221	0.0014
44	SLE FR 6	7.46	10.7	77.02	-0.1845	0.1246	0.0014
44	SLE QP 1	6.99	10.18	72.85	-0.1769	0.1151	0.0013
44	SLE QP 2	7.27	10.49	75.35	-0.1815	0.1208	0.0014
44	SLD 1	12.22	14.34	107.13	-0.2653	0.2466	0.0007
44	SLD 2	12.22	14.34	107.13	-0.2653	0.2466	0.0007
44	SLD 3	11.11	11.52	94.53	-0.1674	0.2862	-0.0003
44	SLD 4	11.11	11.52	94.53	-0.1674	0.2862	-0.0003
44	SLD 5	10.44	15.92	104	-0.3552	0.0985	0.0027
44	SLD 6	10.44	15.92	104	-0.3552	0.0985	0.0027
44	SLD 7	6.74	6.54	61.99	-0.0287	0.2304	-0.0007
44	SLD 8	6.74	6.54	61.99	-0.0287	0.2304	-0.0007
44	SLD 9	7.8	14.45	88.71	-0.3343	0.0111	0.0034
44	SLD 10	7.8	14.45	88.71	-0.3343	0.0111	0.0034
44	SLD 11	4.1	5.07	46.7	-0.0078	0.1431	0.0001
44	SLD 12	4.1	5.07	46.7	-0.0078	0.1431	0.0001
44	SLD 13	3.43	9.47	56.17	-0.1956	-0.0446	0.0031
44	SLD 14	3.43	9.47	56.17	-0.1956	-0.0446	0.0031
44	SLD 15	2.32	6.65	43.57	-0.0976	-0.0051	0.0021
44	SLD 16	2.32	6.65	43.57	-0.0976	-0.0051	0.0021
44	SLV 1	18.93	19.49	149.96	-0.3787	0.4121	-0.0003
44	SLV 2	18.93	19.49	149.96	-0.3787	0.4121	-0.0003
44	SLV 3	16.23	12.9	120.28	-0.1504	0.5126	-0.0027
44	SLV 4	16.23	12.9	120.28	-0.1504	0.5126	-0.0027
44	SLV 5	14.86	23.18	142.74	-0.587	0.0558	0.0045
44	SLV 6	14.86	23.18	142.74	-0.587	0.0558	0.0045
44	SLV 7	5.87	1.23	43.82	0.1742	0.3907	-0.0034
44	SLV 8	5.87	1.23	43.82	0.1742	0.3907	-0.0034
44	SLV 9	8.67	19.76	106.88	-0.5372	-0.1492	0.0062
44	SLV 10	8.67	19.76	106.88	-0.5372	-0.1492	0.0062
44	SLV 11	-0.32	-2.19	7.96	0.224	0.1858	-0.0017
44	SLV 12	-0.32	-2.19	7.96	0.224	0.1858	-0.0017
44	SLV 13	-1.69	8.09	30.42	-0.2126	-0.271	0.0054
44	SLV 14	-1.69	8.09	30.42	-0.2126	-0.271	0.0054
44	SLV 15	-4.39	1.5	0.74	0.0157	-0.1705	0.003
44	SLV 16	-4.39	1.5	0.74	0.0157	-0.1705	0.003
45	SLU 1	3.04	0.13	51.92	-0.0123	0.2732	-0.0005
45	SLU 2	1.26	0.14	54.22	-0.0471	0.2091	-0.0006
45	SLU 3	3.18	0.13	54.1	-0.0128	0.2865	-0.0006
45	SLU 4	2.11	0.14	55.48	-0.0337	0.248	-0.0006
45	SLU 5	1.41	0.15	56	-0.0476	0.2214	-0.0006
45	SLU 6	3.32	0.14	55.89	-0.0132	0.2988	-0.0006



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
45	SLU 7	2.25	0.15	57.27	-0.0341	0.2603	-0.0006
45	SLU 8	3.33	0.14	55.49	-0.0132	0.2978	-0.0006
45	SLU 9	2.26	0.15	56.87	-0.0341	0.2593	-0.0006
45	SLU 10	1.94	0.16	60.73	-0.0489	0.2559	-0.0006
45	SLU 11	3.85	0.15	60.62	-0.0146	0.3333	-0.0006
45	SLU 12	2.78	0.16	62	-0.0355	0.2948	-0.0006
45	SLU 13	2.08	0.17	62.52	-0.0494	0.2681	-0.0007
45	SLU 14	3.99	0.16	62.4	-0.015	0.3456	-0.0006
45	SLU 15	2.93	0.16	63.78	-0.0359	0.3071	-0.0007
45	SLU 16	4	0.15	62	-0.015	0.3446	-0.0006
45	SLU 17	2.93	0.16	63.38	-0.0359	0.3061	-0.0007
45	SLU 18	4.01	0.15	61.22	-0.0149	0.34	-0.0006
45	SLU 19	2.94	0.16	62.6	-0.0358	0.3016	-0.0006
45	SLU 20	4.15	0.16	63.01	-0.0153	0.3523	-0.0006
45	SLU 21	3.08	0.17	64.39	-0.0362	0.3138	-0.0007
45	SLU 22	3.61	0.15	58.67	-0.014	0.3175	-0.0006
45	SLU 23	1.83	0.16	60.97	-0.0488	0.2534	-0.0006
45	SLU 24	3.75	0.15	60.85	-0.0145	0.3308	-0.0006
45	SLU 25	2.68	0.16	62.23	-0.0354	0.2923	-0.0006
45	SLU 26	1.98	0.17	62.75	-0.0493	0.2657	-0.0007
45	SLU 27	3.89	0.16	62.64	-0.0149	0.3431	-0.0006
45	SLU 28	2.82	0.17	64.02	-0.0358	0.3046	-0.0007
45	SLU 29	3.9	0.15	62.24	-0.0149	0.3421	-0.0006
45	SLU 30	2.83	0.16	63.62	-0.0358	0.3036	-0.0007
45	SLU 31	2.51	0.18	67.48	-0.0506	0.3002	-0.0007
45	SLU 32	4.42	0.17	67.37	-0.0163	0.3776	-0.0007
45	SLU 33	3.36	0.18	68.75	-0.0372	0.3391	-0.0007
45	SLU 34	2.65	0.18	69.27	-0.0511	0.3124	-0.0007
45	SLU 35	4.56	0.17	69.15	-0.0167	0.3899	-0.0007
45	SLU 36	3.5	0.18	70.53	-0.0376	0.3514	-0.0007
45	SLU 37	4.57	0.17	68.75	-0.0167	0.3889	-0.0007
45	SLU 38	3.51	0.18	70.13	-0.0376	0.3504	-0.0007
45	SLU 39	4.58	0.17	67.97	-0.0166	0.3843	-0.0007
45	SLU 40	3.51	0.18	69.35	-0.0375	0.3459	-0.0007
45	SLU 41	4.72	0.17	69.76	-0.017	0.3966	-0.0007
45	SLU 42	3.65	0.18	71.14	-0.0379	0.3581	-0.0007
45	SLU 43	3.76	0.16	65.18	-0.0154	0.34	-0.0007
45	SLU 44	1.98	0.18	67.48	-0.0502	0.2759	-0.0007
45	SLU 45	3.89	0.17	67.36	-0.0159	0.3533	-0.0007
45	SLU 46	2.83	0.18	68.74	-0.0368	0.3148	-0.0007
45	SLU 47	2.12	0.18	69.26	-0.0507	0.2882	-0.0007
45	SLU 48	4.04	0.17	69.15	-0.0163	0.3656	-0.0007
45	SLU 49	2.97	0.18	70.53	-0.0372	0.3271	-0.0007
45	SLU 50	4.04	0.17	68.75	-0.0163	0.3646	-0.0007
45	SLU 51	2.98	0.18	70.13	-0.0372	0.3261	-0.0007
45	SLU 52	2.66	0.19	73.99	-0.052	0.3226	-0.0008
45	SLU 53	4.57	0.18	73.88	-0.0177	0.4001	-0.0008
45	SLU 54	3.5	0.19	75.26	-0.0386	0.3616	-0.0008
45	SLU 55	2.8	0.2	75.78	-0.0525	0.3349	-0.0008
45	SLU 56	4.71	0.19	75.66	-0.0181	0.4123	-0.0008
45	SLU 57	3.64	0.2	77.04	-0.039	0.3739	-0.0008
45	SLU 58	4.72	0.19	75.26	-0.0181	0.4114	-0.0008
45	SLU 59	3.65	0.2	76.64	-0.039	0.3729	-0.0008
45	SLU 60	4.72	0.18	74.49	-0.018	0.4068	-0.0008
45	SLU 61	3.66	0.19	75.87	-0.0389	0.3683	-0.0008
45	SLU 62	4.86	0.19	76.27	-0.0184	0.4191	-0.0008
45	SLU 63	3.8	0.2	77.65	-0.0393	0.3806	-0.0008
45	SLU 64	4.33	0.18	71.93	-0.0171	0.3843	-0.0007
45	SLU 65	2.55	0.19	74.23	-0.0519	0.3202	-0.0008
45	SLU 66	4.46	0.18	74.11	-0.0176	0.3976	-0.0008
45	SLU 67	3.4	0.19	75.49	-0.0385	0.3591	-0.0008
45	SLU 68	2.69	0.2	76.01	-0.0524	0.3325	-0.0008
45	SLU 69	4.61	0.19	75.9	-0.0181	0.4099	-0.0008
45	SLU 70	3.54	0.2	77.28	-0.039	0.3714	-0.0008
45	SLU 71	4.61	0.19	75.5	-0.018	0.4089	-0.0008
45	SLU 72	3.55	0.2	76.88	-0.0389	0.3704	-0.0008
45	SLU 73	3.23	0.21	80.74	-0.0537	0.3669	-0.0008
45	SLU 74	5.14	0.2	80.63	-0.0194	0.4444	-0.0008
45	SLU 75	4.07	0.21	82.01	-0.0403	0.4059	-0.0008
45	SLU 76	3.37	0.21	82.53	-0.0542	0.3792	-0.0009
45	SLU 77	5.28	0.2	82.41	-0.0198	0.4566	-0.0008
45	SLU 78	4.21	0.21	83.79	-0.0407	0.4182	-0.0009
45	SLU 79	5.29	0.2	82.01	-0.0198	0.4557	-0.0008
45	SLU 80	4.22	0.21	83.39	-0.0407	0.4172	-0.0009
45	SLU 81	5.29	0.2	81.24	-0.0197	0.4511	-0.0008
45	SLU 82	4.23	0.21	82.62	-0.0406	0.4126	-0.0009
45	SLU 83	5.44	0.21	83.02	-0.0201	0.4634	-0.0008
45	SLU 84	4.37	0.22	84.4	-0.041	0.4249	-0.0009
45	SLE RA 1	3.2	0.13	53.85	-0.0128	0.2859	-0.0005
45	SLE RA 2	2.02	0.14	55.38	-0.036	0.2431	-0.0006
45	SLE RA 3	3.29	0.14	55.3	-0.0131	0.2947	-0.0006
45	SLE RA 4	2.58	0.14	56.22	-0.0271	0.2691	-0.0006
45	SLE RA 5	2.11	0.15	56.57	-0.0363	0.2513	-0.0006
45	SLE RA 6	3.39	0.14	56.49	-0.0134	0.3029	-0.0006
45	SLE RA 7	2.68	0.15	57.41	-0.0273	0.2773	-0.0006
45	SLE RA 8	3.39	0.14	56.23	-0.0134	0.3023	-0.0006
45	SLE RA 9	2.68	0.15	57.15	-0.0273	0.2766	-0.0006
45	SLE RA 10	2.47	0.15	59.72	-0.0372	0.2743	-0.0006
45	SLE RA 11	3.74	0.15	59.65	-0.0143	0.3259	-0.0006
45	SLE RA 12	3.03	0.15	60.57	-0.0282	0.3003	-0.0006



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
45	SLE RA 13		2.56	0.16	60.91	-0.0375	0.2825	-0.0006
45	SLE RA 14		3.84	0.15	60.84	-0.0146	0.3341	-0.0006
45	SLE RA 15		3.13	0.16	61.75	-0.0285	0.3085	-0.0006
45	SLE RA 16		3.84	0.15	60.57	-0.0146	0.3334	-0.0006
45	SLE RA 17		3.13	0.16	61.49	-0.0285	0.3078	-0.0006
45	SLE RA 18		3.85	0.15	60.05	-0.0145	0.3304	-0.0006
45	SLE RA 19		3.14	0.16	60.97	-0.0284	0.3048	-0.0006
45	SLE RA 20		3.94	0.15	61.24	-0.0148	0.3386	-0.0006
45	SLE RA 21		3.23	0.16	62.16	-0.0287	0.313	-0.0006
45	SLE FR 1		3.2	0.13	53.85	-0.0128	0.2859	-0.0005
45	SLE FR 2		2.97	0.14	54.15	-0.0174	0.2773	-0.0006
45	SLE FR 3		3.24	0.13	54.32	-0.0129	0.2892	-0.0006
45	SLE FR 4		3.16	0.14	56.02	-0.0179	0.2907	-0.0006
45	SLE FR 5		3.44	0.14	56.19	-0.0134	0.3025	-0.0006
45	SLE FR 6		3.53	0.14	56.95	-0.0136	0.3082	-0.0006
45	SLE QP 1		3.2	0.13	53.85	-0.0128	0.2859	-0.0005
45	SLE QP 2		3.4	0.14	55.71	-0.0133	0.2993	-0.0006
45	SLD 1		8.05	0.25	76.22	-0.0004	0.5489	-0.0008
45	SLD 2		8.05	0.25	76.22	-0.0004	0.5489	-0.0008
45	SLD 3		9.28	0.21	68.02	0.049	0.6072	-0.0007
45	SLD 4		9.28	0.21	68.02	0.049	0.6072	-0.0007
45	SLD 5		2.93	0.23	74.3	-0.0844	0.2858	-0.0008
45	SLD 6		2.93	0.23	74.3	-0.0844	0.2858	-0.0008
45	SLD 7		7.03	0.1	46.96	0.0803	0.48	-0.0005
45	SLD 8		7.03	0.1	46.96	0.0803	0.48	-0.0005
45	SLD 9		-0.23	0.18	64.45	-0.1069	0.1185	-0.0007
45	SLD 10		-0.23	0.18	64.45	-0.1069	0.1185	-0.0007
45	SLD 11		3.87	0.04	37.12	0.0578	0.3127	-0.0004
45	SLD 12		3.87	0.04	37.12	0.0578	0.3127	-0.0004
45	SLD 13		-2.49	0.06	43.4	-0.0756	-0.0087	-0.0004
45	SLD 14		-2.49	0.06	43.4	-0.0756	-0.0087	-0.0004
45	SLD 15		-1.26	0.02	35.2	-0.0262	0.0496	-0.0004
45	SLD 16		-1.26	0.02	35.2	-0.0262	0.0496	-0.0004
45	SLV 1		14.21	0.41	103.85	0.0149	0.8806	-0.0011
45	SLV 2		14.21	0.41	103.85	0.0149	0.8806	-0.0011
45	SLV 3		17.28	0.32	84.56	0.1399	1.0254	-0.0009
45	SLV 4		17.28	0.32	84.56	0.1399	1.0254	-0.0009
45	SLV 5		1.99	0.36	99.41	-0.1944	0.2541	-0.001
45	SLV 6		1.99	0.36	99.41	-0.1944	0.2541	-0.001
45	SLV 7		12.21	0.05	35.11	0.2222	0.7366	-0.0004
45	SLV 8		12.21	0.05	35.11	0.2222	0.7366	-0.0004
45	SLV 9		-5.42	0.22	76.31	-0.2488	-0.1381	-0.0008
45	SLV 10		-5.42	0.22	76.31	-0.2488	-0.1381	-0.0008
45	SLV 11		4.8	-0.08	12.01	0.1678	0.3444	-0.0001
45	SLV 12		4.8	-0.08	12.01	0.1678	0.3444	-0.0001
45	SLV 13		-10.48	-0.04	26.86	-0.1665	-0.4269	-0.0003
45	SLV 14		-10.48	-0.04	26.86	-0.1665	-0.4269	-0.0003
45	SLV 15		-7.42	-0.13	7.57	-0.0415	-0.2821	-0.0001
45	SLV 16		-7.42	-0.13	7.57	-0.0415	-0.2821	-0.0001
46	SLU 1		-0.46	-0.05	43.25	0.0389	-0.0545	0
46	SLU 2		-2.44	-0.02	45.09	-0.0281	-0.1436	0
46	SLU 3		-0.46	-0.05	44.91	0.0408	-0.0557	0
46	SLU 4		-1.65	-0.03	46.01	0.0006	-0.1092	0
46	SLU 5		-2.4	-0.02	46.42	-0.0267	-0.1427	0
46	SLU 6		-0.42	-0.05	46.23	0.0422	-0.0548	0
46	SLU 7		-1.61	-0.03	47.33	0.002	-0.1083	0
46	SLU 8		-0.38	-0.05	45.91	0.0417	-0.0526	0
46	SLU 9		-1.57	-0.03	47.01	0.0015	-0.1061	0
46	SLU 10		-2.22	-0.02	50.59	-0.0241	-0.1395	0
46	SLU 11		-0.25	-0.05	50.4	0.0448	-0.0516	0.0001
46	SLU 12		-1.43	-0.04	51.5	0.0046	-0.1051	0
46	SLU 13		-2.18	-0.03	51.91	-0.0227	-0.1386	0
46	SLU 14		-0.21	-0.05	51.73	0.0462	-0.0507	0.0001
46	SLU 15		-1.39	-0.04	52.83	0.006	-0.1042	0
46	SLU 16		-0.17	-0.05	51.4	0.0456	-0.0485	0.0001
46	SLU 17		-1.35	-0.04	52.5	0.0055	-0.102	0
46	SLU 18		-0.15	-0.05	51.1	0.0446	-0.0487	0.0001
46	SLU 19		-1.34	-0.04	52.21	0.0044	-0.1021	0
46	SLU 20		-0.11	-0.05	52.43	0.046	-0.0477	0.0001
46	SLU 21		-1.3	-0.04	53.53	0.0058	-0.1012	0
46	SLU 22		-0.37	-0.05	48.8	0.0436	-0.0555	0.0001
46	SLU 23		-2.34	-0.02	50.64	-0.0233	-0.1446	0
46	SLU 24		-0.37	-0.05	50.45	0.0455	-0.0568	0.0001
46	SLU 25		-1.55	-0.04	51.56	0.0054	-0.1102	0
46	SLU 26		-2.3	-0.03	51.97	-0.0219	-0.1437	0
46	SLU 27		-0.33	-0.06	51.78	0.0469	-0.0558	0.0001
46	SLU 28		-1.51	-0.04	52.88	0.0067	-0.1093	0
46	SLU 29		-0.29	-0.05	51.45	0.0464	-0.0537	0.0001
46	SLU 30		-1.47	-0.04	52.56	0.0062	-0.1071	0
46	SLU 31		-2.13	-0.03	56.13	-0.0193	-0.1405	0
46	SLU 32		-0.15	-0.06	55.95	0.0495	-0.0527	0.0001
46	SLU 33		-1.34	-0.04	57.05	0.0093	-0.1061	0
46	SLU 34		-2.09	-0.03	57.46	-0.018	-0.1396	0
46	SLU 35		-0.11	-0.06	57.27	0.0509	-0.0517	0.0001
46	SLU 36		-1.3	-0.04	58.37	0.0107	-0.1052	0.0001
46	SLU 37		-0.07	-0.06	56.95	0.0504	-0.0496	0.0001
46	SLU 38		-1.26	-0.04	58.05	0.0102	-0.103	0
46	SLU 39		-0.06	-0.06	56.65	0.0493	-0.0497	0.0001
46	SLU 40		-1.25	-0.04	57.75	0.0091	-0.1031	0
46	SLU 41		-0.02	-0.06	57.98	0.0507	-0.0488	0.0001



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
52	SLU 72	4.5	-0.26	33.74	0.0973	0.1684	0.0003
52	SLU 73	4.38	-0.22	36.47	0.0288	0.1621	0.0002
52	SLU 74	4.85	-0.37	36.89	0.2314	0.1823	0.0005
52	SLU 75	4.73	-0.28	36.92	0.1132	0.1765	0.0003
52	SLU 76	4.65	-0.22	36.8	0.0325	0.173	0.0002
52	SLU 77	5.12	-0.38	37.22	0.2351	0.1931	0.0005
52	SLU 78	5	-0.29	37.25	0.1169	0.1874	0.0003
52	SLU 79	5.12	-0.38	37.07	0.2332	0.1934	0.0005
52	SLU 80	5	-0.29	37.1	0.115	0.1877	0.0003
52	SLU 81	4.8	-0.38	37.87	0.2334	0.18	0.0005
52	SLU 82	4.67	-0.29	37.89	0.1152	0.1742	0.0003
52	SLU 83	5.07	-0.38	38.19	0.2371	0.1908	0.0005
52	SLU 84	4.94	-0.29	38.22	0.1189	0.1851	0.0003
52	SLE RA 1	3.03	-0.25	24.8	0.1561	0.113	0.0003
52	SLE RA 2	2.9	-0.15	24.83	0.0248	0.1066	0.0002
52	SLE RA 3	3.21	-0.26	25.11	0.1598	0.12	0.0003
52	SLE RA 4	3.13	-0.2	25.13	0.081	0.1162	0.0002
52	SLE RA 5	3.07	-0.16	25.05	0.0273	0.1138	0.0002
52	SLE RA 6	3.39	-0.26	25.33	0.1623	0.1272	0.0003
52	SLE RA 7	3.31	-0.2	25.35	0.0835	0.1234	0.0002
52	SLE RA 8	3.39	-0.26	25.24	0.161	0.1274	0.0003
52	SLE RA 9	3.31	-0.2	25.25	0.0822	0.1236	0.0002
52	SLE RA 10	3.23	-0.17	27.07	0.0366	0.1194	0.0002
52	SLE RA 11	3.54	-0.28	27.35	0.1716	0.1329	0.0003
52	SLE RA 12	3.46	-0.22	27.37	0.0928	0.129	0.0003
52	SLE RA 13	3.41	-0.18	27.29	0.039	0.1267	0.0002
52	SLE RA 14	3.72	-0.28	27.57	0.1741	0.1401	0.0003
52	SLE RA 15	3.64	-0.22	27.59	0.0953	0.1363	0.0003
52	SLE RA 16	3.72	-0.28	27.47	0.1728	0.1403	0.0003
52	SLE RA 17	3.64	-0.22	27.49	0.094	0.1365	0.0003
52	SLE RA 18	3.5	-0.28	28	0.173	0.1313	0.0003
52	SLE RA 19	3.42	-0.22	28.02	0.0942	0.1275	0.0003
52	SLE RA 20	3.68	-0.28	28.22	0.1754	0.1386	0.0003
52	SLE RA 21	3.6	-0.22	28.24	0.0966	0.1348	0.0003
52	SLE FR 1	3.03	-0.25	24.8	0.1561	0.113	0.0003
52	SLE FR 2	3	-0.23	24.81	0.1299	0.1117	0.0003
52	SLE FR 3	3.1	-0.25	24.89	0.1571	0.1158	0.0003
52	SLE FR 4	3.15	-0.24	25.77	0.1349	0.1172	0.0003
52	SLE FR 5	3.24	-0.26	25.85	0.1622	0.1214	0.0003
52	SLE FR 6	3.27	-0.27	26.4	0.1645	0.1221	0.0003
52	SLE QP 1	3.03	-0.25	24.8	0.1561	0.113	0.0003
52	SLE QP 2	3.17	-0.26	25.76	0.1612	0.1185	0.0003
52	SLD 1	11.87	-0.23	30.58	0.1	0.4845	0.0003
52	SLD 2	11.87	-0.23	30.58	0.1	0.4845	0.0003
52	SLD 3	10.75	-0.57	27.25	0.4408	0.4386	0.0008
52	SLD 4	10.75	-0.57	27.25	0.4408	0.4386	0.0008
52	SLD 5	7.48	0.26	32.26	-0.3742	0.2979	-0.0004
52	SLD 6	7.48	0.26	32.26	-0.3742	0.2979	-0.0004
52	SLD 7	3.75	-0.86	21.15	0.7621	0.1449	0.0012
52	SLD 8	3.75	-0.86	21.15	0.7621	0.1449	0.0012
52	SLD 9	2.59	0.34	30.37	-0.4397	0.092	-0.0006
52	SLD 10	2.59	0.34	30.37	-0.4397	0.092	-0.0006
52	SLD 11	-1.13	-0.78	19.26	0.6965	-0.0609	0.0011
52	SLD 12	-1.13	-0.78	19.26	0.6965	-0.0609	0.0011
52	SLD 13	-4.41	0.05	24.28	-0.1185	-0.2017	-0.0001
52	SLD 14	-4.41	0.05	24.28	-0.1185	-0.2017	-0.0001
52	SLD 15	-5.52	-0.29	20.94	0.2224	-0.2476	0.0004
52	SLD 16	-5.52	-0.29	20.94	0.2224	-0.2476	0.0004
52	SLV 1	23.58	-0.17	37.31	-0.0046	0.9773	0.0002
52	SLV 2	23.58	-0.17	37.31	-0.0046	0.9773	0.0002
52	SLV 3	20.89	-1.02	29.02	0.8628	0.8667	0.0015
52	SLV 4	20.89	-1.02	29.02	0.8628	0.8667	0.0015
52	SLV 5	13.38	1.06	41.8	-1.2041	0.5439	-0.0016
52	SLV 6	13.38	1.06	41.8	-1.2041	0.5439	-0.0016
52	SLV 7	4.4	-1.78	14.16	1.6872	0.1752	0.0025
52	SLV 8	4.4	-1.78	14.16	1.6872	0.1752	0.0025
52	SLV 9	1.95	1.26	37.36	-1.3648	0.0618	-0.0019
52	SLV 10	1.95	1.26	37.36	-1.3648	0.0618	-0.0019
52	SLV 11	-7.04	-1.58	9.72	1.5264	-0.3069	0.0022
52	SLV 12	-7.04	-1.58	9.72	1.5264	-0.3069	0.0022
52	SLV 13	-14.54	0.5	22.51	-0.5405	-0.6298	-0.0008
52	SLV 14	-14.54	0.5	22.51	-0.5405	-0.6298	-0.0008
52	SLV 15	-17.24	-0.35	14.22	0.3269	-0.7404	0.0004
52	SLV 16	-17.24	-0.35	14.22	0.3269	-0.7404	0.0004
53	SLU 1	3.57	-0.29	24.97	0.1707	0.1567	0
53	SLU 2	3.79	-0.15	24.68	-0.0158	0.1706	-0.0001
53	SLU 3	3.87	-0.3	25.43	0.1764	0.1707	0
53	SLU 4	4	-0.22	25.25	0.0645	0.179	-0.0001
53	SLU 5	4.09	-0.16	24.98	-0.0122	0.1844	-0.0001
53	SLU 6	4.17	-0.3	25.73	0.18	0.1845	0
53	SLU 7	4.3	-0.22	25.56	0.0681	0.1928	-0.0001
53	SLU 8	4.16	-0.3	25.58	0.1779	0.1844	0
53	SLU 9	4.3	-0.22	25.4	0.066	0.1927	-0.0001
53	SLU 10	4.35	-0.19	28.24	0.0052	0.1941	-0.0001
53	SLU 11	4.43	-0.33	28.99	0.1974	0.1942	0
53	SLU 12	4.56	-0.25	28.81	0.0855	0.2025	-0.0001
53	SLU 13	4.64	-0.2	28.54	0.0088	0.2079	-0.0001
53	SLU 14	4.72	-0.34	29.29	0.201	0.208	0
53	SLU 15	4.85	-0.26	29.11	0.0891	0.2163	-0.0001
53	SLU 16	4.72	-0.34	29.13	0.1989	0.2079	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione				Reazione a rotazione			
		x	y	z	x	y	z		
53	SLU 17	4.85	-0.25	28.96	0.087	0.2162	-0.0001		
53	SLU 18	4.37	-0.34	30.06	0.2007	0.1904	0		
53	SLU 19	4.5	-0.26	29.88	0.0888	0.1987	-0.0001		
53	SLU 20	4.66	-0.35	30.36	0.2043	0.2042	0		
53	SLU 21	4.79	-0.27	30.18	0.0924	0.2125	-0.0001		
53	SLU 22	4.15	-0.32	27.99	0.1915	0.182	0		
53	SLU 23	4.37	-0.19	27.69	0.005	0.1958	-0.0001		
53	SLU 24	4.45	-0.33	28.45	0.1973	0.1959	0		
53	SLU 25	4.58	-0.25	28.27	0.0854	0.2042	-0.0001		
53	SLU 26	4.66	-0.19	28	0.0086	0.2096	-0.0001		
53	SLU 27	4.74	-0.34	28.75	0.2009	0.2097	0		
53	SLU 28	4.87	-0.26	28.57	0.089	0.218	-0.0001		
53	SLU 29	4.74	-0.33	28.59	0.1987	0.2096	0		
53	SLU 30	4.87	-0.25	28.41	0.0868	0.2179	-0.0001		
53	SLU 31	4.92	-0.23	31.25	0.026	0.2194	-0.0001		
53	SLU 32	5	-0.37	32	0.2183	0.2195	0		
53	SLU 33	5.13	-0.29	31.83	0.1064	0.2278	-0.0001		
53	SLU 34	5.22	-0.23	31.55	0.0296	0.2332	-0.0001		
53	SLU 35	5.3	-0.38	32.3	0.2219	0.2333	0		
53	SLU 36	5.43	-0.29	32.13	0.11	0.2416	-0.0001		
53	SLU 37	5.29	-0.37	32.15	0.2197	0.2332	0		
53	SLU 38	5.43	-0.29	31.97	0.1078	0.2415	-0.0001		
53	SLU 39	4.94	-0.38	33.07	0.2216	0.2156	0		
53	SLU 40	5.07	-0.3	32.9	0.1096	0.2239	-0.0001		
53	SLU 41	5.24	-0.38	33.37	0.2251	0.2295	0		
53	SLU 42	5.37	-0.3	33.2	0.1132	0.2378	-0.0001		
53	SLU 43	4.45	-0.36	31.43	0.2147	0.1951	0		
53	SLU 44	4.67	-0.23	31.14	0.0282	0.2089	-0.0001		
53	SLU 45	4.75	-0.37	31.89	0.2205	0.209	0		
53	SLU 46	4.88	-0.29	31.71	0.1086	0.2173	-0.0001		
53	SLU 47	4.96	-0.23	31.44	0.0318	0.2228	-0.0001		
53	SLU 48	5.04	-0.38	32.19	0.2241	0.2228	0		
53	SLU 49	5.17	-0.3	32.01	0.1122	0.2311	-0.0001		
53	SLU 50	5.04	-0.37	32.03	0.2219	0.2227	0		
53	SLU 51	5.17	-0.29	31.86	0.11	0.231	-0.0001		
53	SLU 52	5.22	-0.26	34.7	0.0492	0.2325	-0.0001		
53	SLU 53	5.3	-0.41	35.45	0.2415	0.2326	0		
53	SLU 54	5.43	-0.33	35.27	0.1296	0.2409	-0.0001		
53	SLU 55	5.52	-0.27	35	0.0528	0.2463	-0.0001		
53	SLU 56	5.6	-0.41	35.75	0.2451	0.2464	0		
53	SLU 57	5.73	-0.33	35.57	0.1332	0.2547	-0.0001		
53	SLU 58	5.59	-0.41	35.59	0.2429	0.2463	0		
53	SLU 59	5.73	-0.33	35.42	0.131	0.2546	-0.0001		
53	SLU 60	5.24	-0.42	36.51	0.2448	0.2287	0		
53	SLU 61	5.37	-0.33	36.34	0.1328	0.237	-0.0001		
53	SLU 62	5.54	-0.42	36.82	0.2483	0.2426	0		
53	SLU 63	5.67	-0.34	36.64	0.1364	0.2509	-0.0001		
53	SLU 64	5.02	-0.4	34.45	0.2356	0.2203	0		
53	SLU 65	5.24	-0.26	34.15	0.0491	0.2342	-0.0001		
53	SLU 66	5.32	-0.41	34.9	0.2413	0.2343	0		
53	SLU 67	5.45	-0.33	34.73	0.1294	0.2426	-0.0001		
53	SLU 68	5.54	-0.27	34.45	0.0527	0.248	-0.0001		
53	SLU 69	5.62	-0.41	35.2	0.2449	0.2481	0		
53	SLU 70	5.75	-0.33	35.03	0.133	0.2564	-0.0001		
53	SLU 71	5.61	-0.41	35.05	0.2428	0.248	0		
53	SLU 72	5.74	-0.33	34.87	0.1309	0.2563	-0.0001		
53	SLU 73	5.8	-0.3	37.71	0.0701	0.2577	-0.0001		
53	SLU 74	5.88	-0.44	38.46	0.2624	0.2578	0		
53	SLU 75	6.01	-0.36	38.29	0.1504	0.2661	-0.0001		
53	SLU 76	6.09	-0.31	38.01	0.0737	0.2716	-0.0001		
53	SLU 77	6.17	-0.45	38.76	0.2659	0.2716	0		
53	SLU 78	6.3	-0.37	38.59	0.154	0.2799	-0.0001		
53	SLU 79	6.17	-0.45	38.61	0.2638	0.2716	0		
53	SLU 80	6.3	-0.37	38.43	0.1519	0.2799	-0.0001		
53	SLU 81	5.82	-0.45	39.53	0.2656	0.254	0		
53	SLU 82	5.95	-0.37	39.35	0.1537	0.2623	-0.0001		
53	SLU 83	6.11	-0.46	39.83	0.2692	0.2678	0		
53	SLU 84	6.24	-0.38	39.65	0.1573	0.2761	-0.0001		
53	SLE RA 1	3.74	-0.3	25.83	0.1766	0.1639	0		
53	SLE RA 2	3.88	-0.21	25.64	0.0523	0.1732	-0.0001		
53	SLE RA 3	3.94	-0.3	26.14	0.1805	0.1732	0		
53	SLE RA 4	4.02	-0.25	26.02	0.1059	0.1788	-0.0001		
53	SLE RA 5	4.08	-0.21	25.84	0.0547	0.1824	-0.0001		
53	SLE RA 6	4.13	-0.31	26.34	0.1829	0.1824	0		
53	SLE RA 7	4.22	-0.25	26.22	0.1083	0.188	-0.0001		
53	SLE RA 8	4.13	-0.31	26.24	0.1814	0.1824	0		
53	SLE RA 9	4.22	-0.25	26.12	0.1068	0.1879	-0.0001		
53	SLE RA 10	4.25	-0.23	28.01	0.0663	0.1889	-0.0001		
53	SLE RA 11	4.31	-0.33	28.51	0.1945	0.1889	0		
53	SLE RA 12	4.39	-0.28	28.39	0.1199	0.1945	-0.0001		
53	SLE RA 13	4.45	-0.24	28.21	0.0687	0.1981	-0.0001		
53	SLE RA 14	4.5	-0.33	28.71	0.1969	0.1981	0		
53	SLE RA 15	4.59	-0.28	28.59	0.1223	0.2037	-0.0001		
53	SLE RA 16	4.5	-0.33	28.61	0.1954	0.1981	0		
53	SLE RA 17	4.59	-0.28	28.49	0.1208	0.2036	-0.0001		
53	SLE RA 18	4.27	-0.33	29.22	0.1966	0.1864	0		
53	SLE RA 19	4.35	-0.28	29.11	0.122	0.1919	-0.0001		
53	SLE RA 20	4.46	-0.34	29.42	0.199	0.1956	0		
53	SLE RA 21	4.55	-0.28	29.31	0.1244	0.2011	-0.0001		
53	SLE FR 1	3.74	-0.3	25.83	0.1766	0.1639	0		



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
56	SLD 9	3.12	-0.65	36.66	-0.171	0.1303	-0.0004
56	SLD 10	3.12	-0.65	36.66	-0.171	0.1303	-0.0004
56	SLD 11	-1.24	-0.01	26.86	0.5161	-0.0592	-0.0001
56	SLD 12	-1.24	-0.01	26.86	0.5161	-0.0592	-0.0001
56	SLD 13	-3.66	-0.36	31.81	0.0162	-0.1666	-0.0002
56	SLD 14	-3.66	-0.36	31.81	0.0162	-0.1666	-0.0002
56	SLD 15	-4.96	-0.17	28.87	0.2224	-0.2235	-0.0001
56	SLD 16	-4.96	-0.17	28.87	0.2224	-0.2235	-0.0001
56	SLV 1	22.32	-0.83	40.67	0.1169	0.9738	-0.0005
56	SLV 2	22.32	-0.83	40.67	0.1169	0.9738	-0.0005
56	SLV 3	19.21	-0.35	33.74	0.64	0.8381	-0.0003
56	SLV 4	19.21	-0.35	33.74	0.64	0.8381	-0.0003
56	SLV 5	13.65	-1.22	45.38	-0.6214	0.592	-0.0006
56	SLV 6	13.65	-1.22	45.38	-0.6214	0.592	-0.0006
56	SLV 7	3.28	0.36	22.27	1.122	0.1397	0
56	SLV 8	3.28	0.36	22.27	1.122	0.1397	0
56	SLV 9	3.1	-1.09	42.48	-0.7313	0.129	-0.0005
56	SLV 10	3.1	-1.09	42.48	-0.7313	0.129	-0.0005
56	SLV 11	-7.27	0.5	19.37	1.0121	-0.3232	0.0001
56	SLV 12	-7.27	0.5	19.37	1.0121	-0.3232	0.0001
56	SLV 13	-12.83	-0.37	31.01	-0.2492	-0.5693	-0.0002
56	SLV 14	-12.83	-0.37	31.01	-0.2492	-0.5693	-0.0002
56	SLV 15	-15.94	0.11	24.07	0.2738	-0.705	0
56	SLV 16	-15.94	0.11	24.07	0.2738	-0.705	0
57	SLU 1	2.1	-0.26	31.82	0.1449	0.0775	-0.0001
57	SLU 2	3.74	-0.25	31.71	0.0748	0.1483	-0.0002
57	SLU 3	2.36	-0.27	32.2	0.1492	0.0896	-0.0001
57	SLU 4	3.35	-0.26	32.14	0.1071	0.1321	-0.0002
57	SLU 5	4.01	-0.26	31.82	0.0772	0.1613	-0.0002
57	SLU 6	2.64	-0.27	32.31	0.1516	0.1025	-0.0001
57	SLU 7	3.62	-0.27	32.25	0.1096	0.145	-0.0002
57	SLU 8	2.65	-0.27	32.04	0.1498	0.1034	-0.0001
57	SLU 9	3.63	-0.26	31.98	0.1078	0.1459	-0.0002
57	SLU 10	3.97	-0.29	36.26	0.0943	0.1561	-0.0002
57	SLU 11	2.59	-0.3	36.75	0.1687	0.0973	-0.0001
57	SLU 12	3.57	-0.3	36.69	0.1266	0.1398	-0.0002
57	SLU 13	4.24	-0.29	36.37	0.0968	0.169	-0.0002
57	SLU 14	2.86	-0.31	36.86	0.1712	0.1103	-0.0001
57	SLU 15	3.85	-0.3	36.8	0.1291	0.1528	-0.0002
57	SLU 16	2.87	-0.3	36.59	0.1694	0.1111	-0.0001
57	SLU 17	3.86	-0.3	36.53	0.1273	0.1536	-0.0002
57	SLU 18	2.43	-0.31	38.32	0.1728	0.0886	-0.0001
57	SLU 19	3.41	-0.31	38.26	0.1307	0.1311	-0.0002
57	SLU 20	2.7	-0.31	38.43	0.1753	0.1015	-0.0001
57	SLU 21	3.68	-0.31	38.37	0.1332	0.144	-0.0002
57	SLU 22	2.37	-0.29	35.53	0.1633	0.0877	-0.0001
57	SLU 23	4.01	-0.29	35.42	0.0931	0.1585	-0.0002
57	SLU 24	2.63	-0.3	35.91	0.1675	0.0997	-0.0001
57	SLU 25	3.61	-0.3	35.85	0.1255	0.1422	-0.0002
57	SLU 26	4.28	-0.29	35.53	0.0956	0.1714	-0.0002
57	SLU 27	2.9	-0.3	36.02	0.17	0.1127	-0.0001
57	SLU 28	3.89	-0.3	35.96	0.1279	0.1552	-0.0002
57	SLU 29	2.91	-0.3	35.75	0.1682	0.1135	-0.0001
57	SLU 30	3.9	-0.3	35.69	0.1261	0.156	-0.0002
57	SLU 31	4.23	-0.32	39.97	0.1127	0.1662	-0.0002
57	SLU 32	2.86	-0.33	40.47	0.1871	0.1075	-0.0001
57	SLU 33	3.84	-0.33	40.4	0.145	0.15	-0.0002
57	SLU 34	4.51	-0.32	40.09	0.1151	0.1792	-0.0002
57	SLU 35	3.13	-0.34	40.58	0.1895	0.1204	-0.0001
57	SLU 36	4.11	-0.33	40.51	0.1475	0.1629	-0.0002
57	SLU 37	3.14	-0.34	40.3	0.1877	0.1213	-0.0001
57	SLU 38	4.12	-0.33	40.24	0.1457	0.1638	-0.0002
57	SLU 39	2.69	-0.34	42.03	0.1912	0.0987	-0.0001
57	SLU 40	3.68	-0.34	41.97	0.1491	0.1412	-0.0002
57	SLU 41	2.96	-0.35	42.14	0.1936	0.1117	-0.0001
57	SLU 42	3.95	-0.34	42.08	0.1516	0.1542	-0.0002
57	SLU 43	2.64	-0.33	40.09	0.1821	0.0973	-0.0001
57	SLU 44	4.28	-0.32	39.98	0.1119	0.1681	-0.0002
57	SLU 45	2.9	-0.33	40.47	0.1863	0.1094	-0.0001
57	SLU 46	3.88	-0.33	40.41	0.1443	0.1519	-0.0002
57	SLU 47	4.55	-0.32	40.09	0.1144	0.1811	-0.0002
57	SLU 48	3.17	-0.34	40.59	0.1888	0.1223	-0.0001
57	SLU 49	4.16	-0.33	40.52	0.1467	0.1648	-0.0002
57	SLU 50	3.19	-0.33	40.31	0.187	0.1232	-0.0001
57	SLU 51	4.17	-0.33	40.25	0.1449	0.1657	-0.0002
57	SLU 52	4.51	-0.35	44.54	0.1315	0.1759	-0.0002
57	SLU 53	3.13	-0.37	45.03	0.2059	0.1171	-0.0001
57	SLU 54	4.11	-0.36	44.96	0.1638	0.1596	-0.0002
57	SLU 55	4.78	-0.36	44.65	0.1339	0.1888	-0.0002
57	SLU 56	3.4	-0.37	45.14	0.2083	0.13	-0.0001
57	SLU 57	4.39	-0.37	45.07	0.1663	0.1725	-0.0002
57	SLU 58	3.41	-0.37	44.87	0.2065	0.1309	-0.0001
57	SLU 59	4.4	-0.36	44.8	0.1645	0.1734	-0.0002
57	SLU 60	2.96	-0.38	46.59	0.21	0.1083	-0.0001
57	SLU 61	3.95	-0.37	46.53	0.1679	0.1508	-0.0002
57	SLU 62	3.24	-0.38	46.71	0.2124	0.1213	-0.0001
57	SLU 63	4.22	-0.38	46.64	0.1703	0.1638	-0.0002
57	SLU 64	2.9	-0.36	43.8	0.2004	0.1074	-0.0001
57	SLU 65	4.54	-0.35	43.7	0.1303	0.1783	-0.0002
57	SLU 66	3.17	-0.37	44.19	0.2047	0.1195	-0.0001



Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont. N.br.	x	y	z	x	y	z
61	SLU 27	1.19	0.07	39.99	-0.0112	0.072	-0.0003
61	SLU 28	1.77	0.06	41.48	-0.0097	0.1032	-0.0003
61	SLU 29	1.27	0.07	39.64	-0.011	0.0755	-0.0003
61	SLU 30	1.85	0.06	41.13	-0.0095	0.1067	-0.0003
61	SLU 31	1.55	0.07	47.41	-0.0107	0.0963	-0.0004
61	SLU 32	0.92	0.08	45.19	-0.0128	0.0605	-0.0004
61	SLU 33	1.5	0.07	46.68	-0.0113	0.0916	-0.0004
61	SLU 34	1.97	0.07	47.32	-0.01	0.1159	-0.0004
61	SLU 35	1.34	0.08	45.1	-0.0121	0.0801	-0.0003
61	SLU 36	1.93	0.07	46.59	-0.0106	0.1112	-0.0003
61	SLU 37	1.42	0.08	44.75	-0.0118	0.0836	-0.0003
61	SLU 38	2.01	0.07	46.24	-0.0104	0.1147	-0.0003
61	SLU 39	0.64	0.08	47.12	-0.0135	0.0478	-0.0004
61	SLU 40	1.22	0.08	48.61	-0.0121	0.079	-0.0004
61	SLU 41	1.06	0.08	47.03	-0.0129	0.0674	-0.0004
61	SLU 42	1.65	0.07	48.52	-0.0114	0.0986	-0.0004
61	SLU 43	0.29	0.09	45.24	-0.0152	0.0336	-0.0004
61	SLU 44	1.26	0.07	47.72	-0.0128	0.0855	-0.0004
61	SLU 45	0.63	0.08	45.5	-0.0148	0.0497	-0.0004
61	SLU 46	1.21	0.08	46.99	-0.0133	0.0809	-0.0004
61	SLU 47	1.68	0.07	47.63	-0.0121	0.1051	-0.0004
61	SLU 48	1.05	0.08	45.41	-0.0141	0.0693	-0.0004
61	SLU 49	1.64	0.08	46.89	-0.0127	0.1005	-0.0004
61	SLU 50	1.13	0.08	45.06	-0.0139	0.0728	-0.0004
61	SLU 51	1.72	0.08	46.55	-0.0124	0.104	-0.0004
61	SLU 52	1.41	0.08	52.83	-0.0136	0.0936	-0.0004
61	SLU 53	0.78	0.09	50.61	-0.0157	0.0577	-0.0004
61	SLU 54	1.37	0.08	52.1	-0.0142	0.0889	-0.0004
61	SLU 55	1.84	0.08	52.74	-0.013	0.1132	-0.0004
61	SLU 56	1.21	0.09	50.52	-0.015	0.0773	-0.0004
61	SLU 57	1.79	0.08	52.01	-0.0135	0.1085	-0.0004
61	SLU 58	1.29	0.09	50.17	-0.0147	0.0808	-0.0004
61	SLU 59	1.87	0.08	51.66	-0.0133	0.112	-0.0004
61	SLU 60	0.5	0.1	52.54	-0.0165	0.0451	-0.0004
61	SLU 61	1.09	0.09	54.03	-0.015	0.0762	-0.0004
61	SLU 62	0.93	0.09	52.45	-0.0158	0.0647	-0.0004
61	SLU 63	1.51	0.09	53.94	-0.0143	0.0958	-0.0004
61	SLU 64	0.44	0.09	49.21	-0.0157	0.0419	-0.0004
61	SLU 65	1.42	0.08	51.69	-0.0132	0.0938	-0.0004
61	SLU 66	0.79	0.09	49.47	-0.0153	0.058	-0.0004
61	SLU 67	1.37	0.08	50.96	-0.0138	0.0892	-0.0004
61	SLU 68	1.84	0.08	51.6	-0.0126	0.1134	-0.0004
61	SLU 69	1.21	0.09	49.38	-0.0146	0.0776	-0.0004
61	SLU 70	1.8	0.08	50.87	-0.0131	0.1088	-0.0004
61	SLU 71	1.29	0.09	49.03	-0.0143	0.0811	-0.0004
61	SLU 72	1.88	0.08	50.52	-0.0129	0.1123	-0.0004
61	SLU 73	1.57	0.09	56.81	-0.0141	0.1019	-0.0004
61	SLU 74	0.94	0.1	54.58	-0.0161	0.066	-0.0004
61	SLU 75	1.53	0.09	56.07	-0.0147	0.0972	-0.0004
61	SLU 76	2	0.08	56.72	-0.0134	0.1215	-0.0004
61	SLU 77	1.37	0.1	54.49	-0.0155	0.0856	-0.0004
61	SLU 78	1.95	0.09	55.98	-0.014	0.1168	-0.0004
61	SLU 79	1.45	0.09	54.14	-0.0152	0.0891	-0.0004
61	SLU 80	2.03	0.09	55.63	-0.0137	0.1203	-0.0004
61	SLU 81	0.66	0.1	56.52	-0.0169	0.0534	-0.0005
61	SLU 82	1.25	0.09	58	-0.0155	0.0845	-0.0005
61	SLU 83	1.09	0.1	56.43	-0.0163	0.073	-0.0004
61	SLU 84	1.67	0.09	57.91	-0.0148	0.1041	-0.0004
61	SLE RA 1	0.31	0.07	36.98	-0.012	0.0304	-0.0003
61	SLE RA 2	0.96	0.06	38.63	-0.0103	0.065	-0.0003
61	SLE RA 3	0.54	0.07	37.15	-0.0117	0.0411	-0.0003
61	SLE RA 4	0.93	0.06	38.15	-0.0107	0.0619	-0.0003
61	SLE RA 5	1.24	0.06	38.57	-0.0099	0.0781	-0.0003
61	SLE RA 6	0.82	0.07	37.09	-0.0112	0.0542	-0.0003
61	SLE RA 7	1.21	0.06	38.09	-0.0103	0.075	-0.0003
61	SLE RA 8	0.87	0.07	36.86	-0.0111	0.0565	-0.0003
61	SLE RA 9	1.26	0.06	37.85	-0.0101	0.0773	-0.0003
61	SLE RA 10	1.06	0.07	42.04	-0.0109	0.0704	-0.0003
61	SLE RA 11	0.64	0.07	40.56	-0.0123	0.0465	-0.0003
61	SLE RA 12	1.03	0.07	41.56	-0.0113	0.0673	-0.0003
61	SLE RA 13	1.34	0.06	41.98	-0.0105	0.0835	-0.0003
61	SLE RA 14	0.92	0.07	40.5	-0.0118	0.0596	-0.0003
61	SLE RA 15	1.31	0.07	41.5	-0.0108	0.0803	-0.0003
61	SLE RA 16	0.97	0.07	40.27	-0.0116	0.0619	-0.0003
61	SLE RA 17	1.36	0.07	41.26	-0.0107	0.0827	-0.0003
61	SLE RA 18	0.45	0.08	41.85	-0.0128	0.0381	-0.0003
61	SLE RA 19	0.84	0.07	42.84	-0.0118	0.0588	-0.0003
61	SLE RA 20	0.73	0.07	41.79	-0.0123	0.0511	-0.0003
61	SLE RA 21	1.12	0.07	42.78	-0.0114	0.0719	-0.0003
61	SLE FR 1	0.31	0.07	36.98	-0.012	0.0304	-0.0003
61	SLE FR 2	0.44	0.07	37.31	-0.0116	0.0373	-0.0003
61	SLE FR 3	0.42	0.07	36.96	-0.0118	0.0356	-0.0003
61	SLE FR 4	0.48	0.07	38.77	-0.0119	0.0396	-0.0003
61	SLE FR 5	0.46	0.07	38.42	-0.012	0.0379	-0.0003
61	SLE FR 6	0.38	0.07	39.42	-0.0124	0.0342	-0.0003
61	SLE QP 1	0.31	0.07	36.98	-0.012	0.0304	-0.0003
61	SLE QP 2	0.35	0.07	38.44	-0.0122	0.0327	-0.0003
61	SLD 1	7.68	0.06	36.78	-0.0107	0.3756	-0.0003
61	SLD 2	7.68	0.06	36.78	-0.0107	0.3756	-0.0003
61	SLD 3	8.97	-0.01	32.75	0.009	0.4319	-0.0001



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
63	SLU 7	2.57	-0.05	47.73	0.0141	0.1522	0.0002
63	SLU 8	1.89	-0.04	45.36	0.01	0.1186	0.0001
63	SLU 9	2.63	-0.05	47.32	0.014	0.1551	0.0002
63	SLU 10	2.74	-0.06	55.35	0.0185	0.1613	0.0002
63	SLU 11	1.81	-0.04	52.56	0.0117	0.1164	0.0001
63	SLU 12	2.55	-0.05	54.52	0.0158	0.1529	0.0002
63	SLU 13	3.11	-0.06	55.41	0.0184	0.1801	0.0002
63	SLU 14	2.18	-0.04	52.63	0.0117	0.1351	0.0001
63	SLU 15	2.92	-0.05	54.59	0.0158	0.1717	0.0002
63	SLU 16	2.24	-0.04	52.21	0.0116	0.138	0.0001
63	SLU 17	2.98	-0.05	54.17	0.0157	0.1745	0.0002
63	SLU 18	1.66	-0.05	55.02	0.0124	0.1088	0.0001
63	SLU 19	2.4	-0.06	56.98	0.0165	0.1453	0.0002
63	SLU 20	2.02	-0.05	55.08	0.0124	0.1276	0.0001
63	SLU 21	2.76	-0.05	57.04	0.0164	0.1641	0.0002
63	SLU 22	1.45	-0.04	50.55	0.0114	0.0978	0.0001
63	SLU 23	2.69	-0.06	53.82	0.0182	0.1586	0.0002
63	SLU 24	1.76	-0.04	51.03	0.0114	0.1137	0.0001
63	SLU 25	2.5	-0.05	52.99	0.0155	0.1502	0.0002
63	SLU 26	3.06	-0.06	53.89	0.0182	0.1774	0.0002
63	SLU 27	2.13	-0.04	51.1	0.0114	0.1324	0.0001
63	SLU 28	2.87	-0.05	53.06	0.0155	0.1689	0.0002
63	SLU 29	2.19	-0.04	50.69	0.0113	0.1353	0.0001
63	SLU 30	2.93	-0.05	52.65	0.0154	0.1718	0.0002
63	SLU 31	3.04	-0.06	60.68	0.0199	0.178	0.0002
63	SLU 32	2.11	-0.05	57.89	0.0131	0.1331	0.0001
63	SLU 33	2.85	-0.06	59.85	0.0172	0.1696	0.0002
63	SLU 34	3.41	-0.06	60.74	0.0198	0.1968	0.0002
63	SLU 35	2.48	-0.05	57.96	0.0131	0.1518	0.0001
63	SLU 36	3.22	-0.06	59.92	0.0171	0.1884	0.0002
63	SLU 37	2.54	-0.05	57.54	0.013	0.1547	0.0001
63	SLU 38	3.28	-0.06	59.5	0.0171	0.1912	0.0002
63	SLU 39	1.95	-0.05	60.35	0.0138	0.1255	0.0001
63	SLU 40	2.7	-0.06	62.31	0.0179	0.162	0.0002
63	SLU 41	2.32	-0.05	60.41	0.0137	0.1443	0.0001
63	SLU 42	3.06	-0.06	62.37	0.0178	0.1808	0.0002
63	SLU 43	1.4	-0.05	56.97	0.0126	0.0996	0.0001
63	SLU 44	2.63	-0.06	60.23	0.0194	0.1605	0.0002
63	SLU 45	1.7	-0.05	57.45	0.0126	0.1155	0.0001
63	SLU 46	2.45	-0.06	59.41	0.0167	0.152	0.0002
63	SLU 47	3	-0.06	60.3	0.0193	0.1793	0.0002
63	SLU 48	2.07	-0.05	57.51	0.0126	0.1343	0.0001
63	SLU 49	2.81	-0.06	59.47	0.0166	0.1708	0.0002
63	SLU 50	2.13	-0.05	57.1	0.0125	0.1372	0.0001
63	SLU 51	2.88	-0.06	59.06	0.0166	0.1737	0.0002
63	SLU 52	2.98	-0.07	67.09	0.021	0.1799	0.0003
63	SLU 53	2.05	-0.05	64.3	0.0143	0.1349	0.0001
63	SLU 54	2.8	-0.06	66.26	0.0183	0.1715	0.0002
63	SLU 55	3.35	-0.07	67.15	0.021	0.1987	0.0003
63	SLU 56	2.42	-0.05	64.37	0.0142	0.1537	0.0001
63	SLU 57	3.16	-0.06	66.33	0.0183	0.1902	0.0002
63	SLU 58	2.48	-0.05	63.95	0.0142	0.1566	0.0001
63	SLU 59	3.23	-0.06	65.91	0.0182	0.1931	0.0002
63	SLU 60	1.9	-0.06	66.76	0.015	0.1274	0.0001
63	SLU 61	2.64	-0.07	68.72	0.019	0.1639	0.0002
63	SLU 62	2.27	-0.06	66.83	0.0149	0.1461	0.0001
63	SLU 63	3.01	-0.07	68.79	0.019	0.1827	0.0002
63	SLU 64	1.7	-0.05	62.3	0.014	0.1163	0.0001
63	SLU 65	2.93	-0.07	65.56	0.0207	0.1772	0.0003
63	SLU 66	2	-0.05	62.78	0.014	0.1322	0.0001
63	SLU 67	2.75	-0.06	64.74	0.0181	0.1688	0.0002
63	SLU 68	3.3	-0.07	65.63	0.0207	0.196	0.0003
63	SLU 69	2.37	-0.05	62.84	0.0139	0.151	0.0001
63	SLU 70	3.11	-0.06	64.8	0.018	0.1875	0.0002
63	SLU 71	2.43	-0.05	62.43	0.0139	0.1539	0.0001
63	SLU 72	3.17	-0.06	64.39	0.0179	0.1904	0.0002
63	SLU 73	3.28	-0.07	72.42	0.0224	0.1966	0.0003
63	SLU 74	2.35	-0.06	69.63	0.0156	0.1517	0.0001
63	SLU 75	3.1	-0.07	71.59	0.0197	0.1882	0.0002
63	SLU 76	3.65	-0.07	72.48	0.0224	0.2154	0.0003
63	SLU 77	2.72	-0.06	69.7	0.0156	0.1704	0.0001
63	SLU 78	3.46	-0.07	71.66	0.0197	0.207	0.0002
63	SLU 79	2.78	-0.06	69.28	0.0155	0.1733	0.0001
63	SLU 80	3.53	-0.07	71.24	0.0196	0.2098	0.0002
63	SLU 81	2.2	-0.06	72.09	0.0163	0.1441	0.0001
63	SLU 82	2.94	-0.07	74.05	0.0204	0.1806	0.0002
63	SLU 83	2.57	-0.06	72.15	0.0163	0.1629	0.0001
63	SLU 84	3.31	-0.07	74.11	0.0204	0.1994	0.0002
63	SLE RA 1	1.24	-0.04	46.75	0.0104	0.0858	0.0001
63	SLE RA 2	2.06	-0.05	48.93	0.015	0.1264	0.0002
63	SLE RA 3	1.44	-0.04	47.07	0.0105	0.0964	0.0001
63	SLE RA 4	1.94	-0.05	48.38	0.0132	0.1208	0.0001
63	SLE RA 5	2.31	-0.05	48.97	0.0149	0.1389	0.0002
63	SLE RA 6	1.69	-0.04	47.11	0.0104	0.1089	0.0001
63	SLE RA 7	2.18	-0.05	48.42	0.0131	0.1333	0.0001
63	SLE RA 8	1.73	-0.04	46.84	0.0104	0.1109	0.0001
63	SLE RA 9	2.22	-0.05	48.14	0.0131	0.1352	0.0001
63	SLE RA 10	2.3	-0.05	53.5	0.0161	0.1393	0.0002
63	SLE RA 11	1.68	-0.04	51.64	0.0116	0.1094	0.0001
63	SLE RA 12	2.17	-0.05	52.95	0.0143	0.1337	0.0001



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
69	SLU 37	2.12	0	30.13	0.0583	0.3485	-0.0216
69	SLU 38	2.39	0.01	29.44	0.058	0.3615	-0.0223
69	SLU 39	2.56	0.03	29.04	0.0554	0.3701	-0.0233
69	SLU 40	2.84	0.03	28.35	0.0551	0.3831	-0.024
69	SLU 41	2.45	0.02	30.23	0.0576	0.3712	-0.0233
69	SLU 42	2.73	0.03	29.54	0.0573	0.3843	-0.024
69	SLU 43	1.55	-0.04	29.6	0.0625	0.3069	-0.0182
69	SLU 44	2	-0.03	28.45	0.062	0.3286	-0.0194
69	SLU 45	1.46	-0.05	30.76	0.0648	0.3096	-0.0182
69	SLU 46	1.74	-0.04	30.07	0.0644	0.3227	-0.019
69	SLU 47	1.89	-0.04	29.64	0.0642	0.3297	-0.0194
69	SLU 48	1.35	-0.06	31.95	0.0669	0.3108	-0.0182
69	SLU 49	1.63	-0.05	31.26	0.0666	0.3238	-0.0189
69	SLU 50	1.32	-0.06	31.98	0.0669	0.3092	-0.0181
69	SLU 51	1.6	-0.05	31.29	0.0666	0.3222	-0.0189
69	SLU 52	2.52	0	31.46	0.0654	0.3843	-0.0233
69	SLU 53	1.98	-0.02	33.77	0.0682	0.3654	-0.0221
69	SLU 54	2.26	-0.02	33.08	0.0679	0.3784	-0.0229
69	SLU 55	2.41	-0.01	32.65	0.0676	0.3855	-0.0233
69	SLU 56	1.87	-0.03	34.96	0.0704	0.3666	-0.0221
69	SLU 57	2.14	-0.03	34.27	0.07	0.3796	-0.0228
69	SLU 58	1.84	-0.03	34.99	0.0703	0.3649	-0.022
69	SLU 59	2.12	-0.03	34.3	0.07	0.378	-0.0228
69	SLU 60	2.29	-0.01	33.9	0.0674	0.3865	-0.0238
69	SLU 61	2.56	0	33.21	0.0671	0.3996	-0.0245
69	SLU 62	2.18	-0.01	35.09	0.0696	0.3877	-0.0237
69	SLU 63	2.45	-0.01	34.4	0.0693	0.4007	-0.0245
69	SLU 64	2.05	-0.02	31.16	0.0644	0.3499	-0.0211
69	SLU 65	2.5	-0.01	30	0.0639	0.3716	-0.0224
69	SLU 66	1.96	-0.03	32.32	0.0667	0.3527	-0.0212
69	SLU 67	2.24	-0.02	31.63	0.0663	0.3657	-0.0219
69	SLU 68	2.39	-0.02	31.2	0.0661	0.3728	-0.0223
69	SLU 69	1.85	-0.04	33.51	0.0688	0.3538	-0.0212
69	SLU 70	2.12	-0.03	32.82	0.0685	0.3669	-0.0219
69	SLU 71	1.82	-0.04	33.54	0.0688	0.3522	-0.0211
69	SLU 72	2.1	-0.03	32.85	0.0685	0.3652	-0.0218
69	SLU 73	3.02	0.01	33.01	0.0673	0.4274	-0.0263
69	SLU 74	2.48	-0.01	35.33	0.0701	0.4084	-0.0251
69	SLU 75	2.76	0	34.64	0.0698	0.4215	-0.0258
69	SLU 76	2.91	0.01	34.21	0.0695	0.4285	-0.0262
69	SLU 77	2.37	-0.01	36.52	0.0723	0.4096	-0.0251
69	SLU 78	2.64	-0.01	35.83	0.0719	0.4226	-0.0258
69	SLU 79	2.34	-0.02	36.55	0.0722	0.408	-0.025
69	SLU 80	2.62	-0.01	35.86	0.0719	0.421	-0.0257
69	SLU 81	2.79	0.01	35.46	0.0693	0.4296	-0.0267
69	SLU 82	3.06	0.02	34.76	0.069	0.4426	-0.0275
69	SLU 83	2.68	0	36.65	0.0715	0.4307	-0.0267
69	SLU 84	2.95	0.01	35.96	0.0712	0.4437	-0.0274
69	SLE RA 1	1.46	-0.02	23.62	0.0491	0.2597	-0.0156
69	SLE RA 2	1.77	-0.01	22.86	0.0488	0.2742	-0.0164
69	SLE RA 3	1.41	-0.03	24.4	0.0506	0.2616	-0.0157
69	SLE RA 4	1.59	-0.02	23.94	0.0504	0.2702	-0.0161
69	SLE RA 5	1.69	-0.02	23.65	0.0502	0.2749	-0.0164
69	SLE RA 6	1.33	-0.03	25.19	0.0521	0.2623	-0.0156
69	SLE RA 7	1.52	-0.03	24.73	0.0519	0.271	-0.0161
69	SLE RA 8	1.32	-0.03	25.21	0.052	0.2612	-0.0156
69	SLE RA 9	1.5	-0.03	24.75	0.0518	0.2699	-0.0161
69	SLE RA 10	2.11	0	24.86	0.0511	0.3113	-0.019
69	SLE RA 11	1.75	-0.01	26.41	0.0529	0.2987	-0.0183
69	SLE RA 12	1.94	-0.01	25.94	0.0527	0.3074	-0.0187
69	SLE RA 13	2.04	0	25.66	0.0525	0.3121	-0.019
69	SLE RA 14	1.68	-0.02	27.2	0.0544	0.2995	-0.0182
69	SLE RA 15	1.86	-0.01	26.74	0.0542	0.3082	-0.0187
69	SLE RA 16	1.66	-0.02	27.22	0.0543	0.2984	-0.0182
69	SLE RA 17	1.84	-0.01	26.76	0.0541	0.3071	-0.0187
69	SLE RA 18	1.96	0	26.49	0.0524	0.3128	-0.0193
69	SLE RA 19	2.14	0.01	26.03	0.0522	0.3215	-0.0198
69	SLE RA 20	1.88	0	27.29	0.0539	0.3136	-0.0193
69	SLE RA 21	2.07	0	26.82	0.0537	0.3223	-0.0198
69	SLE FR 1	1.46	-0.02	23.62	0.0491	0.2597	-0.0156
69	SLE FR 2	1.52	-0.02	23.47	0.0491	0.2626	-0.0158
69	SLE FR 3	1.43	-0.02	23.94	0.0497	0.26	-0.0156
69	SLE FR 4	1.67	-0.01	24.33	0.0501	0.2785	-0.0169
69	SLE FR 5	1.58	-0.02	24.8	0.0507	0.2759	-0.0167
69	SLE FR 6	1.71	-0.01	25.06	0.0508	0.2862	-0.0175
69	SLE QP 1	1.46	-0.02	23.62	0.0491	0.2597	-0.0156
69	SLE QP 2	1.61	-0.01	24.48	0.0501	0.2756	-0.0167
69	SLD 1	4.07	0.41	17.28	-0.0268	0.4313	-0.0336
69	SLD 2	4.07	0.41	17.28	-0.0268	0.4313	-0.0336
69	SLD 3	4.71	0.23	14.46	0.0081	0.3928	-0.0262
69	SLD 4	4.71	0.23	14.46	0.0081	0.3928	-0.0262
69	SLD 5	1.39	0.4	26.61	-0.0258	0.3807	-0.0331
69	SLD 6	1.39	0.4	26.61	-0.0258	0.3807	-0.0331
69	SLD 7	3.51	-0.23	17.19	0.0904	0.2524	-0.0082
69	SLD 8	3.51	-0.23	17.19	0.0904	0.2524	-0.0082
69	SLD 9	-0.28	0.2	31.77	0.0099	0.2988	-0.0252
69	SLD 10	-0.28	0.2	31.77	0.0099	0.2988	-0.0252
69	SLD 11	1.84	-0.43	22.36	0.1261	0.1706	-0.0003
69	SLD 12	1.84	-0.43	22.36	0.1261	0.1706	-0.0003
69	SLD 13	-1.48	-0.25	34.51	0.0922	0.1584	-0.0073



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
169	SLU 82	13.77	-0.01	95.24	0.0159	0.371	-0.0001
169	SLU 83	14.26	-0.01	96.43	0.0082	0.3842	0
169	SLU 84	14.04	-0.01	96.45	0.0157	0.3785	-0.0001
169	SLE RA 1	8.02	0	60.15	0.0054	0.2174	0
169	SLE RA 2	7.77	-0.01	60.17	0.0138	0.2111	-0.0001
169	SLE RA 3	8.31	0	61.36	0.0053	0.2252	0
169	SLE RA 4	8.16	-0.01	61.38	0.0104	0.2214	-0.0001
169	SLE RA 5	7.96	-0.01	60.98	0.0137	0.2161	-0.0001
169	SLE RA 6	8.49	0	62.17	0.0052	0.2302	0
169	SLE RA 7	8.34	-0.01	62.18	0.0103	0.2264	-0.0001
169	SLE RA 8	8.39	0	61.77	0.0052	0.2274	0
169	SLE RA 9	8.24	-0.01	61.78	0.0102	0.2236	-0.0001
169	SLE RA 10	9.19	-0.01	66.88	0.0143	0.2484	-0.0001
169	SLE RA 11	9.72	0	68.08	0.0059	0.2625	0
169	SLE RA 12	9.57	-0.01	68.09	0.0109	0.2587	-0.0001
169	SLE RA 13	9.37	-0.01	67.69	0.0142	0.2534	-0.0001
169	SLE RA 14	9.91	0	68.88	0.0058	0.2675	0
169	SLE RA 15	9.76	-0.01	68.89	0.0108	0.2637	-0.0001
169	SLE RA 16	9.8	0	68.48	0.0057	0.2647	0
169	SLE RA 17	9.65	-0.01	68.49	0.0107	0.2609	-0.0001
169	SLE RA 18	10.04	0	69.74	0.0062	0.2707	0
169	SLE RA 19	9.89	-0.01	69.75	0.0112	0.2669	-0.0001
169	SLE RA 20	10.22	0	70.55	0.006	0.2757	0
169	SLE RA 21	10.08	-0.01	70.56	0.0111	0.2719	-0.0001
169	SLE FR 1	8.02	0	60.15	0.0054	0.2174	0
169	SLE FR 2	7.97	0	60.15	0.0071	0.2162	0
169	SLE FR 3	8.09	0	60.47	0.0053	0.2194	0
169	SLE FR 4	8.57	-0.01	63.03	0.0073	0.2322	0
169	SLE FR 5	8.7	0	63.35	0.0056	0.2354	0
169	SLE FR 6	9.03	0	64.94	0.0058	0.2441	0
169	SLE QP 1	8.02	0	60.15	0.0054	0.2174	0
169	SLE QP 2	8.62	0	63.03	0.0056	0.2334	0
169	SLD 1	17.46	0.19	71.65	-0.2054	0.4702	0.0011
169	SLD 2	17.46	0.19	71.65	-0.2054	0.4702	0.0011
169	SLD 3	18.26	-0.1	72.3	0.1091	0.491	-0.0006
169	SLD 4	18.26	-0.1	72.3	0.1091	0.491	-0.0006
169	SLD 5	10.07	0.5	64.63	-0.5346	0.2729	0.0028
169	SLD 6	10.07	0.5	64.63	-0.5346	0.2729	0.0028
169	SLD 7	12.72	-0.48	66.79	0.5136	0.3423	-0.0027
169	SLD 8	12.72	-0.48	66.79	0.5136	0.3423	-0.0027
169	SLD 9	4.52	0.47	59.27	-0.5024	0.1246	0.0026
169	SLD 10	4.52	0.47	59.27	-0.5024	0.1246	0.0026
169	SLD 11	7.17	-0.5	61.42	0.5458	0.194	-0.0029
169	SLD 12	7.17	-0.5	61.42	0.5458	0.194	-0.0029
169	SLD 13	-1.02	0.09	53.76	-0.0979	-0.0241	0.0005
169	SLD 14	-1.02	0.09	53.76	-0.0979	-0.0241	0.0005
169	SLD 15	-0.22	-0.2	54.4	0.2166	-0.0033	-0.0011
169	SLD 16	-0.22	-0.2	54.4	0.2166	-0.0033	-0.0011
169	SLV 1	29.33	0.49	83.18	-0.5325	0.7882	0.0028
169	SLV 2	29.33	0.49	83.18	-0.5325	0.7882	0.0028
169	SLV 3	31.22	-0.25	84.76	0.2712	0.8378	-0.0014
169	SLV 4	31.22	-0.25	84.76	0.2712	0.8378	-0.0014
169	SLV 5	11.96	1.27	66.69	-1.3748	0.3245	0.0071
169	SLV 6	11.96	1.27	66.69	-1.3748	0.3245	0.0071
169	SLV 7	18.28	-1.2	71.93	1.3043	0.4901	-0.0068
169	SLV 8	18.28	-1.2	71.93	1.3043	0.4901	-0.0068
169	SLV 9	-1.04	1.2	54.13	-1.293	-0.0232	0.0067
169	SLV 10	-1.04	1.2	54.13	-1.293	-0.0232	0.0067
169	SLV 11	5.29	-1.28	59.36	1.3861	0.1423	-0.0072
169	SLV 12	5.29	-1.28	59.36	1.3861	0.1423	-0.0072
169	SLV 13	-13.98	0.24	41.3	-0.26	-0.371	0.0014
169	SLV 14	-13.98	0.24	41.3	-0.26	-0.371	0.0014
169	SLV 15	-12.08	-0.5	42.87	0.5438	-0.3213	-0.0028
169	SLV 16	-12.08	-0.5	42.87	0.5438	-0.3213	-0.0028
170	SLU 1	6.14	0	57.11	0.0041	0.1456	0
170	SLU 2	5.77	-0.01	57.09	0.0153	0.1366	0
170	SLU 3	6.54	0	58.92	0.004	0.1552	0
170	SLU 4	6.32	-0.01	58.9	0.0107	0.1498	0
170	SLU 5	6.03	-0.01	58.3	0.015	0.1428	0
170	SLU 6	6.8	0	60.13	0.0038	0.1614	0
170	SLU 7	6.58	-0.01	60.12	0.0104	0.156	0
170	SLU 8	6.66	0	59.55	0.0036	0.1579	0
170	SLU 9	6.43	-0.01	59.53	0.0103	0.1525	0
170	SLU 10	7.6	-0.01	67.21	0.0159	0.181	0
170	SLU 11	8.38	0	69.04	0.0046	0.1996	0
170	SLU 12	8.16	-0.01	69.02	0.0113	0.1942	0
170	SLU 13	7.86	-0.01	68.43	0.0157	0.1871	0
170	SLU 14	8.64	0	70.26	0.0044	0.2057	0
170	SLU 15	8.41	-0.01	70.24	0.0111	0.2003	0
170	SLU 16	8.5	0	69.67	0.0043	0.2022	0
170	SLU 17	8.27	-0.01	69.65	0.011	0.1968	0
170	SLU 18	8.77	0	71.57	0.005	0.2089	0
170	SLU 19	8.54	-0.01	71.56	0.0117	0.2036	0
170	SLU 20	9.02	0	72.79	0.0048	0.2151	0
170	SLU 21	8.8	-0.01	72.77	0.0115	0.2097	0
170	SLU 22	7.75	0	66.38	0.0046	0.1843	0
170	SLU 23	7.37	-0.01	66.35	0.0157	0.1753	0
170	SLU 24	8.15	0	68.18	0.0044	0.1939	0
170	SLU 25	7.93	-0.01	68.17	0.0111	0.1885	0
170	SLU 26	7.63	-0.01	67.57	0.0154	0.1815	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
170	SLU 27		8.41	0	69.4	0.0042	0.2	0
170	SLU 28		8.18	-0.01	69.38	0.0109	0.1947	0
170	SLU 29		8.27	0	68.81	0.0041	0.1966	0
170	SLU 30		8.04	-0.01	68.8	0.0107	0.1912	0
170	SLU 31		9.21	-0.01	76.47	0.0163	0.2197	0
170	SLU 32		9.99	0	78.3	0.0051	0.2383	0
170	SLU 33		9.76	-0.01	78.29	0.0117	0.2329	0
170	SLU 34		9.47	-0.01	77.69	0.0161	0.2258	0
170	SLU 35		10.24	0	79.52	0.0048	0.2444	0
170	SLU 36		10.02	-0.01	79.51	0.0115	0.239	0
170	SLU 37		10.1	0	78.93	0.0047	0.2409	0
170	SLU 38		9.88	-0.01	78.92	0.0114	0.2355	0
170	SLU 39		10.37	0	80.84	0.0055	0.2476	0
170	SLU 40		10.15	-0.01	80.82	0.0121	0.2423	0
170	SLU 41		10.63	0	82.05	0.0052	0.2538	0
170	SLU 42		10.4	-0.01	82.04	0.0119	0.2484	0
170	SLU 43		7.44	0	71.07	0.0052	0.176	0
170	SLU 44		7.06	-0.01	71.04	0.0163	0.167	0
170	SLU 45		7.84	0	72.87	0.0051	0.1856	0
170	SLU 46		7.61	-0.01	72.86	0.0118	0.1802	0
170	SLU 47		7.32	-0.01	72.26	0.0161	0.1732	0
170	SLU 48		8.1	0	74.09	0.0048	0.1918	0
170	SLU 49		7.87	-0.01	74.07	0.0115	0.1864	0
170	SLU 50		7.95	0	73.5	0.0047	0.1883	0
170	SLU 51		7.73	-0.01	73.49	0.0114	0.1829	0
170	SLU 52		8.9	-0.01	81.17	0.017	0.2114	-0.0001
170	SLU 53		9.67	0	83	0.0057	0.23	0
170	SLU 54		9.45	-0.01	82.98	0.0124	0.2246	0
170	SLU 55		9.15	-0.01	82.38	0.0167	0.2175	-0.0001
170	SLU 56		9.93	0	84.21	0.0055	0.2361	0
170	SLU 57		9.71	-0.01	84.2	0.0122	0.2307	0
170	SLU 58		9.79	0	83.62	0.0054	0.2326	0
170	SLU 59		9.56	-0.01	83.61	0.012	0.2273	0
170	SLU 60		10.06	0	85.53	0.0061	0.2394	0
170	SLU 61		9.83	-0.01	85.51	0.0128	0.234	0
170	SLU 62		10.32	0	86.75	0.0059	0.2455	0
170	SLU 63		10.09	-0.01	86.73	0.0126	0.2401	0
170	SLU 64		9.04	0	80.33	0.0056	0.2147	0
170	SLU 65		8.67	-0.01	80.31	0.0168	0.2057	-0.0001
170	SLU 66		9.44	0	82.14	0.0055	0.2243	0
170	SLU 67		9.22	-0.01	82.12	0.0122	0.2189	0
170	SLU 68		8.92	-0.01	81.53	0.0165	0.2119	-0.0001
170	SLU 69		9.7	0	83.36	0.0053	0.2305	0
170	SLU 70		9.48	-0.01	83.34	0.012	0.2251	0
170	SLU 71		9.56	0	82.77	0.0052	0.227	0
170	SLU 72		9.33	-0.01	82.75	0.0118	0.2216	0
170	SLU 73		10.5	-0.01	90.43	0.0174	0.2501	-0.0001
170	SLU 74		11.28	0	92.26	0.0062	0.2687	0
170	SLU 75		11.05	-0.01	92.25	0.0128	0.2633	0
170	SLU 76		10.76	-0.01	91.65	0.0172	0.2562	-0.0001
170	SLU 77		11.54	0	93.48	0.0059	0.2748	0
170	SLU 78		11.31	-0.01	93.46	0.0126	0.2694	0
170	SLU 79		11.39	0	92.89	0.0058	0.2713	0
170	SLU 80		11.17	-0.01	92.88	0.0125	0.2659	0
170	SLU 81		11.66	0	94.79	0.0066	0.278	0
170	SLU 82		11.44	-0.01	94.78	0.0132	0.2727	0
170	SLU 83		11.92	0	96.01	0.0063	0.2842	0
170	SLU 84		11.7	-0.01	96	0.013	0.2788	0
170	SLE RA 1		6.6	0	59.76	0.0042	0.1566	0
170	SLE RA 2		6.35	-0.01	59.74	0.0117	0.1507	0
170	SLE RA 3		6.87	0	60.96	0.0042	0.1631	0
170	SLE RA 4		6.72	-0.01	60.95	0.0086	0.1595	0
170	SLE RA 5		6.52	-0.01	60.55	0.0115	0.1548	0
170	SLE RA 6		7.04	0	61.77	0.004	0.1672	0
170	SLE RA 7		6.89	-0.01	61.76	0.0085	0.1636	0
170	SLE RA 8		6.95	0	61.38	0.0039	0.1648	0
170	SLE RA 9		6.8	-0.01	61.37	0.0084	0.1612	0
170	SLE RA 10		7.58	-0.01	66.49	0.0121	0.1802	0
170	SLE RA 11		8.09	0	67.71	0.0046	0.1926	0
170	SLE RA 12		7.94	-0.01	67.7	0.009	0.189	0
170	SLE RA 13		7.75	-0.01	67.3	0.0119	0.1843	0
170	SLE RA 14		8.27	0	68.52	0.0044	0.1967	0
170	SLE RA 15		8.12	-0.01	68.51	0.0089	0.1931	0
170	SLE RA 16		8.17	0	68.13	0.0043	0.1944	0
170	SLE RA 17		8.02	-0.01	68.12	0.0088	0.1908	0
170	SLE RA 18		8.35	0	69.4	0.0049	0.1989	0
170	SLE RA 19		8.2	-0.01	69.39	0.0093	0.1953	0
170	SLE RA 20		8.52	0	70.21	0.0047	0.203	0
170	SLE RA 21		8.37	-0.01	70.2	0.0091	0.1994	0
170	SLE FR 1		6.6	0	59.76	0.0042	0.1566	0
170	SLE FR 2		6.55	0	59.76	0.0057	0.1554	0
170	SLE FR 3		6.67	0	60.08	0.0042	0.1583	0
170	SLE FR 4		7.08	0	62.65	0.0059	0.1681	0
170	SLE FR 5		7.2	0	62.98	0.0044	0.1709	0
170	SLE FR 6		7.48	0	64.58	0.0045	0.1778	0
170	SLE QP 1		6.6	0	59.76	0.0042	0.1566	0
170	SLE QP 2		7.13	0	62.65	0.0044	0.1693	0
170	SLD 1		16.12	0.22	69.1	-0.2278	0.3935	0.0008
170	SLD 2		16.12	0.22	69.1	-0.2278	0.3935	0.0008
170	SLD 3		16.92	-0.12	69.68	0.1187	0.4132	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
171	SLU 62	9.1	0	86.3	0.0046	0.2321	0
171	SLU 63	8.86	-0.01	86.25	0.0102	0.2263	0
171	SLU 64	7.95	0	79.83	0.0045	0.2036	0
171	SLU 65	7.55	-0.01	79.74	0.0139	0.1939	0
171	SLU 66	8.34	0	81.63	0.0043	0.2135	0
171	SLU 67	8.11	-0.01	81.58	0.0099	0.2077	0
171	SLU 68	7.81	-0.01	80.98	0.0136	0.2004	0
171	SLU 69	8.6	0	82.87	0.004	0.22	0
171	SLU 70	8.37	-0.01	82.82	0.0096	0.2142	0
171	SLU 71	8.47	0	82.3	0.0038	0.2165	0
171	SLU 72	8.23	-0.01	82.25	0.0095	0.2107	0
171	SLU 73	9.18	-0.01	89.9	0.0144	0.2344	0
171	SLU 74	9.98	-0.01	91.79	0.0048	0.254	0
171	SLU 75	9.74	-0.01	91.74	0.0104	0.2482	0
171	SLU 76	9.44	-0.01	91.13	0.0141	0.2409	0
171	SLU 77	10.24	-0.01	93.02	0.0045	0.2605	0
171	SLU 78	10	-0.01	92.97	0.0101	0.2547	0
171	SLU 79	10.1	0	92.45	0.0043	0.2571	0
171	SLU 80	9.86	-0.01	92.4	0.01	0.2512	0
171	SLU 81	10.28	-0.01	94.34	0.0052	0.2615	0
171	SLU 82	10.04	-0.01	94.28	0.0108	0.2556	0
171	SLU 83	10.54	-0.01	95.57	0.0049	0.2679	0
171	SLU 84	10.3	-0.01	95.52	0.0105	0.2621	0
171	SLE RA 1	5.8	0	59.37	0.0034	0.1488	0
171	SLE RA 2	5.53	-0.01	59.31	0.0096	0.1423	0
171	SLE RA 3	6.06	0	60.57	0.0032	0.1554	0
171	SLE RA 4	5.9	-0.01	60.54	0.007	0.1515	0
171	SLE RA 5	5.71	-0.01	60.14	0.0094	0.1466	0
171	SLE RA 6	6.24	0	61.4	0.003	0.1597	0
171	SLE RA 7	6.08	-0.01	61.36	0.0068	0.1558	0
171	SLE RA 8	6.14	0	61.02	0.0029	0.1574	0
171	SLE RA 9	5.99	-0.01	60.98	0.0067	0.1535	0
171	SLE RA 10	6.62	-0.01	66.08	0.01	0.1693	0
171	SLE RA 11	7.15	0	67.34	0.0036	0.1824	0
171	SLE RA 12	6.99	-0.01	67.31	0.0073	0.1785	0
171	SLE RA 13	6.79	-0.01	66.91	0.0098	0.1736	0
171	SLE RA 14	7.32	0	68.17	0.0034	0.1867	0
171	SLE RA 15	7.16	-0.01	68.13	0.0071	0.1828	0
171	SLE RA 16	7.23	0	67.79	0.0033	0.1844	0
171	SLE RA 17	7.07	-0.01	67.75	0.0071	0.1805	0
171	SLE RA 18	7.35	0	69.04	0.0039	0.1873	0
171	SLE RA 19	7.19	-0.01	69.01	0.0076	0.1834	0
171	SLE RA 20	7.53	0	69.86	0.0036	0.1916	0
171	SLE RA 21	7.37	-0.01	69.83	0.0074	0.1877	0
171	SLE FR 1	5.8	0	59.37	0.0034	0.1488	0
171	SLE FR 2	5.75	0	59.36	0.0046	0.1475	0
171	SLE FR 3	5.87	0	59.7	0.0033	0.1505	0
171	SLE FR 4	6.21	0	62.26	0.0048	0.159	0
171	SLE FR 5	6.33	0	62.6	0.0034	0.162	0
171	SLE FR 6	6.58	0	64.21	0.0036	0.168	0
171	SLE QP 1	5.8	0	59.37	0.0034	0.1488	0
171	SLE QP 2	6.26	0	62.27	0.0035	0.1603	0
171	SLD 1	15.6	0.23	66.81	-0.2358	0.393	0.0005
171	SLD 2	15.6	0.23	66.81	-0.2358	0.393	0.0005
171	SLD 3	16.41	-0.12	67.38	0.1161	0.413	-0.0002
171	SLD 4	16.41	-0.12	67.38	0.1161	0.413	-0.0002
171	SLD 5	7.84	0.58	62.76	-0.6021	0.1999	0.0012
171	SLD 6	7.84	0.58	62.76	-0.6021	0.1999	0.0012
171	SLD 7	10.54	-0.56	64.67	0.5711	0.2663	-0.0011
171	SLD 8	10.54	-0.56	64.67	0.5711	0.2663	-0.0011
171	SLD 9	1.99	0.55	59.87	-0.5641	0.0543	0.0011
171	SLD 10	1.99	0.55	59.87	-0.5641	0.0543	0.0011
171	SLD 11	4.69	-0.59	61.78	0.6092	0.1208	-0.0012
171	SLD 12	4.69	-0.59	61.78	0.6092	0.1208	-0.0012
171	SLD 13	-3.88	0.11	57.16	-0.1091	-0.0923	0.0002
171	SLD 14	-3.88	0.11	57.16	-0.1091	-0.0923	0.0002
171	SLD 15	-3.07	-0.23	57.73	0.2429	-0.0724	-0.0005
171	SLD 16	-3.07	-0.23	57.73	0.2429	-0.0724	-0.0005
171	SLV 1	28.1	0.58	72.86	-0.6081	0.705	0.0012
171	SLV 2	28.1	0.58	72.86	-0.6081	0.705	0.0012
171	SLV 3	30.04	-0.29	74.29	0.2914	0.7526	-0.0006
171	SLV 4	30.04	-0.29	74.29	0.2914	0.7526	-0.0006
171	SLV 5	9.88	1.49	63.27	-1.5442	0.2515	0.003
171	SLV 6	9.88	1.49	63.27	-1.5442	0.2515	0.003
171	SLV 7	16.33	-1.41	68.05	1.4541	0.4102	-0.0029
171	SLV 8	16.33	-1.41	68.05	1.4541	0.4102	-0.0029
171	SLV 9	-3.81	1.4	56.49	-1.4471	-0.0896	0.0028
171	SLV 10	-3.81	1.4	56.49	-1.4471	-0.0896	0.0028
171	SLV 11	2.65	-1.5	61.27	1.5512	0.0692	-0.0031
171	SLV 12	2.65	-1.5	61.27	1.5512	0.0692	-0.0031
171	SLV 13	-17.51	0.28	50.25	-0.2844	-0.432	0.0006
171	SLV 14	-17.51	0.28	50.25	-0.2844	-0.432	0.0006
171	SLV 15	-15.57	-0.59	51.68	0.6151	-0.3843	-0.0012
171	SLV 16	-15.57	-0.59	51.68	0.6151	-0.3843	-0.0012
172	SLU 1	4.25	0	56.46	0.0022	0.097	0
172	SLU 2	3.83	-0.01	56.3	0.0098	0.0874	0
172	SLU 3	4.63	0	58.28	0.002	0.1058	0
172	SLU 4	4.38	-0.01	58.19	0.0065	0.1	0
172	SLU 5	4.09	-0.01	57.57	0.0094	0.0932	0
172	SLU 6	4.88	0	59.55	0.0016	0.1116	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
172	SLU 7	4.63	-0.01	59.46	0.0061	0.1058	0
172	SLU 8	4.75	0	59	0.0014	0.1086	0
172	SLU 9	4.5	-0.01	58.91	0.006	0.1029	0
172	SLU 10	5.22	-0.01	66.48	0.0101	0.1199	0
172	SLU 11	6.01	0	68.46	0.0023	0.1383	0
172	SLU 12	5.76	-0.01	68.37	0.0068	0.1325	0
172	SLU 13	5.47	-0.01	67.75	0.0097	0.1257	0
172	SLU 14	6.26	0	69.73	0.0019	0.1441	0
172	SLU 15	6.01	-0.01	69.64	0.0064	0.1383	0
172	SLU 16	6.14	0	69.18	0.0018	0.1411	0
172	SLU 17	5.89	-0.01	69.09	0.0063	0.1353	0
172	SLU 18	6.22	0	71	0.0027	0.1434	0
172	SLU 19	5.98	-0.01	70.91	0.0073	0.1377	0
172	SLU 20	6.48	0	72.27	0.0023	0.1492	0
172	SLU 21	6.23	-0.01	72.18	0.0069	0.1435	0
172	SLU 22	5.47	0	65.74	0.0024	0.1256	0
172	SLU 23	5.06	-0.01	65.58	0.0099	0.116	0
172	SLU 24	5.85	0	67.56	0.0021	0.1344	0
172	SLU 25	5.6	-0.01	67.47	0.0066	0.1286	0
172	SLU 26	5.31	-0.01	66.85	0.0095	0.1218	0
172	SLU 27	6.1	0	68.83	0.0017	0.1402	0
172	SLU 28	5.85	-0.01	68.74	0.0062	0.1344	0
172	SLU 29	5.97	0	68.28	0.0015	0.1372	0
172	SLU 30	5.73	-0.01	68.19	0.0061	0.1314	0
172	SLU 31	6.44	-0.01	75.76	0.0102	0.1485	0
172	SLU 32	7.23	0	77.74	0.0024	0.1669	0
172	SLU 33	6.98	-0.01	77.65	0.007	0.1611	0
172	SLU 34	6.69	-0.01	77.03	0.0098	0.1543	0
172	SLU 35	7.48	0	79.01	0.002	0.1727	0
172	SLU 36	7.23	-0.01	78.92	0.0066	0.1669	0
172	SLU 37	7.36	0	78.46	0.0019	0.1697	0
172	SLU 38	7.11	-0.01	78.37	0.0064	0.1639	0
172	SLU 39	7.45	0	80.28	0.0028	0.172	0
172	SLU 40	7.2	-0.01	80.19	0.0074	0.1662	0
172	SLU 41	7.7	0	81.55	0.0024	0.1778	0
172	SLU 42	7.45	-0.01	81.46	0.007	0.172	0
172	SLU 43	5.1	0	70.21	0.0029	0.1164	0
172	SLU 44	4.69	-0.01	70.05	0.0104	0.1067	0
172	SLU 45	5.48	0	72.04	0.0026	0.1251	0
172	SLU 46	5.23	-0.01	71.94	0.0071	0.1194	0
172	SLU 47	4.94	-0.01	71.33	0.01	0.1125	0
172	SLU 48	5.73	0	73.31	0.0022	0.1309	0
172	SLU 49	5.48	-0.01	73.21	0.0067	0.1252	0
172	SLU 50	5.61	0	72.76	0.0021	0.128	0
172	SLU 51	5.36	-0.01	72.66	0.0066	0.1222	0
172	SLU 52	6.07	-0.01	80.23	0.0108	0.1392	0
172	SLU 53	6.86	-0.01	82.22	0.003	0.1576	0
172	SLU 54	6.62	-0.01	82.12	0.0075	0.1518	0
172	SLU 55	6.32	-0.01	81.51	0.0104	0.145	0
172	SLU 56	7.12	0	83.49	0.0026	0.1634	0
172	SLU 57	6.87	-0.01	83.39	0.0071	0.1576	0
172	SLU 58	6.99	0	82.94	0.0024	0.1604	0
172	SLU 59	6.74	-0.01	82.84	0.0069	0.1547	0
172	SLU 60	7.08	-0.01	84.76	0.0034	0.1628	0
172	SLU 61	6.83	-0.01	84.66	0.0079	0.157	0
172	SLU 62	7.33	-0.01	86.03	0.003	0.1686	0
172	SLU 63	7.08	-0.01	85.93	0.0075	0.1628	0
172	SLU 64	6.33	0	79.5	0.003	0.1449	0
172	SLU 65	5.91	-0.01	79.33	0.0105	0.1353	0
172	SLU 66	6.7	0	81.32	0.0027	0.1537	0
172	SLU 67	6.45	-0.01	81.22	0.0072	0.1479	0
172	SLU 68	6.16	-0.01	80.61	0.0101	0.1411	0
172	SLU 69	6.95	0	82.59	0.0023	0.1595	0
172	SLU 70	6.71	-0.01	82.49	0.0068	0.1537	0
172	SLU 71	6.83	0	82.04	0.0022	0.1565	0
172	SLU 72	6.58	-0.01	81.94	0.0067	0.1508	0
172	SLU 73	7.29	-0.01	89.52	0.0109	0.1678	0
172	SLU 74	8.09	-0.01	91.5	0.0031	0.1862	0
172	SLU 75	7.84	-0.01	91.4	0.0076	0.1804	0
172	SLU 76	7.55	-0.01	90.79	0.0105	0.1736	0
172	SLU 77	8.34	-0.01	92.77	0.0027	0.192	0
172	SLU 78	8.09	-0.01	92.67	0.0072	0.1862	0
172	SLU 79	8.21	-0.01	92.22	0.0025	0.189	0
172	SLU 80	7.96	-0.01	92.12	0.0071	0.1832	0
172	SLU 81	8.3	-0.01	94.04	0.0035	0.1913	0
172	SLU 82	8.05	-0.01	93.94	0.008	0.1856	0
172	SLU 83	8.55	-0.01	95.31	0.0031	0.1971	0
172	SLU 84	8.3	-0.01	95.21	0.0076	0.1913	0
172	SLE RA 1	4.6	0	59.11	0.0023	0.1052	0
172	SLE RA 2	4.32	-0.01	59	0.0073	0.0988	0
172	SLE RA 3	4.85	0	60.33	0.0021	0.1111	0
172	SLE RA 4	4.68	-0.01	60.26	0.0051	0.1072	0
172	SLE RA 5	4.49	-0.01	59.85	0.007	0.1027	0
172	SLE RA 6	5.02	0	61.17	0.0018	0.1149	0
172	SLE RA 7	4.85	-0.01	61.11	0.0048	0.1111	0
172	SLE RA 8	4.93	0	60.81	0.0017	0.1129	0
172	SLE RA 9	4.77	-0.01	60.74	0.0048	0.1091	0
172	SLE RA 10	5.24	-0.01	65.79	0.0075	0.1204	0
172	SLE RA 11	5.77	0	67.11	0.0023	0.1327	0
172	SLE RA 12	5.6	-0.01	67.05	0.0053	0.1289	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
172	SLE RA 13	5.41	-0.01	66.64	0.0073	0.1243	0
172	SLE RA 14	5.94	0	67.96	0.0021	0.1366	0
172	SLE RA 15	5.77	-0.01	67.9	0.0051	0.1327	0
172	SLE RA 16	5.86	0	67.59	0.002	0.1346	0
172	SLE RA 17	5.69	-0.01	67.53	0.005	0.1307	0
172	SLE RA 18	5.91	0	68.81	0.0026	0.1361	0
172	SLE RA 19	5.75	-0.01	68.74	0.0056	0.1323	0
172	SLE RA 20	6.08	0	69.65	0.0023	0.14	0
172	SLE RA 21	5.92	-0.01	69.59	0.0054	0.1362	0
172	SLE FR 1	4.6	0	59.11	0.0023	0.1052	0
172	SLE FR 2	4.54	0	59.09	0.0033	0.1039	0
172	SLE FR 3	4.66	0	59.45	0.0022	0.1068	0
172	SLE FR 4	4.94	0	62	0.0034	0.1132	0
172	SLE FR 5	5.06	0	62.36	0.0023	0.116	0
172	SLE FR 6	5.26	0	63.96	0.0024	0.1207	0
172	SLE QP 1	4.6	0	59.11	0.0023	0.1052	0
172	SLE QP 2	4.99	0	62.02	0.0024	0.1145	0
172	SLD 1	14.55	0.22	64.95	-0.2289	0.3468	0.0002
172	SLD 2	14.55	0.22	64.95	-0.2289	0.3468	0.0002
172	SLD 3	15.36	-0.1	65.55	0.1015	0.3662	-0.0001
172	SLD 4	15.36	-0.1	65.55	0.1015	0.3662	-0.0001
172	SLD 5	6.63	0.55	61.99	-0.5681	0.1547	0.0004
172	SLD 6	6.63	0.55	61.99	-0.5681	0.1547	0.0004
172	SLD 7	9.33	-0.52	63.99	0.5332	0.2195	-0.0003
172	SLD 8	9.33	-0.52	63.99	0.5332	0.2195	-0.0003
172	SLD 9	0.65	0.51	60.05	-0.5284	0.0095	0.0003
172	SLD 10	0.65	0.51	60.05	-0.5284	0.0095	0.0003
172	SLD 11	3.35	-0.56	62.05	0.5728	0.0743	-0.0004
172	SLD 12	3.35	-0.56	62.05	0.5728	0.0743	-0.0004
172	SLD 13	-5.38	0.09	58.48	-0.0967	-0.1373	0
172	SLD 14	-5.38	0.09	58.48	-0.0967	-0.1373	0
172	SLD 15	-4.57	-0.23	59.08	0.2336	-0.1178	-0.0002
172	SLD 16	-4.57	-0.23	59.08	0.2336	-0.1178	-0.0002
172	SLV 1	27.34	0.57	68.86	-0.5884	0.6574	0.0004
172	SLV 2	27.34	0.57	68.86	-0.5884	0.6574	0.0004
172	SLV 3	29.28	-0.25	70.37	0.2553	0.7039	-0.0001
172	SLV 4	29.28	-0.25	70.37	0.2553	0.7039	-0.0001
172	SLV 5	8.76	1.41	61.77	-1.4544	0.207	0.0009
172	SLV 6	8.76	1.41	61.77	-1.4544	0.207	0.0009
172	SLV 7	15.21	-1.32	66.82	1.3577	0.3617	-0.0009
172	SLV 8	15.21	-1.32	66.82	1.3577	0.3617	-0.0009
172	SLV 9	-5.23	1.31	57.22	-1.353	-0.1327	0.0009
172	SLV 10	-5.23	1.31	57.22	-1.353	-0.1327	0.0009
172	SLV 11	1.22	-1.42	62.26	1.4591	0.022	-0.0009
172	SLV 12	1.22	-1.42	62.26	1.4591	0.022	-0.0009
172	SLV 13	-19.29	0.24	53.67	-0.2505	-0.4749	0.0001
172	SLV 14	-19.29	0.24	53.67	-0.2505	-0.4749	0.0001
172	SLV 15	-17.36	-0.58	55.18	0.5931	-0.4285	-0.0004
172	SLV 16	-17.36	-0.58	55.18	0.5931	-0.4285	-0.0004
173	SLU 1	3.4	0	56.26	0.0005	0.09	0
173	SLU 2	2.96	-0.01	56.02	0.0061	0.0792	0
173	SLU 3	3.77	0	58.13	0.0001	0.0993	0
173	SLU 4	3.5	0	57.98	0.0035	0.0929	0
173	SLU 5	3.21	-0.01	57.35	0.0056	0.0855	0
173	SLU 6	4.02	0	59.46	-0.0004	0.1056	0
173	SLU 7	3.76	0	59.31	0.003	0.0991	0
173	SLU 8	3.9	0	58.92	-0.0005	0.1026	0
173	SLU 9	3.64	0	58.77	0.0029	0.0961	0
173	SLU 10	4.13	-0.01	66.21	0.0062	0.1089	0
173	SLU 11	4.93	0	68.32	0.0002	0.1291	0
173	SLU 12	4.67	-0.01	68.18	0.0036	0.1226	0
173	SLU 13	4.38	-0.01	67.54	0.0057	0.1152	0
173	SLU 14	5.19	0	69.65	-0.0003	0.1354	0
173	SLU 15	4.93	-0.01	69.51	0.0031	0.1289	0
173	SLU 16	5.07	0	69.12	-0.0004	0.1323	0
173	SLU 17	4.81	0	68.97	0.0029	0.1259	0
173	SLU 18	5.07	0	70.83	0.0006	0.1325	0
173	SLU 19	4.8	-0.01	70.68	0.004	0.126	0
173	SLU 20	5.32	0	72.16	0.0001	0.1388	0
173	SLU 21	5.06	-0.01	72.01	0.0035	0.1323	0
173	SLU 22	4.44	0	65.57	0.0003	0.1167	0
173	SLU 23	4.01	-0.01	65.32	0.0059	0.1059	0
173	SLU 24	4.81	0	67.43	0	0.1261	0
173	SLU 25	4.55	-0.01	67.28	0.0033	0.1196	0
173	SLU 26	4.26	-0.01	66.65	0.0054	0.1122	0
173	SLU 27	5.07	0	68.76	-0.0005	0.1324	0
173	SLU 28	4.81	0	68.61	0.0028	0.1259	0
173	SLU 29	4.95	0	68.23	-0.0007	0.1293	0
173	SLU 30	4.69	0	68.08	0.0027	0.1229	0
173	SLU 31	5.18	-0.01	75.52	0.006	0.1357	0
173	SLU 32	5.98	0	77.63	0	0.1558	0
173	SLU 33	5.72	-0.01	77.48	0.0034	0.1493	0
173	SLU 34	5.43	-0.01	76.85	0.0055	0.142	0
173	SLU 35	6.24	0	78.96	-0.0005	0.1621	0
173	SLU 36	5.98	-0.01	78.81	0.0029	0.1556	0
173	SLU 37	6.12	0	78.42	-0.0006	0.1591	0
173	SLU 38	5.86	-0.01	78.28	0.0027	0.1526	0
173	SLU 39	6.11	0	80.14	0.0004	0.1592	0
173	SLU 40	5.85	-0.01	79.99	0.0038	0.1527	0
173	SLU 41	6.37	0	81.47	-0.0001	0.1655	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
173	SLU 42	6.11	-0.01	81.32	0.0033	0.159	0
173	SLU 43	4.05	0	69.95	0.0007	0.1078	0
173	SLU 44	3.62	-0.01	69.7	0.0063	0.097	0
173	SLU 45	4.42	0	71.82	0.0004	0.1172	0
173	SLU 46	4.16	-0.01	71.67	0.0037	0.1107	0
173	SLU 47	3.87	-0.01	71.03	0.0058	0.1033	0
173	SLU 48	4.68	0	73.15	-0.0002	0.1235	0
173	SLU 49	4.42	-0.01	73	0.0032	0.117	0
173	SLU 50	4.56	0	72.61	-0.0003	0.1204	0
173	SLU 51	4.3	-0.01	72.46	0.0031	0.114	0
173	SLU 52	4.79	-0.01	79.9	0.0064	0.1268	0
173	SLU 53	5.59	0	82.01	0.0004	0.1469	0
173	SLU 54	5.33	-0.01	81.87	0.0038	0.1404	0
173	SLU 55	5.04	-0.01	81.23	0.0059	0.1331	0
173	SLU 56	5.85	0	83.34	-0.0001	0.1532	0
173	SLU 57	5.59	-0.01	83.19	0.0033	0.1467	0
173	SLU 58	5.73	0	82.81	-0.0002	0.1502	0
173	SLU 59	5.47	-0.01	82.66	0.0031	0.1437	0
173	SLU 60	5.72	0	84.52	0.0008	0.1503	0
173	SLU 61	5.46	-0.01	84.37	0.0042	0.1438	0
173	SLU 62	5.98	0	85.85	0.0003	0.1566	0
173	SLU 63	5.72	-0.01	85.7	0.0037	0.1501	0
173	SLU 64	5.1	0	79.26	0.0005	0.1346	0
173	SLU 65	4.67	-0.01	79.01	0.0062	0.1238	0
173	SLU 66	5.47	0	81.12	0.0002	0.1439	0
173	SLU 67	5.21	-0.01	80.97	0.0035	0.1374	0
173	SLU 68	4.92	-0.01	80.34	0.0057	0.1301	0
173	SLU 69	5.73	0	82.45	-0.0003	0.1502	0
173	SLU 70	5.47	-0.01	82.3	0.003	0.1437	0
173	SLU 71	5.61	0	81.92	-0.0005	0.1472	0
173	SLU 72	5.35	-0.01	81.77	0.0029	0.1407	0
173	SLU 73	5.84	-0.01	89.21	0.0062	0.1535	0
173	SLU 74	6.64	-0.01	91.32	0.0002	0.1736	0
173	SLU 75	6.38	-0.01	91.17	0.0036	0.1672	0
173	SLU 76	6.09	-0.01	90.54	0.0057	0.1598	0
173	SLU 77	6.9	0	92.65	-0.0003	0.1799	0
173	SLU 78	6.63	-0.01	92.5	0.0031	0.1735	0
173	SLU 79	6.78	0	92.11	-0.0004	0.1769	0
173	SLU 80	6.52	-0.01	91.97	0.003	0.1704	0
173	SLU 81	6.77	-0.01	93.82	0.0006	0.177	0
173	SLU 82	6.51	-0.01	93.68	0.004	0.1706	0
173	SLU 83	7.03	-0.01	95.15	0.0001	0.1833	0
173	SLU 84	6.76	-0.01	95.01	0.0035	0.1769	0
173	SLE RA 1	3.69	0	58.92	0.0005	0.0976	0
173	SLE RA 2	3.4	-0.01	58.76	0.0042	0.0904	0
173	SLE RA 3	3.94	0	60.16	0.0002	0.1039	0
173	SLE RA 4	3.77	0	60.06	0.0025	0.0995	0
173	SLE RA 5	3.57	0	59.64	0.0039	0.0946	0
173	SLE RA 6	4.11	0	61.05	-0.0001	0.1081	0
173	SLE RA 7	3.94	0	60.95	0.0021	0.1037	0
173	SLE RA 8	4.03	0	60.69	-0.0002	0.106	0
173	SLE RA 9	3.86	0	60.6	0.002	0.1017	0
173	SLE RA 10	4.18	-0.01	65.56	0.0042	0.1103	0
173	SLE RA 11	4.72	0	66.96	0.0003	0.1237	0
173	SLE RA 12	4.55	0	66.86	0.0025	0.1194	0
173	SLE RA 13	4.35	-0.01	66.44	0.0039	0.1145	0
173	SLE RA 14	4.89	0	67.85	-0.0001	0.1279	0
173	SLE RA 15	4.72	0	67.75	0.0022	0.1236	0
173	SLE RA 16	4.81	0	67.49	-0.0002	0.1259	0
173	SLE RA 17	4.64	0	67.39	0.0021	0.1215	0
173	SLE RA 18	4.81	0	68.63	0.0005	0.126	0
173	SLE RA 19	4.63	0	68.53	0.0028	0.1216	0
173	SLE RA 20	4.98	0	69.52	0.0002	0.1302	0
173	SLE RA 21	4.8	0	69.42	0.0024	0.1258	0
173	SLE FR 1	3.69	0	58.92	0.0005	0.0976	0
173	SLE FR 2	3.64	0	58.89	0.0012	0.0962	0
173	SLE FR 3	3.76	0	59.28	0.0003	0.0993	0
173	SLE FR 4	3.97	0	61.8	0.0012	0.1047	0
173	SLE FR 5	4.1	0	62.19	0.0003	0.1078	0
173	SLE FR 6	4.25	0	63.78	0.0005	0.1118	0
173	SLE QP 1	3.69	0	58.92	0.0005	0.0976	0
173	SLE QP 2	4.03	0	61.83	0.0005	0.1061	0
173	SLD 1	13.8	0.21	63.61	-0.2083	0.3559	-0.0004
173	SLD 2	13.8	0.21	63.61	-0.2083	0.3559	-0.0004
173	SLD 3	14.61	-0.07	64.27	0.0762	0.3764	0.0001
173	SLD 4	14.61	-0.07	64.27	0.0762	0.3764	0.0001
173	SLD 5	5.74	0.47	61.35	-0.4936	0.15	-0.0009
173	SLD 6	5.74	0.47	61.35	-0.4936	0.15	-0.0009
173	SLD 7	8.43	-0.44	63.58	0.4546	0.2183	0.0008
173	SLD 8	8.43	-0.44	63.58	0.4546	0.2183	0.0008
173	SLD 9	-0.37	0.43	60.09	-0.4537	-0.006	-0.0008
173	SLD 10	-0.37	0.43	60.09	-0.4537	-0.006	-0.0008
173	SLD 11	2.32	-0.48	62.32	0.4946	0.0623	0.0009
173	SLD 12	2.32	-0.48	62.32	0.4946	0.0623	0.0009
173	SLD 13	-6.55	0.06	59.4	-0.0752	-0.1641	-0.0001
173	SLD 14	-6.55	0.06	59.4	-0.0752	-0.1641	-0.0001
173	SLD 15	-5.75	-0.21	60.06	0.2093	-0.1437	0.0004
173	SLD 16	-5.75	-0.21	60.06	0.2093	-0.1437	0.0004
173	SLV 1	26.88	0.53	65.94	-0.5324	0.6905	-0.001
173	SLV 2	26.88	0.53	65.94	-0.5324	0.6905	-0.001



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
173	SLV 3	28.82	-0.17	67.64	0.1929	0.7395	0.0004
173	SLV 4	28.82	-0.17	67.64	0.1929	0.7395	0.0004
173	SLV 5	7.96	1.2	60.48	-1.2595	0.2071	-0.0023
173	SLV 6	7.96	1.2	60.48	-1.2595	0.2071	-0.0023
173	SLV 7	14.4	-1.1	66.16	1.1583	0.3705	0.0021
173	SLV 8	14.4	-1.1	66.16	1.1583	0.3705	0.0021
173	SLV 9	-6.34	1.09	57.51	-1.1574	-0.1582	-0.0021
173	SLV 10	-6.34	1.09	57.51	-1.1574	-0.1582	-0.0021
173	SLV 11	0.1	-1.21	63.19	1.2605	0.0052	0.0023
173	SLV 12	0.1	-1.21	63.19	1.2605	0.0052	0.0023
173	SLV 13	-20.76	0.16	56.03	-0.192	-0.5272	-0.0003
173	SLV 14	-20.76	0.16	56.03	-0.192	-0.5272	-0.0003
173	SLV 15	-18.83	-0.53	57.73	0.5334	-0.4782	0.001
173	SLV 16	-18.83	-0.53	57.73	0.5334	-0.4782	0.001
174	SLU 1	1.82	0	56.09	-0.0025	0.0441	0
174	SLU 2	1.4	0	55.76	0.0012	0.0335	0
174	SLU 3	2.14	0	58.01	-0.0031	0.0523	0
174	SLU 4	1.89	0	57.81	-0.0008	0.0459	0
174	SLU 5	1.62	0	57.16	0.0005	0.039	0
174	SLU 6	2.37	0	59.41	-0.0037	0.0578	0
174	SLU 7	2.12	0	59.21	-0.0015	0.0514	0
174	SLU 8	2.27	0	58.9	-0.0038	0.0552	0
174	SLU 9	2.02	0	58.7	-0.0016	0.0488	0
174	SLU 10	2.23	0	65.95	0.0007	0.0546	0
174	SLU 11	2.97	0	68.19	-0.0035	0.0734	0
174	SLU 12	2.72	0	68	-0.0013	0.067	0
174	SLU 13	2.45	0	67.35	0.0001	0.0601	0
174	SLU 14	3.2	0	69.6	-0.0042	0.0789	0
174	SLU 15	2.95	0	69.4	-0.0019	0.0725	0
174	SLU 16	3.1	0	69.09	-0.0043	0.0763	0
174	SLU 17	2.85	0	68.89	-0.0021	0.0699	0
174	SLU 18	3.01	0	70.64	-0.0032	0.0743	0
174	SLU 19	2.75	0	70.45	-0.0009	0.0679	0
174	SLU 20	3.23	0	72.05	-0.0038	0.0798	0
174	SLU 21	2.98	0	71.85	-0.0016	0.0735	0
174	SLU 22	2.58	0	65.41	-0.0032	0.0632	0
174	SLU 23	2.15	0	65.08	0.0005	0.0525	0
174	SLU 24	2.9	0	67.33	-0.0037	0.0713	0
174	SLU 25	2.65	0	67.13	-0.0015	0.0649	0
174	SLU 26	2.38	0	66.48	-0.0002	0.0581	0
174	SLU 27	3.12	0	68.73	-0.0044	0.0769	0
174	SLU 28	2.87	0	68.53	-0.0022	0.0705	0
174	SLU 29	3.02	0	68.22	-0.0045	0.0743	0
174	SLU 30	2.77	0	68.02	-0.0023	0.0679	0
174	SLU 31	2.98	0	75.27	0	0.0737	0
174	SLU 32	3.73	0	77.51	-0.0042	0.0924	0
174	SLU 33	3.47	0	77.31	-0.002	0.086	0
174	SLU 34	3.21	0	76.67	-0.0006	0.0792	0
174	SLU 35	3.95	0	78.92	-0.0048	0.098	0
174	SLU 36	3.7	0	78.72	-0.0026	0.0916	0
174	SLU 37	3.85	0	78.4	-0.005	0.0954	0
174	SLU 38	3.6	0	78.21	-0.0028	0.089	0
174	SLU 39	3.76	0	79.96	-0.0038	0.0934	0
174	SLU 40	3.51	0	79.76	-0.0016	0.087	0
174	SLU 41	3.98	0	81.37	-0.0045	0.0989	0
174	SLU 42	3.73	0	81.17	-0.0023	0.0925	0
174	SLU 43	2.11	0	69.72	-0.003	0.0508	0
174	SLU 44	1.69	0	69.39	0.0007	0.0402	0
174	SLU 45	2.43	0	71.64	-0.0036	0.059	0
174	SLU 46	2.18	0	71.44	-0.0014	0.0526	0
174	SLU 47	1.91	0	70.8	0	0.0457	0
174	SLU 48	2.66	0	73.04	-0.0042	0.0645	0
174	SLU 49	2.4	0	72.84	-0.002	0.0581	0
174	SLU 50	2.56	0	72.53	-0.0044	0.0619	0
174	SLU 51	2.31	0	72.33	-0.0021	0.0555	0
174	SLU 52	2.52	0	79.58	0.0002	0.0613	0
174	SLU 53	3.26	0	81.83	-0.004	0.0801	0
174	SLU 54	3.01	0	81.63	-0.0018	0.0737	0
174	SLU 55	2.74	0	80.98	-0.0004	0.0669	0
174	SLU 56	3.49	0	83.23	-0.0047	0.0856	0
174	SLU 57	3.23	0	83.03	-0.0025	0.0792	0
174	SLU 58	3.39	0	82.72	-0.0048	0.083	0
174	SLU 59	3.13	0	82.52	-0.0026	0.0767	0
174	SLU 60	3.29	0	84.28	-0.0037	0.081	0
174	SLU 61	3.04	0	84.08	-0.0015	0.0746	0
174	SLU 62	3.52	0	85.68	-0.0043	0.0866	0
174	SLU 63	3.27	0	85.48	-0.0021	0.0802	0
174	SLU 64	2.86	0	79.04	-0.0037	0.0699	0
174	SLU 65	2.44	0	78.71	0	0.0592	0
174	SLU 66	3.19	0	80.96	-0.0043	0.078	0
174	SLU 67	2.93	0	80.76	-0.002	0.0716	0
174	SLU 68	2.67	0	80.12	-0.0007	0.0648	0
174	SLU 69	3.41	0	82.36	-0.0049	0.0836	0
174	SLU 70	3.16	0	82.16	-0.0027	0.0772	0
174	SLU 71	3.31	0	81.85	-0.005	0.081	0
174	SLU 72	3.06	0	81.65	-0.0028	0.0746	0
174	SLU 73	3.27	0	88.9	-0.0005	0.0804	0
174	SLU 74	4.02	0	91.14	-0.0047	0.0991	0
174	SLU 75	3.76	0	90.95	-0.0025	0.0928	0
174	SLU 76	3.5	0	90.3	-0.0011	0.0859	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
174	SLU 77		4.24	0	92.55	-0.0054	0.1047	0
174	SLU 78		3.99	0	92.35	-0.0031	0.0983	0
174	SLU 79		4.14	0	92.04	-0.0055	0.1021	0
174	SLU 80		3.89	0	91.84	-0.0033	0.0957	0
174	SLU 81		4.05	0	93.6	-0.0044	0.1001	0
174	SLU 82		3.8	0	93.4	-0.0021	0.0937	0
174	SLU 83		4.27	0	95	-0.005	0.1056	0
174	SLU 84		4.02	0	94.8	-0.0028	0.0992	0
174	SLE RA 1		2.04	0	58.75	-0.0027	0.0496	0
174	SLE RA 2		1.76	0	58.53	-0.0003	0.0425	0
174	SLE RA 3		2.25	0	60.03	-0.0031	0.055	0
174	SLE RA 4		2.08	0	59.9	-0.0016	0.0507	0
174	SLE RA 5		1.91	0	59.47	-0.0007	0.0462	0
174	SLE RA 6		2.4	0	60.97	-0.0035	0.0587	0
174	SLE RA 7		2.23	0	60.83	-0.002	0.0544	0
174	SLE RA 8		2.34	0	60.63	-0.0036	0.057	0
174	SLE RA 9		2.17	0	60.49	-0.0021	0.0527	0
174	SLE RA 10		2.31	0	65.33	-0.0005	0.0566	0
174	SLE RA 11		2.8	0	66.82	-0.0034	0.0691	0
174	SLE RA 12		2.64	0	66.69	-0.0019	0.0648	0
174	SLE RA 13		2.46	0	66.26	-0.001	0.0603	0
174	SLE RA 14		2.95	0	67.76	-0.0038	0.0728	0
174	SLE RA 15		2.79	0	67.63	-0.0023	0.0685	0
174	SLE RA 16		2.89	0	67.42	-0.0039	0.071	0
174	SLE RA 17		2.72	0	67.28	-0.0024	0.0668	0
174	SLE RA 18		2.83	0	68.46	-0.0031	0.0697	0
174	SLE RA 19		2.66	0	68.32	-0.0017	0.0654	0
174	SLE RA 20		2.98	0	69.39	-0.0036	0.0734	0
174	SLE RA 21		2.81	0	69.26	-0.0021	0.0691	0
174	SLE FR 1		2.04	0	58.75	-0.0027	0.0496	0
174	SLE FR 2		1.98	0	58.71	-0.0022	0.0482	0
174	SLE FR 3		2.1	0	59.13	-0.0029	0.0511	0
174	SLE FR 4		2.22	0	61.62	-0.0024	0.0542	0
174	SLE FR 5		2.33	0	62.04	-0.003	0.0571	0
174	SLE FR 6		2.43	0	63.61	-0.0029	0.0596	0
174	SLE QP 1		2.04	0	58.75	-0.0027	0.0496	0
174	SLE QP 2		2.27	0	61.66	-0.0028	0.0556	0
174	SLD 1		11.78	0.19	59.66	-0.1757	0.3092	-0.0011
174	SLD 2		11.78	0.19	59.66	-0.1757	0.3092	-0.0011
174	SLD 3		12.54	-0.03	58.87	0.043	0.3292	0.0001
174	SLD 4		12.54	-0.03	58.87	0.043	0.3292	0.0001
174	SLD 5		3.97	0.38	62.27	-0.3864	0.1014	-0.0023
174	SLD 6		3.97	0.38	62.27	-0.3864	0.1014	-0.0023
174	SLD 7		6.5	-0.34	59.62	0.3426	0.1679	0.002
174	SLD 8		6.5	-0.34	59.62	0.3426	0.1679	0.002
174	SLD 9		-1.96	0.34	63.71	-0.3483	-0.0567	-0.002
174	SLD 10		-1.96	0.34	63.71	-0.3483	-0.0567	-0.002
174	SLD 11		0.58	-0.39	61.06	0.3807	0.0098	0.0022
174	SLD 12		0.58	-0.39	61.06	0.3807	0.0098	0.0022
174	SLD 13		-7.99	0.03	64.46	-0.0487	-0.2179	-0.0002
174	SLD 14		-7.99	0.03	64.46	-0.0487	-0.2179	-0.0002
174	SLD 15		-7.23	-0.19	63.67	0.1701	-0.198	0.0011
174	SLD 16		-7.23	-0.19	63.67	0.1701	-0.198	0.0011
174	SLV 1		24.48	0.47	57.03	-0.4434	0.6482	-0.0028
174	SLV 2		24.48	0.47	57.03	-0.4434	0.6482	-0.0028
174	SLV 3		26.3	-0.07	55.02	0.1126	0.6959	0.0004
174	SLV 4		26.3	-0.07	55.02	0.1126	0.6959	0.0004
174	SLV 5		6.18	0.97	63.32	-0.9783	0.1611	-0.0057
174	SLV 6		6.18	0.97	63.32	-0.9783	0.1611	-0.0057
174	SLV 7		12.24	-0.85	56.62	0.8751	0.3201	0.0049
174	SLV 8		12.24	-0.85	56.62	0.8751	0.3201	0.0049
174	SLV 9		-7.69	0.85	66.71	-0.8808	-0.2088	-0.005
174	SLV 10		-7.69	0.85	66.71	-0.8808	-0.2088	-0.005
174	SLV 11		-1.63	-0.97	60.01	0.9726	-0.0498	0.0056
174	SLV 12		-1.63	-0.97	60.01	0.9726	-0.0498	0.0056
174	SLV 13		-21.76	0.07	68.31	-0.1183	-0.5847	-0.0004
174	SLV 14		-21.76	0.07	68.31	-0.1183	-0.5847	-0.0004
174	SLV 15		-19.94	-0.48	66.3	0.4377	-0.537	0.0028
174	SLV 16		-19.94	-0.48	66.3	0.4377	-0.537	0.0028
175	SLU 1		-0.46	0.01	55.45	-0.0082	-0.0036	-0.0002
175	SLU 2		-0.84	0.01	55.07	-0.0066	-0.0155	-0.0002
175	SLU 3		-0.22	0.01	57.39	-0.009	0.0038	-0.0002
175	SLU 4		-0.45	0.01	57.16	-0.008	-0.0033	-0.0002
175	SLU 5		-0.68	0.01	56.54	-0.0075	-0.0104	-0.0002
175	SLU 6		-0.06	0.01	58.85	-0.0099	0.0089	-0.0002
175	SLU 7		-0.29	0.01	58.63	-0.0089	0.0018	-0.0002
175	SLU 8		-0.13	0.01	58.38	-0.01	0.0065	-0.0002
175	SLU 9		-0.36	0.01	58.15	-0.009	-0.0006	-0.0002
175	SLU 10		-0.5	0.01	65.11	-0.008	-0.0032	-0.0002
175	SLU 11		0.12	0.01	67.42	-0.0104	0.0161	-0.0002
175	SLU 12		-0.11	0.01	67.2	-0.0095	0.009	-0.0002
175	SLU 13		-0.34	0.01	66.57	-0.0089	0.0019	-0.0002
175	SLU 14		0.28	0.01	68.89	-0.0113	0.0212	-0.0002
175	SLU 15		0.05	0.01	68.66	-0.0103	0.0141	-0.0002
175	SLU 16		0.21	0.01	68.41	-0.0114	0.0188	-0.0002
175	SLU 17		-0.02	0.01	68.19	-0.0104	0.0117	-0.0002
175	SLU 18		0.03	0.01	69.78	-0.0102	0.0139	-0.0002
175	SLU 19		-0.2	0.01	69.56	-0.0092	0.0068	-0.0002
175	SLU 20		0.19	0.01	71.25	-0.0111	0.019	-0.0002
175	SLU 21		-0.04	0.01	71.02	-0.0101	0.0119	-0.0002



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
175	SLU 22	-0.14	0.01	64.67	-0.0098	0.0078	-0.0002
175	SLU 23	-0.52	0.01	64.3	-0.0082	-0.004	-0.0002
175	SLU 24	0.1	0.01	66.61	-0.0107	0.0153	-0.0002
175	SLU 25	-0.13	0.01	66.39	-0.0097	0.0082	-0.0002
175	SLU 26	-0.36	0.01	65.76	-0.0091	0.0011	-0.0002
175	SLU 27	0.26	0.01	68.08	-0.0115	0.0204	-0.0002
175	SLU 28	0.03	0.01	67.85	-0.0106	0.0132	-0.0002
175	SLU 29	0.19	0.01	67.6	-0.0116	0.018	-0.0002
175	SLU 30	-0.04	0.01	67.38	-0.0107	0.0109	-0.0002
175	SLU 31	-0.18	0.01	74.33	-0.0097	0.0082	-0.0002
175	SLU 32	0.44	0.01	76.65	-0.0121	0.0275	-0.0002
175	SLU 33	0.21	0.01	76.42	-0.0111	0.0204	-0.0002
175	SLU 34	-0.02	0.01	75.8	-0.0105	0.0133	-0.0003
175	SLU 35	0.6	0.01	78.11	-0.013	0.0326	-0.0003
175	SLU 36	0.37	0.01	77.89	-0.012	0.0255	-0.0003
175	SLU 37	0.53	0.01	77.64	-0.013	0.0302	-0.0003
175	SLU 38	0.3	0.01	77.41	-0.0121	0.0231	-0.0003
175	SLU 39	0.35	0.01	79.01	-0.0119	0.0253	-0.0002
175	SLU 40	0.12	0.01	78.78	-0.0109	0.0182	-0.0002
175	SLU 41	0.51	0.01	80.47	-0.0128	0.0304	-0.0002
175	SLU 42	0.28	0.01	80.25	-0.0118	0.0233	-0.0003
175	SLU 43	-0.71	0.01	68.92	-0.0101	-0.0086	-0.0002
175	SLU 44	-1.09	0.01	68.54	-0.0085	-0.0205	-0.0002
175	SLU 45	-0.47	0.01	70.86	-0.0109	-0.0012	-0.0002
175	SLU 46	-0.7	0.01	70.63	-0.0099	-0.0083	-0.0002
175	SLU 47	-0.93	0.01	70.01	-0.0093	-0.0154	-0.0002
175	SLU 48	-0.31	0.01	72.32	-0.0118	0.0039	-0.0002
175	SLU 49	-0.54	0.01	72.1	-0.0108	-0.0032	-0.0002
175	SLU 50	-0.38	0.01	71.85	-0.0118	0.0015	-0.0002
175	SLU 51	-0.61	0.01	71.63	-0.0109	-0.0056	-0.0002
175	SLU 52	-0.75	0.01	78.58	-0.0099	-0.0082	-0.0003
175	SLU 53	-0.13	0.01	80.89	-0.0123	0.0111	-0.0002
175	SLU 54	-0.36	0.01	80.67	-0.0113	0.004	-0.0003
175	SLU 55	-0.59	0.01	80.05	-0.0108	-0.0031	-0.0003
175	SLU 56	0.03	0.01	82.36	-0.0132	0.0162	-0.0003
175	SLU 57	-0.2	0.01	82.14	-0.0122	0.0091	-0.0003
175	SLU 58	-0.04	0.01	81.89	-0.0133	0.0138	-0.0003
175	SLU 59	-0.27	0.01	81.66	-0.0123	0.0067	-0.0003
175	SLU 60	-0.22	0.01	83.26	-0.0121	0.0089	-0.0002
175	SLU 61	-0.45	0.01	83.03	-0.0111	0.0018	-0.0003
175	SLU 62	-0.06	0.01	84.72	-0.013	0.014	-0.0003
175	SLU 63	-0.29	0.01	84.5	-0.012	0.0069	-0.0003
175	SLU 64	-0.38	0.01	78.14	-0.0117	0.0028	-0.0002
175	SLU 65	-0.77	0.01	77.77	-0.0101	-0.009	-0.0003
175	SLU 66	-0.15	0.01	80.08	-0.0125	0.0103	-0.0002
175	SLU 67	-0.38	0.01	79.86	-0.0116	0.0032	-0.0003
175	SLU 68	-0.61	0.01	79.23	-0.011	-0.0039	-0.0003
175	SLU 69	0.01	0.01	81.55	-0.0134	0.0154	-0.0003
175	SLU 70	-0.22	0.01	81.32	-0.0125	0.0082	-0.0003
175	SLU 71	-0.06	0.01	81.07	-0.0135	0.013	-0.0003
175	SLU 72	-0.29	0.01	80.85	-0.0125	0.0059	-0.0003
175	SLU 73	-0.43	0.01	87.8	-0.0115	0.0032	-0.0003
175	SLU 74	0.19	0.01	90.12	-0.014	0.0225	-0.0003
175	SLU 75	-0.04	0.01	89.89	-0.013	0.0154	-0.0003
175	SLU 76	-0.26	0.01	89.27	-0.0124	0.0083	-0.0003
175	SLU 77	0.35	0.01	91.58	-0.0148	0.0276	-0.0003
175	SLU 78	0.12	0.01	91.36	-0.0139	0.0205	-0.0003
175	SLU 79	0.28	0.01	91.11	-0.0149	0.0252	-0.0003
175	SLU 80	0.05	0.01	90.88	-0.014	0.0181	-0.0003
175	SLU 81	0.1	0.01	92.48	-0.0137	0.0203	-0.0003
175	SLU 82	-0.13	0.01	92.25	-0.0128	0.0132	-0.0003
175	SLU 83	0.27	0.01	93.94	-0.0146	0.0254	-0.0003
175	SLU 84	0.04	0.01	93.72	-0.0137	0.0183	-0.0003
175	SLE RA 1	-0.37	0.01	58.08	-0.0087	-0.0003	-0.0002
175	SLE RA 2	-0.62	0.01	57.83	-0.0076	-0.0082	-0.0002
175	SLE RA 3	-0.21	0.01	59.38	-0.0092	0.0046	-0.0002
175	SLE RA 4	-0.36	0.01	59.23	-0.0086	-0.0001	-0.0002
175	SLE RA 5	-0.51	0.01	58.81	-0.0082	-0.0049	-0.0002
175	SLE RA 6	-0.1	0.01	60.35	-0.0098	0.008	-0.0002
175	SLE RA 7	-0.26	0.01	60.2	-0.0091	0.0033	-0.0002
175	SLE RA 8	-0.15	0.01	60.04	-0.0098	0.0064	-0.0002
175	SLE RA 9	-0.3	0.01	59.89	-0.0092	0.0017	-0.0002
175	SLE RA 10	-0.39	0.01	64.52	-0.0085	-0.0001	-0.0002
175	SLE RA 11	0.02	0.01	66.07	-0.0101	0.0128	-0.0002
175	SLE RA 12	-0.14	0.01	65.92	-0.0095	0.0081	-0.0002
175	SLE RA 13	-0.29	0.01	65.5	-0.0091	0.0033	-0.0002
175	SLE RA 14	0.12	0.01	67.04	-0.0107	0.0162	-0.0002
175	SLE RA 15	-0.03	0.01	66.89	-0.0101	0.0114	-0.0002
175	SLE RA 16	0.08	0.01	66.73	-0.0108	0.0146	-0.0002
175	SLE RA 17	-0.08	0.01	66.58	-0.0101	0.0099	-0.0002
175	SLE RA 18	-0.04	0.01	67.64	-0.01	0.0113	-0.0002
175	SLE RA 19	-0.19	0.01	67.49	-0.0094	0.0066	-0.0002
175	SLE RA 20	0.07	0.01	68.62	-0.0106	0.0147	-0.0002
175	SLE RA 21	-0.09	0.01	68.47	-0.01	0.01	-0.0002
175	SLE FR 1	-0.37	0.01	58.08	-0.0087	-0.0003	-0.0002
175	SLE FR 2	-0.42	0.01	58.03	-0.0084	-0.0019	-0.0002
175	SLE FR 3	-0.32	0.01	58.47	-0.0089	0.001	-0.0002
175	SLE FR 4	-0.32	0.01	60.9	-0.0088	0.0016	-0.0002
175	SLE FR 5	-0.23	0.01	61.34	-0.0093	0.0045	-0.0002
175	SLE FR 6	-0.2	0.01	62.86	-0.0093	0.0055	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
175	SLE QP 1	-0.37	0.01	58.08	-0.0087	-0.0003	-0.0002
175	SLE QP 2	-0.27	0.01	60.95	-0.0091	0.0032	-0.0002
175	SLD 1	8.68	0.16	56.15	-0.1285	0.2865	-0.0018
175	SLD 2	8.68	0.16	56.15	-0.1285	0.2865	-0.0018
175	SLD 3	9.38	0.02	55.16	0.0029	0.3087	-0.0003
175	SLD 4	9.38	0.02	55.16	0.0029	0.3087	-0.0003
175	SLD 5	1.35	0.26	61.02	-0.2442	0.0544	-0.0028
175	SLD 6	1.35	0.26	61.02	-0.2442	0.0544	-0.0028
175	SLD 7	3.69	-0.2	57.7	0.1938	0.1286	0.0019
175	SLD 8	3.69	-0.2	57.7	0.1938	0.1286	0.0019
175	SLD 9	-4.23	0.21	64.2	-0.2119	-0.1222	-0.0023
175	SLD 10	-4.23	0.21	64.2	-0.2119	-0.1222	-0.0023
175	SLD 11	-1.89	-0.25	60.88	0.226	-0.0481	0.0025
175	SLD 12	-1.89	-0.25	60.88	0.226	-0.0481	0.0025
175	SLD 13	-9.92	0	66.74	-0.021	-0.3024	0
175	SLD 14	-9.92	0	66.74	-0.021	-0.3024	0
175	SLD 15	-9.22	-0.14	65.74	0.1104	-0.2801	0.0014
175	SLD 16	-9.22	-0.14	65.74	0.1104	-0.2801	0.0014
175	SLV 1	20.65	0.38	49.8	-0.3116	0.6657	-0.0041
175	SLV 2	20.65	0.38	49.8	-0.3116	0.6657	-0.0041
175	SLV 3	22.33	0.04	47.31	0.019	0.7189	-0.0007
175	SLV 4	22.33	0.04	47.31	0.019	0.7189	-0.0007
175	SLV 5	3.47	0.64	61.38	-0.6013	0.1213	-0.0065
175	SLV 6	3.47	0.64	61.38	-0.6013	0.1213	-0.0065
175	SLV 7	9.05	-0.5	53.08	0.5008	0.2986	0.0048
175	SLV 8	9.05	-0.5	53.08	0.5008	0.2986	0.0048
175	SLV 9	-9.59	0.52	68.81	-0.5189	-0.2922	-0.0052
175	SLV 10	-9.59	0.52	68.81	-0.5189	-0.2922	-0.0052
175	SLV 11	-4.01	-0.63	60.52	0.5831	-0.1149	0.0062
175	SLV 12	-4.01	-0.63	60.52	0.5831	-0.1149	0.0062
175	SLV 13	-22.86	-0.03	74.59	-0.0371	-0.7126	0.0004
175	SLV 14	-22.86	-0.03	74.59	-0.0371	-0.7126	0.0004
175	SLV 15	-21.19	-0.37	72.1	0.2935	-0.6594	0.0038
175	SLV 16	-21.19	-0.37	72.1	0.2935	-0.6594	0.0038
176	SLU 1	-4.42	0.03	55.01	-0.0163	-0.1742	-0.0002
176	SLU 2	-4.66	0.03	54.79	-0.0171	-0.1851	-0.0003
176	SLU 3	-4.4	0.03	56.87	-0.0175	-0.1726	-0.0002
176	SLU 4	-4.54	0.03	56.73	-0.018	-0.1791	-0.0003
176	SLU 5	-4.65	0.03	56.25	-0.0183	-0.1846	-0.0003
176	SLU 6	-4.39	0.03	58.33	-0.0186	-0.1722	-0.0002
176	SLU 7	-4.53	0.03	58.19	-0.0191	-0.1787	-0.0003
176	SLU 8	-4.4	0.03	57.93	-0.0186	-0.1734	-0.0002
176	SLU 9	-4.55	0.03	57.8	-0.0191	-0.1799	-0.0003
176	SLU 10	-5.17	0.03	64.51	-0.0199	-0.2032	-0.0003
176	SLU 11	-4.91	0.03	66.58	-0.0203	-0.1908	-0.0003
176	SLU 12	-5.05	0.03	66.45	-0.0208	-0.1973	-0.0003
176	SLU 13	-5.16	0.03	65.97	-0.0211	-0.2028	-0.0003
176	SLU 14	-4.9	0.03	68.04	-0.0215	-0.1903	-0.0003
176	SLU 15	-5.05	0.03	67.91	-0.022	-0.1968	-0.0003
176	SLU 16	-4.92	0.03	67.65	-0.0214	-0.1915	-0.0003
176	SLU 17	-5.06	0.03	67.51	-0.0219	-0.198	-0.0003
176	SLU 18	-5.15	0.03	68.89	-0.0203	-0.2002	-0.0003
176	SLU 19	-5.3	0.03	68.76	-0.0208	-0.2067	-0.0003
176	SLU 20	-5.14	0.03	70.35	-0.0215	-0.1997	-0.0003
176	SLU 21	-5.29	0.04	70.22	-0.022	-0.2062	-0.0003
176	SLU 22	-4.88	0.03	63.99	-0.0193	-0.191	-0.0003
176	SLU 23	-5.12	0.03	63.77	-0.0201	-0.2018	-0.0003
176	SLU 24	-4.86	0.03	65.85	-0.0205	-0.1893	-0.0003
176	SLU 25	-5	0.03	65.71	-0.021	-0.1958	-0.0003
176	SLU 26	-5.11	0.03	65.23	-0.0213	-0.2014	-0.0003
176	SLU 27	-4.85	0.03	67.3	-0.0217	-0.1889	-0.0003
176	SLU 28	-5	0.04	67.17	-0.0222	-0.1954	-0.0003
176	SLU 29	-4.87	0.03	66.91	-0.0217	-0.1901	-0.0003
176	SLU 30	-5.01	0.04	66.78	-0.0221	-0.1966	-0.0003
176	SLU 31	-5.64	0.04	73.49	-0.023	-0.22	-0.0003
176	SLU 32	-5.37	0.04	75.56	-0.0233	-0.2075	-0.0003
176	SLU 33	-5.52	0.04	75.43	-0.0238	-0.214	-0.0003
176	SLU 34	-5.63	0.04	74.94	-0.0241	-0.2195	-0.0004
176	SLU 35	-5.36	0.04	77.02	-0.0245	-0.207	-0.0003
176	SLU 36	-5.51	0.04	76.89	-0.025	-0.2135	-0.0003
176	SLU 37	-5.38	0.04	76.62	-0.0245	-0.2082	-0.0003
176	SLU 38	-5.52	0.04	76.49	-0.025	-0.2147	-0.0003
176	SLU 39	-5.61	0.04	77.87	-0.0234	-0.2169	-0.0003
176	SLU 40	-5.76	0.04	77.74	-0.0238	-0.2234	-0.0003
176	SLU 41	-5.61	0.04	79.33	-0.0245	-0.2165	-0.0003
176	SLU 42	-5.75	0.04	79.2	-0.025	-0.223	-0.0003
176	SLU 43	-5.59	0.03	68.44	-0.0201	-0.2208	-0.0003
176	SLU 44	-5.83	0.03	68.22	-0.0209	-0.2316	-0.0003
176	SLU 45	-5.56	0.03	70.29	-0.0213	-0.2191	-0.0003
176	SLU 46	-5.71	0.03	70.16	-0.0218	-0.2256	-0.0003
176	SLU 47	-5.82	0.04	69.68	-0.0221	-0.2312	-0.0003
176	SLU 48	-5.56	0.03	71.75	-0.0225	-0.2187	-0.0003
176	SLU 49	-5.7	0.04	71.62	-0.023	-0.2252	-0.0003
176	SLU 50	-5.57	0.03	71.36	-0.0225	-0.2199	-0.0003
176	SLU 51	-5.71	0.04	71.22	-0.023	-0.2264	-0.0003
176	SLU 52	-6.34	0.04	77.93	-0.0238	-0.2498	-0.0004
176	SLU 53	-6.08	0.04	80.01	-0.0241	-0.2373	-0.0003
176	SLU 54	-6.22	0.04	79.88	-0.0246	-0.2438	-0.0003
176	SLU 55	-6.33	0.04	79.39	-0.0249	-0.2493	-0.0004
176	SLU 56	-6.07	0.04	81.47	-0.0253	-0.2369	-0.0003



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
176	SLU 57	-6.21	0.04	81.33	-0.0258	-0.2434	-0.0004
176	SLU 58	-6.08	0.04	81.07	-0.0253	-0.2381	-0.0003
176	SLU 59	-6.23	0.04	80.94	-0.0258	-0.2446	-0.0004
176	SLU 60	-6.32	0.04	82.32	-0.0242	-0.2467	-0.0003
176	SLU 61	-6.46	0.04	82.19	-0.0246	-0.2532	-0.0003
176	SLU 62	-6.31	0.04	83.78	-0.0253	-0.2463	-0.0003
176	SLU 63	-6.46	0.04	83.64	-0.0258	-0.2528	-0.0004
176	SLU 64	-6.05	0.04	77.42	-0.0231	-0.2375	-0.0003
176	SLU 65	-6.29	0.04	77.2	-0.024	-0.2483	-0.0004
176	SLU 66	-6.03	0.04	79.27	-0.0243	-0.2359	-0.0003
176	SLU 67	-6.17	0.04	79.14	-0.0248	-0.2424	-0.0003
176	SLU 68	-6.28	0.04	78.66	-0.0251	-0.2479	-0.0004
176	SLU 69	-6.02	0.04	80.73	-0.0255	-0.2354	-0.0003
176	SLU 70	-6.16	0.04	80.6	-0.026	-0.2419	-0.0004
176	SLU 71	-6.03	0.04	80.34	-0.0255	-0.2366	-0.0003
176	SLU 72	-6.18	0.04	80.2	-0.026	-0.2431	-0.0004
176	SLU 73	-6.8	0.04	86.91	-0.0268	-0.2665	-0.0004
176	SLU 74	-6.54	0.04	88.99	-0.0272	-0.254	-0.0004
176	SLU 75	-6.68	0.04	88.85	-0.0277	-0.2605	-0.0004
176	SLU 76	-6.79	0.05	88.37	-0.028	-0.2661	-0.0004
176	SLU 77	-6.53	0.04	90.45	-0.0283	-0.2536	-0.0004
176	SLU 78	-6.68	0.05	90.31	-0.0288	-0.2601	-0.0004
176	SLU 79	-6.55	0.04	90.05	-0.0283	-0.2548	-0.0004
176	SLU 80	-6.69	0.05	89.92	-0.0288	-0.2613	-0.0004
176	SLU 81	-6.78	0.04	91.3	-0.0272	-0.2634	-0.0004
176	SLU 82	-6.93	0.04	91.16	-0.0277	-0.2699	-0.0004
176	SLU 83	-6.77	0.04	92.76	-0.0284	-0.263	-0.0004
176	SLU 84	-6.92	0.05	92.62	-0.0289	-0.2695	-0.0004
176	SLE RA 1	-4.55	0.03	57.58	-0.0171	-0.179	-0.0002
176	SLE RA 2	-4.71	0.03	57.43	-0.0177	-0.1862	-0.0003
176	SLE RA 3	-4.54	0.03	58.82	-0.0179	-0.1779	-0.0002
176	SLE RA 4	-4.63	0.03	58.73	-0.0183	-0.1823	-0.0003
176	SLE RA 5	-4.71	0.03	58.4	-0.0185	-0.186	-0.0003
176	SLE RA 6	-4.53	0.03	59.79	-0.0187	-0.1776	-0.0002
176	SLE RA 7	-4.63	0.03	59.7	-0.019	-0.182	-0.0003
176	SLE RA 8	-4.54	0.03	59.52	-0.0187	-0.1784	-0.0002
176	SLE RA 9	-4.64	0.03	59.44	-0.019	-0.1828	-0.0003
176	SLE RA 10	-5.05	0.03	63.91	-0.0196	-0.1984	-0.0003
176	SLE RA 11	-4.88	0.03	65.29	-0.0198	-0.19	-0.0003
176	SLE RA 12	-4.97	0.03	65.2	-0.0201	-0.1944	-0.0003
176	SLE RA 13	-5.05	0.03	64.88	-0.0204	-0.1981	-0.0003
176	SLE RA 14	-4.87	0.03	66.26	-0.0206	-0.1897	-0.0003
176	SLE RA 15	-4.97	0.03	66.18	-0.0209	-0.1941	-0.0003
176	SLE RA 16	-4.88	0.03	66	-0.0206	-0.1905	-0.0003
176	SLE RA 17	-4.98	0.03	65.91	-0.0209	-0.1949	-0.0003
176	SLE RA 18	-5.04	0.03	66.83	-0.0198	-0.1963	-0.0003
176	SLE RA 19	-5.14	0.03	66.74	-0.0202	-0.2006	-0.0003
176	SLE RA 20	-5.03	0.03	67.8	-0.0206	-0.196	-0.0003
176	SLE RA 21	-5.13	0.03	67.72	-0.0209	-0.2004	-0.0003
176	SLE FR 1	-4.55	0.03	57.58	-0.0171	-0.179	-0.0002
176	SLE FR 2	-4.58	0.03	57.55	-0.0172	-0.1805	-0.0002
176	SLE FR 3	-4.55	0.03	57.97	-0.0175	-0.1789	-0.0002
176	SLE FR 4	-4.73	0.03	60.33	-0.0181	-0.1856	-0.0002
176	SLE FR 5	-4.7	0.03	60.74	-0.0183	-0.1841	-0.0002
176	SLE FR 6	-4.8	0.03	62.21	-0.0185	-0.1877	-0.0002
176	SLE QP 1	-4.55	0.03	57.58	-0.0171	-0.179	-0.0002
176	SLE QP 2	-4.7	0.03	60.36	-0.0179	-0.1842	-0.0002
176	SLD 1	1.94	0.02	47.1	-0.0791	0.1508	0.0003
176	SLD 2	1.94	0.02	47.1	-0.0791	0.1508	0.0003
176	SLD 3	2.44	0.15	45.64	-0.0277	0.1754	-0.0016
176	SLD 4	2.44	0.15	45.64	-0.0277	0.1754	-0.0016
176	SLD 5	-3.46	-0.16	58.58	-0.1141	-0.121	0.0028
176	SLD 6	-3.46	-0.16	58.58	-0.1141	-0.121	0.0028
176	SLD 7	-1.8	0.25	53.74	0.057	-0.039	-0.0035
176	SLD 8	-1.8	0.25	53.74	0.057	-0.039	-0.0035
176	SLD 9	-7.59	-0.2	66.97	-0.0929	-0.3294	0.003
176	SLD 10	-7.59	-0.2	66.97	-0.0929	-0.3294	0.003
176	SLD 11	-5.94	0.22	62.13	0.0782	-0.2474	-0.0033
176	SLD 12	-5.94	0.22	62.13	0.0782	-0.2474	-0.0033
176	SLD 13	-11.84	-0.09	75.07	-0.0082	-0.5438	0.0011
176	SLD 14	-11.84	-0.09	75.07	-0.0082	-0.5438	0.0011
176	SLD 15	-11.34	0.03	73.61	0.0432	-0.5192	-0.0008
176	SLD 16	-11.34	0.03	73.61	0.0432	-0.5192	-0.0008
176	SLV 1	10.83	0.02	29.39	-0.1677	0.5989	0.0012
176	SLV 2	10.83	0.02	29.39	-0.1677	0.5989	0.0012
176	SLV 3	12.01	0.33	25.88	-0.0482	0.6572	-0.0036
176	SLV 4	12.01	0.33	25.88	-0.0482	0.6572	-0.0036
176	SLV 5	-1.83	-0.44	56.39	-0.2441	-0.0377	0.0075
176	SLV 6	-1.83	-0.44	56.39	-0.2441	-0.0377	0.0075
176	SLV 7	2.1	0.58	44.68	0.1542	0.1566	-0.0086
176	SLV 8	2.1	0.58	44.68	0.1542	0.1566	-0.0086
176	SLV 9	-11.5	-0.52	76.03	-0.1901	-0.525	0.0081
176	SLV 10	-11.5	-0.52	76.03	-0.1901	-0.525	0.0081
176	SLV 11	-7.57	0.49	64.32	0.2082	-0.3307	-0.008
176	SLV 12	-7.57	0.49	64.32	0.2082	-0.3307	-0.008
176	SLV 13	-21.4	-0.27	94.83	0.0123	-1.0256	0.0031
176	SLV 14	-21.4	-0.27	94.83	0.0123	-1.0256	0.0031
176	SLV 15	-20.22	0.03	91.32	0.1318	-0.9673	-0.0017
176	SLV 16	-20.22	0.03	91.32	0.1318	-0.9673	-0.0017
177	SLU 1	-7.05	0.03	30.69	-0.0113	-0.1601	-0.0016



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
177	SLU 2	-7.16	0.04	30.75	-0.0128	-0.1647	-0.0019
177	SLU 3	-7.19	0.03	31.62	-0.012	-0.1622	-0.0017
177	SLU 4	-7.26	0.04	31.65	-0.0129	-0.165	-0.0019
177	SLU 5	-7.29	0.04	31.51	-0.0134	-0.1667	-0.0019
177	SLU 6	-7.32	0.04	32.37	-0.0126	-0.1642	-0.0018
177	SLU 7	-7.39	0.04	32.41	-0.0135	-0.167	-0.0019
177	SLU 8	-7.3	0.03	32.21	-0.0126	-0.1641	-0.0018
177	SLU 9	-7.37	0.04	32.24	-0.0135	-0.1669	-0.0019
177	SLU 10	-8.26	0.05	35.97	-0.0147	-0.1878	-0.0021
177	SLU 11	-8.29	0.04	36.83	-0.014	-0.1852	-0.002
177	SLU 12	-8.36	0.05	36.87	-0.0148	-0.188	-0.0021
177	SLU 13	-8.39	0.05	36.72	-0.0154	-0.1898	-0.0022
177	SLU 14	-8.42	0.04	37.59	-0.0146	-0.1873	-0.0021
177	SLU 15	-8.49	0.05	37.63	-0.0155	-0.19	-0.0022
177	SLU 16	-8.4	0.04	37.42	-0.0146	-0.1872	-0.0021
177	SLU 17	-8.47	0.05	37.46	-0.0154	-0.19	-0.0022
177	SLU 18	-8.62	0.04	38.14	-0.0141	-0.193	-0.002
177	SLU 19	-8.69	0.05	38.18	-0.015	-0.1958	-0.0022
177	SLU 20	-8.75	0.04	38.9	-0.0147	-0.1951	-0.0021
177	SLU 21	-8.82	0.05	38.93	-0.0156	-0.1978	-0.0023
177	SLU 22	-8.06	0.04	35.52	-0.0133	-0.1813	-0.0019
177	SLU 23	-8.18	0.05	35.58	-0.0148	-0.1859	-0.0021
177	SLU 24	-8.21	0.04	36.45	-0.014	-0.1834	-0.002
177	SLU 25	-8.28	0.05	36.49	-0.0149	-0.1862	-0.0021
177	SLU 26	-8.3	0.05	36.34	-0.0155	-0.1879	-0.0022
177	SLU 27	-8.34	0.04	37.21	-0.0147	-0.1854	-0.0021
177	SLU 28	-8.4	0.05	37.24	-0.0156	-0.1882	-0.0022
177	SLU 29	-8.32	0.04	37.04	-0.0146	-0.1854	-0.0021
177	SLU 30	-8.38	0.05	37.08	-0.0155	-0.1881	-0.0022
177	SLU 31	-9.28	0.05	40.8	-0.0168	-0.209	-0.0024
177	SLU 32	-9.31	0.05	41.66	-0.016	-0.2065	-0.0023
177	SLU 33	-9.38	0.05	41.7	-0.0169	-0.2092	-0.0024
177	SLU 34	-9.41	0.05	41.56	-0.0174	-0.211	-0.0025
177	SLU 35	-9.44	0.05	42.42	-0.0166	-0.2085	-0.0024
177	SLU 36	-9.51	0.05	42.46	-0.0175	-0.2112	-0.0025
177	SLU 37	-9.42	0.05	42.25	-0.0166	-0.2084	-0.0024
177	SLU 38	-9.49	0.05	42.29	-0.0175	-0.2112	-0.0025
177	SLU 39	-9.64	0.05	42.97	-0.0161	-0.2142	-0.0023
177	SLU 40	-9.71	0.05	43.01	-0.017	-0.217	-0.0025
177	SLU 41	-9.76	0.05	43.73	-0.0168	-0.2163	-0.0024
177	SLU 42	-9.83	0.05	43.77	-0.0177	-0.219	-0.0025
177	SLU 43	-8.81	0.04	38.24	-0.014	-0.2009	-0.002
177	SLU 44	-8.93	0.05	38.3	-0.0154	-0.2055	-0.0022
177	SLU 45	-8.96	0.04	39.17	-0.0147	-0.203	-0.0021
177	SLU 46	-9.03	0.05	39.2	-0.0156	-0.2057	-0.0022
177	SLU 47	-9.05	0.05	39.06	-0.0161	-0.2075	-0.0023
177	SLU 48	-9.08	0.04	39.92	-0.0153	-0.205	-0.0022
177	SLU 49	-9.15	0.05	39.96	-0.0162	-0.2077	-0.0023
177	SLU 50	-9.06	0.04	39.76	-0.0153	-0.2049	-0.0022
177	SLU 51	-9.13	0.05	39.79	-0.0162	-0.2077	-0.0023
177	SLU 52	-10.03	0.06	43.52	-0.0174	-0.2285	-0.0025
177	SLU 53	-10.06	0.05	44.38	-0.0166	-0.226	-0.0024
177	SLU 54	-10.13	0.05	44.42	-0.0175	-0.2288	-0.0025
177	SLU 55	-10.15	0.06	44.27	-0.0181	-0.2306	-0.0026
177	SLU 56	-10.19	0.05	45.14	-0.0173	-0.228	-0.0025
177	SLU 57	-10.26	0.05	45.18	-0.0182	-0.2308	-0.0026
177	SLU 58	-10.17	0.05	44.97	-0.0172	-0.228	-0.0025
177	SLU 59	-10.23	0.05	45.01	-0.0181	-0.2307	-0.0026
177	SLU 60	-10.39	0.05	45.69	-0.0168	-0.2338	-0.0024
177	SLU 61	-10.45	0.05	45.73	-0.0177	-0.2366	-0.0025
177	SLU 62	-10.51	0.05	46.45	-0.0174	-0.2358	-0.0025
177	SLU 63	-10.58	0.06	46.48	-0.0183	-0.2386	-0.0026
177	SLU 64	-9.83	0.05	43.07	-0.016	-0.2221	-0.0023
177	SLU 65	-9.94	0.06	43.13	-0.0175	-0.2267	-0.0025
177	SLU 66	-9.97	0.05	44	-0.0167	-0.2242	-0.0024
177	SLU 67	-10.04	0.05	44.04	-0.0176	-0.2269	-0.0025
177	SLU 68	-10.07	0.06	43.89	-0.0181	-0.2287	-0.0026
177	SLU 69	-10.1	0.05	44.76	-0.0174	-0.2262	-0.0025
177	SLU 70	-10.17	0.05	44.79	-0.0183	-0.2289	-0.0026
177	SLU 71	-10.08	0.05	44.59	-0.0173	-0.2261	-0.0025
177	SLU 72	-10.15	0.05	44.63	-0.0182	-0.2289	-0.0026
177	SLU 73	-11.04	0.06	48.35	-0.0194	-0.2497	-0.0028
177	SLU 74	-11.08	0.05	49.21	-0.0187	-0.2472	-0.0027
177	SLU 75	-11.15	0.06	49.25	-0.0196	-0.25	-0.0028
177	SLU 76	-11.17	0.06	49.11	-0.0201	-0.2518	-0.0029
177	SLU 77	-11.2	0.05	49.97	-0.0193	-0.2492	-0.0028
177	SLU 78	-11.27	0.06	50.01	-0.0202	-0.252	-0.0029
177	SLU 79	-11.18	0.05	49.8	-0.0193	-0.2492	-0.0028
177	SLU 80	-11.25	0.06	49.84	-0.0202	-0.2519	-0.0029
177	SLU 81	-11.4	0.05	50.52	-0.0188	-0.255	-0.0027
177	SLU 82	-11.47	0.06	50.56	-0.0197	-0.2578	-0.0028
177	SLU 83	-11.53	0.06	51.28	-0.0195	-0.257	-0.0028
177	SLU 84	-11.6	0.06	51.32	-0.0204	-0.2598	-0.0029
177	SLE RA 1	-7.34	0.03	32.07	-0.0119	-0.1662	-0.0017
177	SLE RA 2	-7.41	0.04	32.11	-0.0128	-0.1692	-0.0019
177	SLE RA 3	-7.43	0.04	32.69	-0.0123	-0.1676	-0.0018
177	SLE RA 4	-7.48	0.04	32.71	-0.0129	-0.1694	-0.0019
177	SLE RA 5	-7.5	0.04	32.62	-0.0133	-0.1706	-0.0019
177	SLE RA 6	-7.52	0.04	33.19	-0.0128	-0.1689	-0.0018
177	SLE RA 7	-7.56	0.04	33.22	-0.0134	-0.1707	-0.0019



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x		z		x		z	
178	SLD 14	5.17	-0.09	20.92	0.0139	0.0637	-0.0031		
178	SLD 15	6.25	0.08	24.34	-0.0059	0.0922	0.0017		
178	SLD 16	6.25	0.08	24.34	-0.0059	0.0922	0.0017		
178	SLV 1	25.7	-0.64	75.16	0.085	0.7888	-0.02		
178	SLV 2	25.7	-0.64	75.16	0.085	0.7888	-0.02		
178	SLV 3	28.29	-0.24	83.38	0.0369	0.8571	-0.0083		
178	SLV 4	28.29	-0.24	83.38	0.0369	0.8571	-0.0083		
178	SLV 5	12.24	-0.89	37.8	0.1131	0.3437	-0.0272		
178	SLV 6	12.24	-0.89	37.8	0.1131	0.3437	-0.0272		
178	SLV 7	20.87	0.44	65.18	-0.0473	0.5714	0.0121		
178	SLV 8	20.87	0.44	65.18	-0.0473	0.5714	0.0121		
178	SLV 9	3.3	-0.71	13.99	0.0891	0.0305	-0.0215		
178	SLV 10	3.3	-0.71	13.99	0.0891	0.0305	-0.0215		
178	SLV 11	11.92	0.62	41.37	-0.0713	0.2582	0.0178		
178	SLV 12	11.92	0.62	41.37	-0.0713	0.2582	0.0178		
178	SLV 13	-4.12	-0.03	-4.21	0.0049	-0.2552	-0.0011		
178	SLV 14	-4.12	-0.03	-4.21	0.0049	-0.2552	-0.0011		
178	SLV 15	-1.53	0.37	4	-0.0433	-0.1869	0.0107		
178	SLV 16	-1.53	0.37	4	-0.0433	-0.1869	0.0107		
179	SLU 1	10.06	-3.71	86.05	0.0432	0.5262	-0.0077		
179	SLU 2	10.1	-2.39	80.45	-0.021	0.5287	-0.0052		
179	SLU 3	10.37	-4.01	90.2	0.0522	0.5425	-0.0083		
179	SLU 4	10.39	-3.22	86.84	0.0137	0.544	-0.0068		
179	SLU 5	10.21	-2.69	83.59	-0.0105	0.5342	-0.0058		
179	SLU 6	10.48	-4.31	93.34	0.0627	0.548	-0.0089		
179	SLU 7	10.5	-3.52	89.98	0.0242	0.5494	-0.0074		
179	SLU 8	10.27	-4.31	92.32	0.0643	0.5371	-0.0089		
179	SLU 9	10.3	-3.51	88.96	0.0257	0.5386	-0.0074		
179	SLU 10	12.29	-2.94	96.34	-0.0181	0.6446	-0.0063		
179	SLU 11	12.56	-4.56	106.08	0.0551	0.6584	-0.0095		
179	SLU 12	12.58	-3.77	102.73	0.0166	0.6599	-0.008		
179	SLU 13	12.4	-3.24	99.47	-0.0076	0.65	-0.0069		
179	SLU 14	12.66	-4.86	109.22	0.0656	0.6638	-0.0101		
179	SLU 15	12.69	-4.07	105.86	0.0271	0.6653	-0.0085		
179	SLU 16	12.46	-4.86	108.2	0.0672	0.653	-0.01		
179	SLU 17	12.49	-4.06	104.85	0.0286	0.6545	-0.0085		
179	SLU 18	13.18	-4.5	108.74	0.0473	0.6918	-0.0094		
179	SLU 19	13.21	-3.71	105.38	0.0088	0.6932	-0.0078		
179	SLU 20	13.29	-4.8	111.87	0.0579	0.6972	-0.01		
179	SLU 21	13.32	-4	108.52	0.0193	0.6987	-0.0084		
179	SLU 22	11.78	-4.32	100.71	0.0505	0.6175	-0.009		
179	SLU 23	11.83	-2.99	95.12	-0.0137	0.62	-0.0064		
179	SLU 24	12.09	-4.61	104.87	0.0595	0.6338	-0.0096		
179	SLU 25	12.12	-3.82	101.51	0.0209	0.6352	-0.0081		
179	SLU 26	11.93	-3.29	98.26	-0.0032	0.6254	-0.007		
179	SLU 27	12.2	-4.91	108	0.07	0.6392	-0.0102		
179	SLU 28	12.23	-4.12	104.65	0.0315	0.6407	-0.0086		
179	SLU 29	12	-4.91	106.99	0.0715	0.6283	-0.0101		
179	SLU 30	12.02	-4.11	103.63	0.033	0.6298	-0.0086		
179	SLU 31	14.01	-3.55	111.01	-0.0108	0.7358	-0.0076		
179	SLU 32	14.28	-5.16	120.75	0.0624	0.7496	-0.0107		
179	SLU 33	14.31	-4.37	117.4	0.0239	0.7511	-0.0092		
179	SLU 34	14.12	-3.84	114.14	-0.0003	0.7413	-0.0082		
179	SLU 35	14.39	-5.46	123.89	0.0729	0.7551	-0.0113		
179	SLU 36	14.41	-4.67	120.53	0.0344	0.7565	-0.0098		
179	SLU 37	14.19	-5.46	122.87	0.0745	0.7442	-0.0113		
179	SLU 38	14.21	-4.66	119.51	0.0359	0.7457	-0.0098		
179	SLU 39	14.91	-5.1	123.4	0.0546	0.783	-0.0106		
179	SLU 40	14.93	-4.31	120.05	0.0161	0.7845	-0.0091		
179	SLU 41	15.02	-5.4	126.54	0.0652	0.7884	-0.0112		
179	SLU 42	15.04	-4.61	123.18	0.0266	0.7899	-0.0097		
179	SLU 43	12.48	-4.62	106.83	0.0536	0.6528	-0.0096		
179	SLU 44	12.53	-3.3	101.24	-0.0106	0.6553	-0.0071		
179	SLU 45	12.79	-4.92	110.98	0.0626	0.6691	-0.0102		
179	SLU 46	12.82	-4.13	107.63	0.0241	0.6706	-0.0087		
179	SLU 47	12.64	-3.6	104.37	0	0.6607	-0.0077		
179	SLU 48	12.9	-5.22	114.12	0.0732	0.6745	-0.0108		
179	SLU 49	12.93	-4.42	110.76	0.0347	0.676	-0.0093		
179	SLU 50	12.7	-5.21	113.1	0.0747	0.6637	-0.0108		
179	SLU 51	12.73	-4.42	109.75	0.0362	0.6652	-0.0093		
179	SLU 52	14.71	-3.85	117.12	-0.0077	0.7712	-0.0082		
179	SLU 53	14.98	-5.47	126.87	0.0655	0.785	-0.0113		
179	SLU 54	15.01	-4.68	123.51	0.027	0.7865	-0.0098		
179	SLU 55	14.82	-4.15	120.26	0.0029	0.7766	-0.0088		
179	SLU 56	15.09	-5.77	130	0.0761	0.7904	-0.0119		
179	SLU 57	15.11	-4.98	126.65	0.0376	0.7919	-0.0104		
179	SLU 58	14.89	-5.76	128.98	0.0776	0.7796	-0.0119		
179	SLU 59	14.91	-4.97	125.63	0.0391	0.781	-0.0104		
179	SLU 60	15.61	-5.41	129.52	0.0578	0.8183	-0.0112		
179	SLU 61	15.64	-4.62	126.17	0.0193	0.8198	-0.0097		
179	SLU 62	15.72	-5.71	132.66	0.0683	0.8238	-0.0118		
179	SLU 63	15.74	-4.91	129.3	0.0298	0.8253	-0.0103		
179	SLU 64	14.21	-5.22	121.5	0.0609	0.7441	-0.0108		
179	SLU 65	14.25	-3.9	115.91	-0.0033	0.7465	-0.0083		
179	SLU 66	14.52	-5.52	125.65	0.0699	0.7603	-0.0114		
179	SLU 67	14.54	-4.73	122.3	0.0314	0.7618	-0.0099		
179	SLU 68	14.36	-4.2	119.04	0.0073	0.752	-0.0089		
179	SLU 69	14.63	-5.82	128.79	0.0805	0.7658	-0.012		
179	SLU 70	14.65	-5.02	125.43	0.0419	0.7673	-0.0105		
179	SLU 71	14.43	-5.81	127.77	0.082	0.7549	-0.012		



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
180	SLE FR 2	9.27	0.08	73.74	-0.0144	0.4003	0.0001
180	SLE FR 3	9.17	0.08	74.81	-0.0128	0.3966	0.0001
180	SLE FR 4	9.88	0.09	77.47	-0.0154	0.4271	0.0001
180	SLE FR 5	9.78	0.08	78.54	-0.0137	0.4234	0.0001
180	SLE FR 6	10.21	0.09	80.36	-0.0147	0.4425	0.0001
180	SLE QP 1	9.19	0.08	74.16	-0.0131	0.3979	0.0001
180	SLE QP 2	9.81	0.08	77.88	-0.0141	0.4247	0.0001
180	SLD 1	21.95	0.23	86.14	-0.0873	1.0235	-0.0001
180	SLD 2	21.95	0.23	86.14	-0.0873	1.0235	-0.0001
180	SLD 3	22.84	0.13	90.98	-0.0226	1.0654	0.0001
180	SLD 4	22.84	0.13	90.98	-0.0226	1.0654	0.0001
180	SLD 5	12.1	0.28	73.02	-0.1341	0.5408	-0.0002
180	SLD 6	12.1	0.28	73.02	-0.1341	0.5408	-0.0002
180	SLD 7	15.07	-0.06	89.15	0.0815	0.6804	0.0003
180	SLD 8	15.07	-0.06	89.15	0.0815	0.6804	0.0003
180	SLD 9	4.54	0.23	66.61	-0.1096	0.169	-0.0001
180	SLD 10	4.54	0.23	66.61	-0.1096	0.169	-0.0001
180	SLD 11	7.52	-0.12	82.75	0.106	0.3085	0.0003
180	SLD 12	7.52	-0.12	82.75	0.106	0.3085	0.0003
180	SLD 13	-3.23	0.04	64.78	-0.0055	-0.216	0.0001
180	SLD 14	-3.23	0.04	64.78	-0.0055	-0.216	0.0001
180	SLD 15	-2.34	-0.07	69.63	0.0592	-0.1741	0.0002
180	SLD 16	-2.34	-0.07	69.63	0.0592	-0.1741	0.0002
180	SLV 1	38.21	0.44	97.08	-0.1897	1.8256	-0.0003
180	SLV 2	38.21	0.44	97.08	-0.1897	1.8256	-0.0003
180	SLV 3	40.33	0.19	108.82	-0.0327	1.9252	0
180	SLV 4	40.33	0.19	108.82	-0.0327	1.9252	0
180	SLV 5	15.1	0.57	65.83	-0.3048	0.6939	-0.0005
180	SLV 6	15.1	0.57	65.83	-0.3048	0.6939	-0.0005
180	SLV 7	22.19	-0.27	104.97	0.2184	1.0259	0.0005
180	SLV 8	22.19	-0.27	104.97	0.2184	1.0259	0.0005
180	SLV 9	-2.58	0.43	50.79	-0.2465	-0.1766	-0.0004
180	SLV 10	-2.58	0.43	50.79	-0.2465	-0.1766	-0.0004
180	SLV 11	4.51	-0.41	89.93	0.2767	0.1555	0.0007
180	SLV 12	4.51	-0.41	89.93	0.2767	0.1555	0.0007
180	SLV 13	-20.72	-0.02	46.94	0.0046	-1.0758	0.0001
180	SLV 14	-20.72	-0.02	46.94	0.0046	-1.0758	0.0001
180	SLV 15	-18.6	-0.27	58.68	0.1616	-0.9762	0.0005
180	SLV 16	-18.6	-0.27	58.68	0.1616	-0.9762	0.0005
181	SLU 1	6.22	0.06	72.38	-0.0159	0.2868	-0.0001
181	SLU 2	6.69	0.07	70.27	-0.023	0.3041	-0.0001
181	SLU 3	6.23	0.06	75.6	-0.0156	0.2883	-0.0001
181	SLU 4	6.51	0.07	74.33	-0.0198	0.2987	-0.0001
181	SLU 5	6.49	0.07	72.63	-0.0222	0.2957	-0.0001
181	SLU 6	6.02	0.06	77.97	-0.0148	0.2799	-0.0002
181	SLU 7	6.31	0.07	76.7	-0.019	0.2903	-0.0001
181	SLU 8	5.8	0.06	77.11	-0.0143	0.27	-0.0002
181	SLU 9	6.09	0.07	75.84	-0.0186	0.2804	-0.0001
181	SLU 10	8.39	0.08	83.67	-0.0268	0.382	-0.0001
181	SLU 11	7.93	0.07	89	-0.0194	0.3662	-0.0002
181	SLU 12	8.21	0.08	87.73	-0.0237	0.3766	-0.0001
181	SLU 13	8.19	0.08	86.03	-0.0261	0.3736	-0.0001
181	SLU 14	7.72	0.07	91.36	-0.0186	0.3578	-0.0002
181	SLU 15	8.01	0.08	90.09	-0.0229	0.3682	-0.0002
181	SLU 16	7.5	0.07	90.51	-0.0182	0.3479	-0.0002
181	SLU 17	7.79	0.08	89.24	-0.0225	0.3583	-0.0002
181	SLU 18	8.65	0.08	91.52	-0.0214	0.3981	-0.0002
181	SLU 19	8.93	0.08	90.25	-0.0257	0.4085	-0.0001
181	SLU 20	8.44	0.08	93.88	-0.0206	0.3897	-0.0002
181	SLU 21	8.73	0.08	92.62	-0.0249	0.4001	-0.0002
181	SLU 22	7.26	0.07	84.66	-0.0188	0.3356	-0.0002
181	SLU 23	7.74	0.08	82.55	-0.0259	0.3528	-0.0001
181	SLU 24	7.27	0.07	87.88	-0.0184	0.337	-0.0002
181	SLU 25	7.56	0.08	86.61	-0.0227	0.3474	-0.0002
181	SLU 26	7.53	0.08	84.91	-0.0251	0.3444	-0.0001
181	SLU 27	7.06	0.07	90.24	-0.0177	0.3286	-0.0002
181	SLU 28	7.35	0.08	88.97	-0.0219	0.339	-0.0002
181	SLU 29	6.85	0.07	89.39	-0.0172	0.3188	-0.0002
181	SLU 30	7.13	0.08	88.12	-0.0215	0.3291	-0.0002
181	SLU 31	9.44	0.09	95.94	-0.0297	0.4308	-0.0002
181	SLU 32	8.97	0.08	101.27	-0.0223	0.415	-0.0002
181	SLU 33	9.26	0.09	100.01	-0.0265	0.4253	-0.0002
181	SLU 34	9.23	0.09	98.31	-0.0289	0.4224	-0.0002
181	SLU 35	8.77	0.08	103.64	-0.0215	0.4066	-0.0002
181	SLU 36	9.05	0.09	102.37	-0.0258	0.4169	-0.0002
181	SLU 37	8.55	0.08	102.78	-0.0211	0.3967	-0.0002
181	SLU 38	8.83	0.09	101.52	-0.0253	0.407	-0.0002
181	SLU 39	9.69	0.09	103.8	-0.0243	0.4469	-0.0002
181	SLU 40	9.98	0.09	102.53	-0.0285	0.4572	-0.0002
181	SLU 41	9.48	0.09	106.16	-0.0235	0.4385	-0.0002
181	SLU 42	9.77	0.09	104.89	-0.0278	0.4488	-0.0002
181	SLU 43	7.72	0.07	89.89	-0.0197	0.3562	-0.0002
181	SLU 44	8.2	0.08	87.78	-0.0268	0.3735	-0.0001
181	SLU 45	7.73	0.08	93.11	-0.0194	0.3577	-0.0002
181	SLU 46	8.02	0.08	91.84	-0.0236	0.368	-0.0002
181	SLU 47	7.99	0.08	90.14	-0.026	0.3651	-0.0001
181	SLU 48	7.53	0.08	95.47	-0.0186	0.3493	-0.0002
181	SLU 49	7.81	0.08	94.2	-0.0228	0.3596	-0.0002
181	SLU 50	7.31	0.07	94.62	-0.0181	0.3394	-0.0002
181	SLU 51	7.59	0.08	93.35	-0.0224	0.3497	-0.0002



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
181	SLU 52	9.9	0.1	101.17	-0.0306	0.4514	-0.0002
181	SLU 53	9.43	0.09	106.5	-0.0232	0.4356	-0.0002
181	SLU 54	9.72	0.09	105.24	-0.0275	0.4459	-0.0002
181	SLU 55	9.69	0.1	103.54	-0.0299	0.443	-0.0002
181	SLU 56	9.23	0.09	108.87	-0.0224	0.4272	-0.0002
181	SLU 57	9.51	0.09	107.6	-0.0267	0.4375	-0.0002
181	SLU 58	9.01	0.09	108.01	-0.022	0.4173	-0.0002
181	SLU 59	9.3	0.09	106.75	-0.0262	0.4277	-0.0002
181	SLU 60	10.15	0.09	109.03	-0.0252	0.4675	-0.0002
181	SLU 61	10.44	0.1	107.76	-0.0295	0.4778	-0.0002
181	SLU 62	9.95	0.09	111.39	-0.0244	0.4591	-0.0002
181	SLU 63	10.23	0.1	110.12	-0.0287	0.4694	-0.0002
181	SLU 64	8.77	0.08	102.17	-0.0226	0.4049	-0.0002
181	SLU 65	9.24	0.09	100.05	-0.0296	0.4222	-0.0002
181	SLU 66	8.78	0.09	105.39	-0.0222	0.4064	-0.0002
181	SLU 67	9.06	0.09	104.12	-0.0265	0.4168	-0.0002
181	SLU 68	9.04	0.09	102.42	-0.0289	0.4138	-0.0002
181	SLU 69	8.57	0.09	107.75	-0.0214	0.398	-0.0002
181	SLU 70	8.86	0.09	106.48	-0.0257	0.4084	-0.0002
181	SLU 71	8.35	0.09	106.9	-0.021	0.3881	-0.0002
181	SLU 72	8.64	0.09	105.63	-0.0252	0.3985	-0.0002
181	SLU 73	10.95	0.11	113.45	-0.0335	0.5001	-0.0002
181	SLU 74	10.48	0.1	118.78	-0.0261	0.4843	-0.0002
181	SLU 75	10.77	0.1	117.51	-0.0303	0.4947	-0.0002
181	SLU 76	10.74	0.11	115.81	-0.0327	0.4917	-0.0002
181	SLU 77	10.27	0.1	121.14	-0.0253	0.4759	-0.0002
181	SLU 78	10.56	0.1	119.88	-0.0296	0.4863	-0.0002
181	SLU 79	10.05	0.1	120.29	-0.0249	0.466	-0.0002
181	SLU 80	10.34	0.1	119.02	-0.0291	0.4764	-0.0002
181	SLU 81	11.2	0.1	121.3	-0.0281	0.5162	-0.0002
181	SLU 82	11.48	0.11	120.04	-0.0323	0.5266	-0.0002
181	SLU 83	10.99	0.1	123.67	-0.0273	0.5078	-0.0002
181	SLU 84	11.28	0.11	122.4	-0.0315	0.5182	-0.0002
181	SLE RA 1	6.51	0.06	75.89	-0.0167	0.3007	-0.0001
181	SLE RA 2	6.83	0.07	74.48	-0.0214	0.3123	-0.0001
181	SLE RA 3	6.52	0.06	78.04	-0.0165	0.3017	-0.0002
181	SLE RA 4	6.71	0.07	77.19	-0.0193	0.3087	-0.0001
181	SLE RA 5	6.69	0.07	76.06	-0.0209	0.3067	-0.0001
181	SLE RA 6	6.38	0.06	79.61	-0.016	0.2961	-0.0002
181	SLE RA 7	6.57	0.07	78.77	-0.0188	0.3031	-0.0001
181	SLE RA 8	6.24	0.06	79.04	-0.0157	0.2895	-0.0002
181	SLE RA 9	6.43	0.07	78.2	-0.0185	0.2965	-0.0001
181	SLE RA 10	7.97	0.08	83.41	-0.024	0.3642	-0.0001
181	SLE RA 11	7.66	0.07	86.97	-0.0191	0.3537	-0.0002
181	SLE RA 12	7.85	0.08	86.12	-0.0219	0.3606	-0.0002
181	SLE RA 13	7.83	0.08	84.99	-0.0235	0.3586	-0.0001
181	SLE RA 14	7.52	0.07	88.54	-0.0186	0.3481	-0.0002
181	SLE RA 15	7.71	0.08	87.7	-0.0214	0.355	-0.0002
181	SLE RA 16	7.37	0.07	87.97	-0.0183	0.3415	-0.0002
181	SLE RA 17	7.56	0.08	87.13	-0.0211	0.3484	-0.0002
181	SLE RA 18	8.13	0.07	88.65	-0.0204	0.3749	-0.0002
181	SLE RA 19	8.33	0.08	87.8	-0.0232	0.3819	-0.0002
181	SLE RA 20	8	0.07	90.23	-0.0199	0.3693	-0.0002
181	SLE RA 21	8.19	0.08	89.38	-0.0227	0.3763	-0.0002
181	SLE FR 1	6.51	0.06	75.89	-0.0167	0.3007	-0.0001
181	SLE FR 2	6.58	0.06	75.61	-0.0177	0.3031	-0.0001
181	SLE FR 3	6.46	0.06	76.52	-0.0165	0.2985	-0.0001
181	SLE FR 4	7.06	0.07	79.44	-0.0188	0.3253	-0.0001
181	SLE FR 5	6.94	0.07	80.35	-0.0176	0.3208	-0.0002
181	SLE FR 6	7.32	0.07	82.27	-0.0186	0.3378	-0.0002
181	SLE QP 1	6.51	0.06	75.89	-0.0167	0.3007	-0.0001
181	SLE QP 2	7	0.07	79.72	-0.0178	0.323	-0.0002
181	SLD 1	20.17	0.23	83.41	-0.1426	0.9439	0.0002
181	SLD 2	20.17	0.23	83.41	-0.1426	0.9439	0.0002
181	SLD 3	21.11	0.1	86.91	-0.0301	0.989	-0.0001
181	SLD 4	21.11	0.1	86.91	-0.0301	0.989	-0.0001
181	SLD 5	9.52	0.31	75.51	-0.2259	0.4408	0.0005
181	SLD 6	9.52	0.31	75.51	-0.2259	0.4408	0.0005
181	SLD 7	12.67	-0.12	87.2	0.1491	0.5912	-0.0007
181	SLD 8	12.67	-0.12	87.2	0.1491	0.5912	-0.0007
181	SLD 9	1.33	0.25	72.24	-0.1848	0.0548	0.0004
181	SLD 10	1.33	0.25	72.24	-0.1848	0.0548	0.0004
181	SLD 11	4.48	-0.18	83.93	0.1903	0.2052	-0.0008
181	SLD 12	4.48	-0.18	83.93	0.1903	0.2052	-0.0008
181	SLD 13	-7.11	0.04	72.52	-0.0055	-0.343	-0.0002
181	SLD 14	-7.11	0.04	72.52	-0.0055	-0.343	-0.0002
181	SLD 15	-6.17	-0.09	76.03	0.107	-0.2979	-0.0005
181	SLD 16	-6.17	-0.09	76.03	0.107	-0.2979	-0.0005
181	SLV 1	37.8	0.45	88.29	-0.317	1.7754	0.0007
181	SLV 2	37.8	0.45	88.29	-0.317	1.7754	0.0007
181	SLV 3	40.05	0.14	96.85	-0.0443	1.8827	-0.0001
181	SLV 4	40.05	0.14	96.85	-0.0443	1.8827	-0.0001
181	SLV 5	12.82	0.65	69.3	-0.5211	0.5959	0.0014
181	SLV 6	12.82	0.65	69.3	-0.5211	0.5959	0.0014
181	SLV 7	20.34	-0.39	97.85	0.3878	0.9537	-0.0014
181	SLV 8	20.34	-0.39	97.85	0.3878	0.9537	-0.0014
181	SLV 9	-6.34	0.52	61.59	-0.4235	-0.3077	0.0011
181	SLV 10	-6.34	0.52	61.59	-0.4235	-0.3077	0.0011
181	SLV 11	1.18	-0.52	90.14	0.4855	0.0501	-0.0017
181	SLV 12	1.18	-0.52	90.14	0.4855	0.0501	-0.0017



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
181	SLV 13	-26.05	0	62.58	0.0086	-1.2367	-0.0002
181	SLV 14	-26.05	0	62.58	0.0086	-1.2367	-0.0002
181	SLV 15	-23.8	-0.32	71.15	0.2813	-1.1294	-0.001
181	SLV 16	-23.8	-0.32	71.15	0.2813	-1.1294	-0.001
182	SLU 1	3.9	0.02	73.99	-0.0068	0.16	0
182	SLU 2	4.34	0.02	72.42	-0.0118	0.1781	0
182	SLU 3	3.8	0.02	77.17	-0.006	0.1552	0
182	SLU 4	4.07	0.02	76.23	-0.0091	0.166	0
182	SLU 5	4.05	0.02	74.71	-0.0108	0.1646	0
182	SLU 6	3.51	0.02	79.47	-0.005	0.1418	0
182	SLU 7	3.77	0.02	78.53	-0.008	0.1526	0
182	SLU 8	3.32	0.02	78.58	-0.0047	0.1332	0
182	SLU 9	3.58	0.02	77.64	-0.0077	0.144	0
182	SLU 10	5.63	0.03	86.2	-0.0139	0.233	0
182	SLU 11	5.09	0.02	90.96	-0.0081	0.2102	0
182	SLU 12	5.36	0.03	90.01	-0.0112	0.221	0
182	SLU 13	5.34	0.03	88.5	-0.0129	0.2196	0
182	SLU 14	4.8	0.02	93.25	-0.0071	0.1968	0
182	SLU 15	5.06	0.03	92.31	-0.0101	0.2076	0
182	SLU 16	4.61	0.02	92.36	-0.0068	0.1882	0
182	SLU 17	4.87	0.03	91.42	-0.0098	0.199	0
182	SLU 18	5.74	0.02	93.68	-0.0098	0.2386	0
182	SLU 19	6	0.03	92.74	-0.0128	0.2494	0
182	SLU 20	5.45	0.02	95.98	-0.0087	0.2251	0
182	SLU 21	5.71	0.03	95.03	-0.0117	0.236	0
182	SLU 22	4.54	0.02	86.5	-0.008	0.1861	0
182	SLU 23	4.97	0.03	84.93	-0.013	0.2041	0
182	SLU 24	4.44	0.02	89.68	-0.0073	0.1813	0
182	SLU 25	4.7	0.02	88.74	-0.0103	0.1921	0
182	SLU 26	4.68	0.03	87.22	-0.012	0.1907	0
182	SLU 27	4.15	0.02	91.98	-0.0062	0.1678	0
182	SLU 28	4.41	0.02	91.03	-0.0092	0.1787	0
182	SLU 29	3.96	0.02	91.09	-0.0059	0.1593	0
182	SLU 30	4.22	0.02	90.15	-0.0089	0.1701	0
182	SLU 31	6.26	0.03	98.71	-0.0151	0.2591	0
182	SLU 32	5.73	0.03	103.46	-0.0093	0.2362	0
182	SLU 33	5.99	0.03	102.52	-0.0124	0.247	0
182	SLU 34	5.97	0.03	101	-0.0141	0.2456	0
182	SLU 35	5.44	0.03	105.76	-0.0083	0.2228	0
182	SLU 36	5.7	0.03	104.82	-0.0113	0.2336	0
182	SLU 37	5.24	0.03	104.87	-0.008	0.2142	0
182	SLU 38	5.51	0.03	103.93	-0.011	0.225	0
182	SLU 39	6.38	0.03	106.19	-0.011	0.2646	0
182	SLU 40	6.64	0.03	105.24	-0.014	0.2754	0
182	SLU 41	6.09	0.03	108.48	-0.0099	0.2512	0
182	SLU 42	6.35	0.03	107.54	-0.013	0.262	0
182	SLU 43	4.85	0.02	91.9	-0.0084	0.1991	0
182	SLU 44	5.29	0.03	90.33	-0.0135	0.2171	0
182	SLU 45	4.75	0.02	95.08	-0.0077	0.1943	0
182	SLU 46	5.02	0.03	94.14	-0.0107	0.2051	0
182	SLU 47	5	0.03	92.62	-0.0124	0.2037	0
182	SLU 48	4.46	0.02	97.38	-0.0066	0.1809	0
182	SLU 49	4.73	0.03	96.44	-0.0096	0.1917	0
182	SLU 50	4.27	0.02	96.49	-0.0063	0.1723	0
182	SLU 51	4.53	0.03	95.55	-0.0093	0.1831	0
182	SLU 52	6.58	0.03	104.11	-0.0155	0.2721	0
182	SLU 53	6.04	0.03	108.87	-0.0097	0.2493	0
182	SLU 54	6.31	0.03	107.92	-0.0128	0.2601	0
182	SLU 55	6.29	0.03	106.41	-0.0145	0.2587	0
182	SLU 56	5.75	0.03	111.16	-0.0087	0.2359	0
182	SLU 57	6.02	0.03	110.22	-0.0117	0.2467	0
182	SLU 58	5.56	0.03	110.27	-0.0084	0.2273	0
182	SLU 59	5.82	0.03	109.33	-0.0114	0.2381	0
182	SLU 60	6.69	0.03	111.59	-0.0114	0.2776	0
182	SLU 61	6.96	0.03	110.65	-0.0144	0.2884	0
182	SLU 62	6.4	0.03	113.89	-0.0103	0.2642	0
182	SLU 63	6.66	0.03	112.94	-0.0134	0.275	0
182	SLU 64	5.49	0.03	104.41	-0.0096	0.2252	0
182	SLU 65	5.93	0.03	102.84	-0.0147	0.2432	0
182	SLU 66	5.39	0.03	107.59	-0.0089	0.2203	0
182	SLU 67	5.65	0.03	106.65	-0.0119	0.2311	0
182	SLU 68	5.63	0.03	105.13	-0.0136	0.2298	0
182	SLU 69	5.1	0.03	109.89	-0.0078	0.2069	0
182	SLU 70	5.36	0.03	108.94	-0.0108	0.2177	0
182	SLU 71	4.91	0.03	109	-0.0075	0.1983	0
182	SLU 72	5.17	0.03	108.06	-0.0105	0.2091	0
182	SLU 73	7.21	0.04	116.62	-0.0168	0.2981	0
182	SLU 74	6.68	0.03	121.37	-0.011	0.2753	0
182	SLU 75	6.94	0.03	120.43	-0.014	0.2861	0
182	SLU 76	6.92	0.03	118.91	-0.0157	0.2847	0
182	SLU 77	6.39	0.03	123.67	-0.0099	0.2619	0
182	SLU 78	6.65	0.03	122.72	-0.0129	0.2727	0
182	SLU 79	6.2	0.03	122.78	-0.0096	0.2533	0
182	SLU 80	6.46	0.03	121.84	-0.0126	0.2641	0
182	SLU 81	7.33	0.03	124.1	-0.0126	0.3037	0
182	SLU 82	7.59	0.04	123.15	-0.0156	0.3145	0
182	SLU 83	7.04	0.03	126.39	-0.0116	0.2903	0
182	SLU 84	7.3	0.03	125.45	-0.0146	0.3011	0
182	SLE RA 1	4.08	0.02	77.57	-0.0071	0.1675	0
182	SLE RA 2	4.37	0.02	76.52	-0.0105	0.1795	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
182	SLE RA 3	4.02	0.02	79.69	-0.0066	0.1643	0
182	SLE RA 4	4.19	0.02	79.06	-0.0087	0.1715	0
182	SLE RA 5	4.18	0.02	78.05	-0.0098	0.1705	0
182	SLE RA 6	3.82	0.02	81.22	-0.0059	0.1553	0
182	SLE RA 7	4	0.02	80.59	-0.0079	0.1625	0
182	SLE RA 8	3.69	0.02	80.63	-0.0057	0.1496	0
182	SLE RA 9	3.87	0.02	80	-0.0077	0.1568	0
182	SLE RA 10	5.23	0.03	85.7	-0.0119	0.2161	0
182	SLE RA 11	4.88	0.02	88.88	-0.008	0.2009	0
182	SLE RA 12	5.05	0.02	88.25	-0.01	0.2081	0
182	SLE RA 13	5.04	0.03	87.23	-0.0112	0.2072	0
182	SLE RA 14	4.68	0.02	90.41	-0.0073	0.192	0
182	SLE RA 15	4.86	0.02	89.78	-0.0093	0.1992	0
182	SLE RA 16	4.55	0.02	89.81	-0.0071	0.1862	0
182	SLE RA 17	4.73	0.02	89.18	-0.0091	0.1934	0
182	SLE RA 18	5.31	0.02	90.69	-0.0091	0.2198	0
182	SLE RA 19	5.48	0.03	90.06	-0.0111	0.227	0
182	SLE RA 20	5.12	0.02	92.22	-0.0084	0.2109	0
182	SLE RA 21	5.29	0.03	91.59	-0.0104	0.2181	0
182	SLE FR 1	4.08	0.02	77.57	-0.0071	0.1675	0
182	SLE FR 2	4.14	0.02	77.36	-0.0078	0.1699	0
182	SLE FR 3	4	0.02	78.18	-0.0069	0.1639	0
182	SLE FR 4	4.51	0.02	81.29	-0.0084	0.1856	0
182	SLE FR 5	4.37	0.02	82.11	-0.0075	0.1796	0
182	SLE FR 6	4.69	0.02	84.13	-0.0081	0.1936	0
182	SLE QP 1	4.08	0.02	77.57	-0.0071	0.1675	0
182	SLE QP 2	4.45	0.02	81.5	-0.0077	0.1832	0
182	SLD 1	18.07	0.23	77.87	-0.1749	0.826	0.0004
182	SLD 2	18.07	0.23	77.87	-0.1749	0.826	0.0004
182	SLD 3	19.04	0.04	80.86	-0.022	0.871	0
182	SLD 4	19.04	0.04	80.86	-0.022	0.871	0
182	SLD 5	7.05	0.37	75.88	-0.2897	0.3078	0.0007
182	SLD 6	7.05	0.37	75.88	-0.2897	0.3078	0.0007
182	SLD 7	10.31	-0.26	85.84	0.2198	0.4577	-0.0006
182	SLD 8	10.31	-0.26	85.84	0.2198	0.4577	-0.0006
182	SLD 9	-1.41	0.3	77.16	-0.2353	-0.0914	0.0006
182	SLD 10	-1.41	0.3	77.16	-0.2353	-0.0914	0.0006
182	SLD 11	1.84	-0.33	87.13	0.2742	0.0586	-0.0007
182	SLD 12	1.84	-0.33	87.13	0.2742	0.0586	-0.0007
182	SLD 13	-10.15	0	82.15	0.0066	-0.5046	0
182	SLD 14	-10.15	0	82.15	0.0066	-0.5046	0
182	SLD 15	-9.17	-0.19	85.14	0.1594	-0.4596	-0.0004
182	SLD 16	-9.17	-0.19	85.14	0.1594	-0.4596	-0.0004
182	SLV 1	36.31	0.52	72.55	-0.4077	1.6868	0.001
182	SLV 2	36.31	0.52	72.55	-0.4077	1.6868	0.001
182	SLV 3	38.63	0.06	79.88	-0.0378	1.794	0.0001
182	SLV 4	38.63	0.06	79.88	-0.0378	1.794	0.0001
182	SLV 5	10.47	0.86	67.71	-0.6887	0.4717	0.0017
182	SLV 6	10.47	0.86	67.71	-0.6887	0.4717	0.0017
182	SLV 7	18.24	-0.66	92.12	0.5442	0.829	-0.0013
182	SLV 8	18.24	-0.66	92.12	0.5442	0.829	-0.0013
182	SLV 9	-9.34	0.7	70.89	-0.5597	-0.4627	0.0014
182	SLV 10	-9.34	0.7	70.89	-0.5597	-0.4627	0.0014
182	SLV 11	-1.58	-0.82	95.29	0.6732	-0.1053	-0.0016
182	SLV 12	-1.58	-0.82	95.29	0.6732	-0.1053	-0.0016
182	SLV 13	-29.74	-0.02	83.13	0.0223	-1.4277	0
182	SLV 14	-29.74	-0.02	83.13	0.0223	-1.4277	0
182	SLV 15	-27.41	-0.48	90.45	0.3922	-1.3205	-0.0009
182	SLV 16	-27.41	-0.48	90.45	0.3922	-1.3205	-0.0009
183	SLU 1	2.26	0	75.54	0.0003	0.1034	0
183	SLU 2	2.64	0	74.36	-0.0034	0.119	0
183	SLU 3	2.1	0	78.71	0.0016	0.0967	0
183	SLU 4	2.33	0	78	-0.0006	0.106	0
183	SLU 5	2.31	0	76.6	-0.0019	0.1045	0
183	SLU 6	1.77	0	80.95	0.0031	0.0822	0
183	SLU 7	2	0	80.24	0.0009	0.0916	0
183	SLU 8	1.6	0	80.03	0.0033	0.0744	0
183	SLU 9	1.83	0	79.32	0.0011	0.0838	0
183	SLU 10	3.63	0	88.54	-0.0042	0.1634	0
183	SLU 11	3.08	0	92.89	0.0008	0.1411	0
183	SLU 12	3.31	0	92.18	-0.0014	0.1505	0
183	SLU 13	3.3	0	90.78	-0.0026	0.149	0
183	SLU 14	2.75	0	95.13	0.0023	0.1266	0
183	SLU 15	2.98	0	94.42	0.0001	0.136	0
183	SLU 16	2.58	0	94.21	0.0026	0.1189	0
183	SLU 17	2.81	0	93.5	0.0004	0.1282	0
183	SLU 18	3.66	0	95.8	-0.0008	0.1669	0
183	SLU 19	3.89	0	95.09	-0.003	0.1762	0
183	SLU 20	3.33	0	98.05	0.0007	0.1524	0
183	SLU 21	3.56	0	97.33	-0.0015	0.1618	0
183	SLU 22	2.62	0	88.29	0.0004	0.1201	0
183	SLU 23	3	0	87.1	-0.0033	0.1357	0
183	SLU 24	2.46	0	91.45	0.0017	0.1134	0
183	SLU 25	2.69	0	90.74	-0.0005	0.1227	0
183	SLU 26	2.67	0	89.34	-0.0017	0.1212	0
183	SLU 27	2.13	0	93.7	0.0032	0.0989	0
183	SLU 28	2.36	0	92.98	0.001	0.1083	0
183	SLU 29	1.96	0	92.77	0.0034	0.0911	0
183	SLU 30	2.19	0	92.06	0.0012	0.1005	0
183	SLU 31	3.99	0	101.28	-0.004	0.1802	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
183	SLU 32		3.44	0	105.63	0.0009	0.1578	0
183	SLU 33		3.67	0	104.92	-0.0013	0.1672	0
183	SLU 34		3.66	0	103.52	-0.0025	0.1657	0
183	SLU 35		3.11	0	107.88	0.0024	0.1433	0
183	SLU 36		3.34	0	107.16	0.0002	0.1527	0
183	SLU 37		2.94	0	106.95	0.0027	0.1356	0
183	SLU 38		3.17	0	106.24	0.0005	0.145	0
183	SLU 39		4.02	0	108.54	-0.0007	0.1836	0
183	SLU 40		4.25	0	107.83	-0.0029	0.193	0
183	SLU 41		3.69	0	110.79	0.0008	0.1691	0
183	SLU 42		3.92	0	110.08	-0.0014	0.1785	0
183	SLU 43		2.81	0	93.84	0.0003	0.1286	0
183	SLU 44		3.2	0	92.65	-0.0033	0.1443	0
183	SLU 45		2.65	0	97	0.0016	0.1219	0
183	SLU 46		2.88	0	96.29	-0.0006	0.1313	0
183	SLU 47		2.87	0	94.9	-0.0018	0.1298	0
183	SLU 48		2.32	0	99.25	0.0031	0.1075	0
183	SLU 49		2.56	0	98.54	0.0009	0.1168	0
183	SLU 50		2.15	0	98.33	0.0034	0.0997	0
183	SLU 51		2.38	0	97.61	0.0012	0.1091	0
183	SLU 52		4.18	0	106.83	-0.0041	0.1887	0
183	SLU 53		3.63	0	111.19	0.0008	0.1664	0
183	SLU 54		3.87	0	110.47	-0.0014	0.1758	0
183	SLU 55		3.85	0	109.08	-0.0026	0.1742	0
183	SLU 56		3.31	0	113.43	0.0024	0.1519	0
183	SLU 57		3.54	0	112.72	0.0002	0.1613	0
183	SLU 58		3.13	0	112.51	0.0026	0.1441	0
183	SLU 59		3.37	0	111.79	0.0004	0.1535	0
183	SLU 60		4.21	0	114.1	-0.0008	0.1921	0
183	SLU 61		4.45	0	113.38	-0.003	0.2015	0
183	SLU 62		3.88	0	116.34	0.0008	0.1777	0
183	SLU 63		4.12	0	115.63	-0.0014	0.187	0
183	SLU 64		3.17	0	106.58	0.0004	0.1453	0
183	SLU 65		3.56	0	105.39	-0.0032	0.161	0
183	SLU 66		3.01	0	109.75	0.0017	0.1386	0
183	SLU 67		3.24	0	109.03	-0.0005	0.148	0
183	SLU 68		3.23	0	107.64	-0.0017	0.1465	0
183	SLU 69		2.68	0	111.99	0.0032	0.1242	0
183	SLU 70		2.91	0	111.28	0.001	0.1335	0
183	SLU 71		2.51	0	111.07	0.0035	0.1164	0
183	SLU 72		2.74	0	110.36	0.0013	0.1258	0
183	SLU 73		4.54	0	119.57	-0.004	0.2054	0
183	SLU 74		3.99	0	123.93	0.001	0.1831	0
183	SLU 75		4.23	0	123.22	-0.0012	0.1925	0
183	SLU 76		4.21	0	121.82	-0.0025	0.191	0
183	SLU 77		3.66	0	126.17	0.0025	0.1686	0
183	SLU 78		3.9	0	125.46	0.0003	0.178	0
183	SLU 79		3.49	0	125.25	0.0027	0.1608	0
183	SLU 80		3.73	0	124.54	0.0005	0.1702	0
183	SLU 81		4.57	0	126.84	-0.0007	0.2089	0
183	SLU 82		4.81	0	126.13	-0.0029	0.2182	0
183	SLU 83		4.24	0	129.08	0.0009	0.1944	0
183	SLU 84		4.48	0	128.37	-0.0013	0.2038	0
183	SLE RA 1		2.36	0	79.19	0.0003	0.1081	0
183	SLE RA 2		2.62	0	78.39	-0.0021	0.1186	0
183	SLE RA 3		2.25	0	81.3	0.0012	0.1037	0
183	SLE RA 4		2.41	0	80.82	-0.0003	0.1099	0
183	SLE RA 5		2.4	0	79.89	-0.0011	0.1089	0
183	SLE RA 6		2.03	0	82.79	0.0022	0.094	0
183	SLE RA 7		2.19	0	82.32	0.0007	0.1003	0
183	SLE RA 8		1.92	0	82.18	0.0023	0.0888	0
183	SLE RA 9		2.07	0	81.7	0.0009	0.0951	0
183	SLE RA 10		3.27	0	87.85	-0.0026	0.1482	0
183	SLE RA 11		2.91	0	90.75	0.0007	0.1333	0
183	SLE RA 12		3.06	0	90.27	-0.0008	0.1396	0
183	SLE RA 13		3.05	0	89.34	-0.0016	0.1385	0
183	SLE RA 14		2.69	0	92.25	0.0017	0.1236	0
183	SLE RA 15		2.84	0	91.77	0.0002	0.1299	0
183	SLE RA 16		2.57	0	91.63	0.0018	0.1185	0
183	SLE RA 17		2.73	0	91.16	0.0004	0.1247	0
183	SLE RA 18		3.29	0	92.69	-0.0004	0.1505	0
183	SLE RA 19		3.45	0	92.22	-0.0019	0.1567	0
183	SLE RA 20		3.08	0	94.19	0.0006	0.1408	0
183	SLE RA 21		3.23	0	93.71	-0.0009	0.1471	0
183	SLE FR 1		2.36	0	79.19	0.0003	0.1081	0
183	SLE FR 2		2.41	0	79.03	-0.0002	0.1102	0
183	SLE FR 3		2.27	0	79.78	0.0007	0.1043	0
183	SLE FR 4		2.69	0	83.08	-0.0004	0.1229	0
183	SLE FR 5		2.55	0	83.83	0.0005	0.117	0
183	SLE FR 6		2.83	0	85.94	-0.0001	0.1293	0
183	SLE QP 1		2.36	0	79.19	0.0003	0.1081	0
183	SLE QP 2		2.64	0	83.24	0.0001	0.1208	0
183	SLD 1		16.06	0.25	78.93	-0.1895	0.755	0.0003
183	SLD 2		16.06	0.25	78.93	-0.1895	0.755	0.0003
183	SLD 3		17.04	0.02	81.69	-0.0165	0.8013	0.0001
183	SLD 4		17.04	0.02	81.69	-0.0165	0.8013	0.0001
183	SLD 5		5.17	0.42	77.76	-0.3192	0.2409	0.0006
183	SLD 6		5.17	0.42	77.76	-0.3192	0.2409	0.0006
183	SLD 7		8.45	-0.34	86.96	0.2576	0.3952	-0.0004
183	SLD 8		8.45	-0.34	86.96	0.2576	0.3952	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
183	SLD 9			-3.17	0.34	79.51	-0.2574	-0.1535	0.0005
183	SLD 10			-3.17	0.34	79.51	-0.2574	-0.1535	0.0005
183	SLD 11			0.11	-0.42	88.72	0.3194	0.0008	-0.0005
183	SLD 12			0.11	-0.42	88.72	0.3194	0.0008	-0.0005
183	SLD 13			-11.76	-0.02	84.78	0.0167	-0.5596	0
183	SLD 14			-11.76	-0.02	84.78	0.0167	-0.5596	0
183	SLD 15			-10.78	-0.25	87.54	0.1897	-0.5134	-0.0003
183	SLD 16			-10.78	-0.25	87.54	0.1897	-0.5134	-0.0003
183	SLV 1			34.03	0.6	72.78	-0.453	1.6043	0.0008
183	SLV 2			34.03	0.6	72.78	-0.453	1.6043	0.0008
183	SLV 3			36.37	0.05	79.55	-0.0347	1.7145	0.0001
183	SLV 4			36.37	0.05	79.55	-0.0347	1.7145	0.0001
183	SLV 5			8.5	1.01	69.84	-0.7702	0.3988	0.0013
183	SLV 6			8.5	1.01	69.84	-0.7702	0.3988	0.0013
183	SLV 7			16.32	-0.82	92.39	0.624	0.766	-0.001
183	SLV 8			16.32	-0.82	92.39	0.624	0.766	-0.001
183	SLV 9			-11.04	0.82	74.08	-0.6238	-0.5244	0.0011
183	SLV 10			-11.04	0.82	74.08	-0.6238	-0.5244	0.0011
183	SLV 11			-3.22	-1.01	96.64	0.7703	-0.1571	-0.0013
183	SLV 12			-3.22	-1.01	96.64	0.7703	-0.1571	-0.0013
183	SLV 13			-31.09	-0.05	86.93	0.0349	-1.4728	0
183	SLV 14			-31.09	-0.05	86.93	0.0349	-1.4728	0
183	SLV 15			-28.75	-0.6	93.7	0.4532	-1.3627	-0.0008
183	SLV 16			-28.75	-0.6	93.7	0.4532	-1.3627	-0.0008
184	SLU 1			0.04	0	77.29	0.0028	-0.0173	0
184	SLU 2			0.39	0	76.38	0.0002	-0.0023	0
184	SLU 3			-0.2	-0.01	80.48	0.0046	-0.0288	0
184	SLU 4			0.02	0	79.94	0.0031	-0.0198	0
184	SLU 5			0.02	0	78.62	0.0023	-0.0197	0
184	SLU 6			-0.57	-0.01	82.72	0.0067	-0.0461	0
184	SLU 7			-0.35	-0.01	82.17	0.0051	-0.0371	0
184	SLU 8			-0.7	-0.01	81.76	0.0069	-0.0521	0
184	SLU 9			-0.49	-0.01	81.22	0.0054	-0.0431	0
184	SLU 10			0.93	0	90.99	-0.0001	0.018	0
184	SLU 11			0.34	0	95.09	0.0043	-0.0084	0
184	SLU 12			0.55	0	94.54	0.0027	0.0006	0
184	SLU 13			0.56	0	93.23	0.002	0.0006	0
184	SLU 14			-0.03	-0.01	97.32	0.0063	-0.0258	0
184	SLU 15			0.18	-0.01	96.78	0.0048	-0.0168	0
184	SLU 16			-0.17	-0.01	96.37	0.0066	-0.0317	0
184	SLU 17			0.05	-0.01	95.83	0.0051	-0.0227	0
184	SLU 18			0.8	0	98.16	0.0023	0.0117	0
184	SLU 19			1.02	0	97.61	0.0008	0.0207	0
184	SLU 20			0.43	-0.01	100.4	0.0044	-0.0057	0
184	SLU 21			0.65	0	99.85	0.0029	0.0033	0
184	SLU 22			0.02	0	90.33	0.0035	-0.0216	0
184	SLU 23			0.37	0	89.42	0.0009	-0.0066	0
184	SLU 24			-0.21	-0.01	93.51	0.0053	-0.033	0
184	SLU 25			0	0	92.97	0.0037	-0.024	0
184	SLU 26			0	0	91.66	0.003	-0.0239	0
184	SLU 27			-0.58	-0.01	95.75	0.0074	-0.0504	0
184	SLU 28			-0.37	-0.01	95.21	0.0058	-0.0414	0
184	SLU 29			-0.72	-0.01	94.8	0.0076	-0.0563	0
184	SLU 30			-0.51	-0.01	94.25	0.0061	-0.0473	0
184	SLU 31			0.91	0	104.03	0.0006	0.0137	0
184	SLU 32			0.32	-0.01	108.12	0.005	-0.0127	0
184	SLU 33			0.53	0	107.58	0.0034	-0.0037	0
184	SLU 34			0.54	0	106.26	0.0027	-0.0036	0
184	SLU 35			-0.05	-0.01	110.36	0.007	-0.0301	0
184	SLU 36			0.16	-0.01	109.81	0.0055	-0.0211	0
184	SLU 37			-0.18	-0.01	109.41	0.0073	-0.036	0
184	SLU 38			0.03	-0.01	108.86	0.0058	-0.027	0
184	SLU 39			0.79	0	111.19	0.003	0.0074	0
184	SLU 40			1	0	110.65	0.0015	0.0164	0
184	SLU 41			0.42	-0.01	113.43	0.0051	-0.0099	0
184	SLU 42			0.63	0	112.89	0.0036	-0.0009	0
184	SLU 43			0.06	0	96.01	0.0034	-0.021	0
184	SLU 44			0.41	0	95.1	0.0008	-0.006	0
184	SLU 45			-0.18	-0.01	99.2	0.0052	-0.0325	0
184	SLU 46			0.03	0	98.65	0.0037	-0.0235	0
184	SLU 47			0.04	0	97.34	0.0029	-0.0234	0
184	SLU 48			-0.55	-0.01	101.43	0.0073	-0.0499	0
184	SLU 49			-0.34	-0.01	100.89	0.0057	-0.0409	0
184	SLU 50			-0.68	-0.01	100.48	0.0075	-0.0558	0
184	SLU 51			-0.47	-0.01	99.94	0.006	-0.0468	0
184	SLU 52			0.95	0	109.71	0.0005	0.0143	0
184	SLU 53			0.36	-0.01	113.8	0.0049	-0.0122	0
184	SLU 54			0.57	0	113.26	0.0033	-0.0032	0
184	SLU 55			0.58	0	111.95	0.0026	-0.0031	0
184	SLU 56			-0.01	-0.01	116.04	0.0069	-0.0296	0
184	SLU 57			0.2	-0.01	115.5	0.0054	-0.0205	0
184	SLU 58			-0.15	-0.01	115.09	0.0072	-0.0355	0
184	SLU 59			0.06	-0.01	114.55	0.0057	-0.0265	0
184	SLU 60			0.82	0	116.88	0.0029	0.008	0
184	SLU 61			1.03	0	116.33	0.0014	0.017	0
184	SLU 62			0.45	-0.01	119.11	0.005	-0.0094	0
184	SLU 63			0.66	0	118.57	0.0035	-0.0004	0
184	SLU 64			0.04	-0.01	109.04	0.0041	-0.0253	0
184	SLU 65			0.39	0	108.14	0.0015	-0.0103	0
184	SLU 66			-0.2	-0.01	112.23	0.0059	-0.0368	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
184	SLU 67	0.02	-0.01	111.69	0.0043	-0.0278	0
184	SLU 68	0.02	-0.01	110.37	0.0036	-0.0277	0
184	SLU 69	-0.57	-0.01	114.47	0.008	-0.0541	0
184	SLU 70	-0.35	-0.01	113.92	0.0064	-0.0451	0
184	SLU 71	-0.7	-0.01	113.52	0.0082	-0.0601	0
184	SLU 72	-0.49	-0.01	112.97	0.0067	-0.0511	0
184	SLU 73	0.93	0	122.74	0.0012	0.01	0
184	SLU 74	0.34	-0.01	126.84	0.0056	-0.0165	0
184	SLU 75	0.55	-0.01	126.3	0.004	-0.0074	0
184	SLU 76	0.56	0	124.98	0.0033	-0.0074	0
184	SLU 77	-0.03	-0.01	129.08	0.0076	-0.0338	0
184	SLU 78	0.18	-0.01	128.53	0.0061	-0.0248	0
184	SLU 79	-0.17	-0.01	128.12	0.0079	-0.0397	0
184	SLU 80	0.05	-0.01	127.58	0.0064	-0.0307	0
184	SLU 81	0.8	-0.01	129.91	0.0036	0.0037	0
184	SLU 82	1.02	0	129.37	0.0021	0.0127	0
184	SLU 83	0.43	-0.01	132.15	0.0057	-0.0137	0
184	SLU 84	0.65	-0.01	131.6	0.0042	-0.0047	0
184	SLE RA 1	0.03	0	81.02	0.003	-0.0185	0
184	SLE RA 2	0.27	0	80.41	0.0013	-0.0085	0
184	SLE RA 3	-0.12	0	83.14	0.0042	-0.0262	0
184	SLE RA 4	0.02	0	82.78	0.0032	-0.0202	0
184	SLE RA 5	0.02	0	81.9	0.0027	-0.0201	0
184	SLE RA 6	-0.37	-0.01	84.63	0.0056	-0.0377	0
184	SLE RA 7	-0.23	-0.01	84.27	0.0046	-0.0317	0
184	SLE RA 8	-0.46	-0.01	84	0.0058	-0.0417	0
184	SLE RA 9	-0.32	-0.01	83.63	0.0047	-0.0357	0
184	SLE RA 10	0.63	0	90.15	0.0011	0.005	0
184	SLE RA 11	0.23	0	92.88	0.004	-0.0126	0
184	SLE RA 12	0.38	0	92.52	0.003	-0.0066	0
184	SLE RA 13	0.38	0	91.64	0.0025	-0.0066	0
184	SLE RA 14	-0.01	-0.01	94.37	0.0054	-0.0242	0
184	SLE RA 15	0.13	0	94.01	0.0043	-0.0182	0
184	SLE RA 16	-0.1	-0.01	93.74	0.0055	-0.0282	0
184	SLE RA 17	0.04	-0.01	93.37	0.0045	-0.0221	0
184	SLE RA 18	0.54	0	94.93	0.0027	0.0008	0
184	SLE RA 19	0.69	0	94.56	0.0017	0.0068	0
184	SLE RA 20	0.3	0	96.42	0.0041	-0.0108	0
184	SLE RA 21	0.44	0	96.06	0.0031	-0.0048	0
184	SLE FR 1	0.03	0	81.02	0.003	-0.0185	0
184	SLE FR 2	0.08	0	80.89	0.0026	-0.0165	0
184	SLE FR 3	-0.06	0	81.61	0.0035	-0.0232	0
184	SLE FR 4	0.23	0	85.07	0.0026	-0.0107	0
184	SLE FR 5	0.09	0	85.78	0.0035	-0.0174	0
184	SLE FR 6	0.29	0	87.97	0.0028	-0.0089	0
184	SLE QP 1	0.03	0	81.02	0.003	-0.0185	0
184	SLE QP 2	0.19	0	85.19	0.0029	-0.0127	0
184	SLD 1	12.85	0.24	76.46	-0.1786	0.5955	0.0002
184	SLD 2	12.85	0.24	76.46	-0.1786	0.5955	0.0002
184	SLD 3	13.76	0.02	79.15	-0.0148	0.6376	0.0001
184	SLD 4	13.76	0.02	79.15	-0.0148	0.6376	0.0001
184	SLD 5	2.6	0.41	78.49	-0.2999	0.1059	0.0004
184	SLD 6	2.6	0.41	78.49	-0.2999	0.1059	0.0004
184	SLD 7	5.64	-0.33	87.45	0.246	0.2462	-0.0002
184	SLD 8	5.64	-0.33	87.45	0.246	0.2462	-0.0002
184	SLD 9	-5.27	0.33	82.92	-0.2402	-0.2717	0.0003
184	SLD 10	-5.27	0.33	82.92	-0.2402	-0.2717	0.0003
184	SLD 11	-2.23	-0.42	91.89	0.3057	-0.1313	-0.0003
184	SLD 12	-2.23	-0.42	91.89	0.3057	-0.1313	-0.0003
184	SLD 13	-13.38	-0.03	91.23	0.0206	-0.663	0
184	SLD 14	-13.38	-0.03	91.23	0.0206	-0.663	0
184	SLD 15	-12.47	-0.25	93.92	0.1844	-0.6209	-0.0002
184	SLD 16	-12.47	-0.25	93.92	0.1844	-0.6209	-0.0002
184	SLV 1	29.8	0.58	64.49	-0.4302	1.4101	0.0005
184	SLV 2	29.8	0.58	64.49	-0.4302	1.4101	0.0005
184	SLV 3	31.97	0.05	71.07	-0.0347	1.5104	0.0001
184	SLV 4	31.97	0.05	71.07	-0.0347	1.5104	0.0001
184	SLV 5	5.78	0.99	69	-0.7268	0.2621	0.0008
184	SLV 6	5.78	0.99	69	-0.7268	0.2621	0.0008
184	SLV 7	13.02	-0.8	90.93	0.5914	0.5963	-0.0006
184	SLV 8	13.02	-0.8	90.93	0.5914	0.5963	-0.0006
184	SLV 9	-12.64	0.79	79.44	-0.5856	-0.6217	0.0007
184	SLV 10	-12.64	0.79	79.44	-0.5856	-0.6217	0.0007
184	SLV 11	-5.4	-0.99	101.38	0.7326	-0.2875	-0.0008
184	SLV 12	-5.4	-0.99	101.38	0.7326	-0.2875	-0.0008
184	SLV 13	-31.6	-0.06	99.31	0.0405	-1.5358	-0.0001
184	SLV 14	-31.6	-0.06	99.31	0.0405	-1.5358	-0.0001
184	SLV 15	-29.42	-0.59	105.89	0.436	-1.4356	-0.0005
184	SLV 16	-29.42	-0.59	105.89	0.436	-1.4356	-0.0005
185	SLU 1	-3.02	0	78.86	0.0025	-0.1322	0
185	SLU 2	-2.71	0	78.15	0.0011	-0.1188	0
185	SLU 3	-3.35	0	82.11	0.0049	-0.1473	0
185	SLU 4	-3.16	0	81.69	0.0041	-0.1392	0
185	SLU 5	-3.12	0	80.44	0.0039	-0.1378	0
185	SLU 6	-3.76	-0.01	84.4	0.0077	-0.1662	0
185	SLU 7	-3.57	-0.01	83.97	0.0068	-0.1582	0
185	SLU 8	-3.84	-0.01	83.43	0.0081	-0.1701	0
185	SLU 9	-3.65	-0.01	83.01	0.0072	-0.1621	0
185	SLU 10	-2.82	0	93.1	0.0007	-0.1225	0
185	SLU 11	-3.46	0	97.05	0.0045	-0.151	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
185	SLU 12	-3.28	0	96.63	0.0037	-0.1429	0
185	SLU 13	-3.23	0	95.39	0.0035	-0.1415	0
185	SLU 14	-3.87	-0.01	99.34	0.0073	-0.1699	0
185	SLU 15	-3.69	-0.01	98.92	0.0064	-0.1619	0
185	SLU 16	-3.95	-0.01	98.38	0.0077	-0.1739	0
185	SLU 17	-3.77	-0.01	97.96	0.0068	-0.1658	0
185	SLU 18	-3.18	0	100.21	0.002	-0.1375	0
185	SLU 19	-2.99	0	99.79	0.0011	-0.1295	0
185	SLU 20	-3.59	0	102.5	0.0047	-0.1565	0
185	SLU 21	-3.4	0	102.08	0.0039	-0.1484	0
185	SLU 22	-3.56	0	92.18	0.0034	-0.1559	0
185	SLU 23	-3.24	0	91.48	0.0019	-0.1424	0
185	SLU 24	-3.89	-0.01	95.43	0.0058	-0.1709	0
185	SLU 25	-3.7	0	95.01	0.0049	-0.1628	0
185	SLU 26	-3.65	0	93.76	0.0047	-0.1614	0
185	SLU 27	-4.3	-0.01	97.72	0.0085	-0.1898	0
185	SLU 28	-4.11	-0.01	97.3	0.0077	-0.1818	0
185	SLU 29	-4.38	-0.01	96.76	0.0089	-0.1938	0
185	SLU 30	-4.19	-0.01	96.33	0.0081	-0.1857	0
185	SLU 31	-3.36	0	106.42	0.0015	-0.1462	0
185	SLU 32	-4	0	110.38	0.0053	-0.1746	0
185	SLU 33	-3.81	0	109.95	0.0045	-0.1666	0
185	SLU 34	-3.77	0	108.71	0.0043	-0.1651	0
185	SLU 35	-4.41	-0.01	112.67	0.0081	-0.1936	0
185	SLU 36	-4.22	-0.01	112.24	0.0073	-0.1855	0
185	SLU 37	-4.49	-0.01	111.7	0.0085	-0.1975	0
185	SLU 38	-4.3	-0.01	111.28	0.0077	-0.1894	0
185	SLU 39	-3.72	0	113.53	0.0028	-0.1612	0
185	SLU 40	-3.53	0	113.11	0.0019	-0.1531	0
185	SLU 41	-4.13	-0.01	115.82	0.0056	-0.1801	0
185	SLU 42	-3.94	0	115.4	0.0047	-0.1721	0
185	SLU 43	-3.74	0	97.95	0.003	-0.1638	0
185	SLU 44	-3.43	0	97.24	0.0016	-0.1504	0
185	SLU 45	-4.07	-0.01	101.2	0.0054	-0.1788	0
185	SLU 46	-3.88	0	100.77	0.0045	-0.1708	0
185	SLU 47	-3.84	0	99.53	0.0044	-0.1693	0
185	SLU 48	-4.48	-0.01	103.49	0.0082	-0.1978	0
185	SLU 49	-4.29	-0.01	103.06	0.0073	-0.1897	0
185	SLU 50	-4.56	-0.01	102.52	0.0086	-0.2017	0
185	SLU 51	-4.37	-0.01	102.1	0.0077	-0.1936	0
185	SLU 52	-3.54	0	112.19	0.0012	-0.1541	0
185	SLU 53	-4.19	0	116.14	0.005	-0.1825	0
185	SLU 54	-4	0	115.72	0.0041	-0.1745	0
185	SLU 55	-3.95	0	114.48	0.0039	-0.173	0
185	SLU 56	-4.6	-0.01	118.43	0.0078	-0.2015	0
185	SLU 57	-4.41	-0.01	118.01	0.0069	-0.1934	0
185	SLU 58	-4.68	-0.01	117.47	0.0082	-0.2054	0
185	SLU 59	-4.49	-0.01	117.05	0.0073	-0.1974	0
185	SLU 60	-3.91	0	119.3	0.0024	-0.1691	0
185	SLU 61	-3.72	0	118.88	0.0016	-0.161	0
185	SLU 62	-4.32	0	121.59	0.0052	-0.1881	0
185	SLU 63	-4.13	0	121.16	0.0044	-0.18	0
185	SLU 64	-4.28	0	111.27	0.0038	-0.1874	0
185	SLU 65	-3.97	0	110.56	0.0024	-0.174	0
185	SLU 66	-4.61	-0.01	114.52	0.0062	-0.2024	0
185	SLU 67	-4.42	-0.01	114.1	0.0054	-0.1944	0
185	SLU 68	-4.38	-0.01	112.85	0.0052	-0.193	0
185	SLU 69	-5.02	-0.01	116.81	0.009	-0.2214	0
185	SLU 70	-4.83	-0.01	116.39	0.0081	-0.2134	0
185	SLU 71	-5.1	-0.01	115.85	0.0094	-0.2253	0
185	SLU 72	-4.91	-0.01	115.42	0.0085	-0.2173	0
185	SLU 73	-4.08	0	125.51	0.002	-0.1777	0
185	SLU 74	-4.72	-0.01	129.47	0.0058	-0.2062	0
185	SLU 75	-4.53	-0.01	129.04	0.005	-0.1981	0
185	SLU 76	-4.49	0	127.8	0.0048	-0.1967	0
185	SLU 77	-5.13	-0.01	131.75	0.0086	-0.2251	0
185	SLU 78	-4.94	-0.01	131.33	0.0077	-0.2171	0
185	SLU 79	-5.21	-0.01	130.79	0.009	-0.2291	0
185	SLU 80	-5.02	-0.01	130.37	0.0081	-0.221	0
185	SLU 81	-4.44	0	132.62	0.0033	-0.1927	0
185	SLU 82	-4.25	0	132.2	0.0024	-0.1847	0
185	SLU 83	-4.85	-0.01	134.91	0.006	-0.2117	0
185	SLU 84	-4.66	-0.01	134.49	0.0052	-0.2036	0
185	SLE RA 1	-3.17	0	82.66	0.0028	-0.139	0
185	SLE RA 2	-2.96	0	82.19	0.0018	-0.13	0
185	SLE RA 3	-3.39	0	84.83	0.0044	-0.149	0
185	SLE RA 4	-3.27	0	84.55	0.0038	-0.1436	0
185	SLE RA 5	-3.24	0	83.72	0.0037	-0.1427	0
185	SLE RA 6	-3.67	-0.01	86.36	0.0062	-0.1616	0
185	SLE RA 7	-3.54	-0.01	86.07	0.0056	-0.1563	0
185	SLE RA 8	-3.72	-0.01	85.71	0.0065	-0.1643	0
185	SLE RA 9	-3.6	-0.01	85.43	0.0059	-0.1589	0
185	SLE RA 10	-3.04	0	92.16	0.0015	-0.1325	0
185	SLE RA 11	-3.47	0	94.79	0.0041	-0.1515	0
185	SLE RA 12	-3.34	0	94.51	0.0035	-0.1461	0
185	SLE RA 13	-3.31	0	93.68	0.0034	-0.1451	0
185	SLE RA 14	-3.74	-0.01	96.32	0.006	-0.1641	0
185	SLE RA 15	-3.62	-0.01	96.04	0.0054	-0.1587	0
185	SLE RA 16	-3.8	-0.01	95.68	0.0062	-0.1667	0
185	SLE RA 17	-3.67	-0.01	95.4	0.0056	-0.1614	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
185	SLE RA 18	-3.28	0	96.9	0.0024	-0.1425	0
185	SLE RA 19	-3.16	0	96.62	0.0018	-0.1372	0
185	SLE RA 20	-3.56	0	98.42	0.0042	-0.1552	0
185	SLE RA 21	-3.43	0	98.14	0.0037	-0.1498	0
185	SLE FR 1	-3.17	0	82.66	0.0028	-0.139	0
185	SLE FR 2	-3.13	0	82.57	0.0026	-0.1372	0
185	SLE FR 3	-3.28	0	83.27	0.0035	-0.144	0
185	SLE FR 4	-3.17	0	86.84	0.0025	-0.1382	0
185	SLE FR 5	-3.32	0	87.54	0.0034	-0.1451	0
185	SLE FR 6	-3.23	0	89.78	0.0026	-0.1407	0
185	SLE QP 1	-3.17	0	82.66	0.0028	-0.139	0
185	SLE QP 2	-3.21	0	86.93	0.0027	-0.14	0
185	SLD 1	8.27	0.2	71.17	-0.1371	0.437	0.0002
185	SLD 2	8.27	0.2	71.17	-0.1371	0.437	0.0002
185	SLD 3	9.06	0.02	73.84	-0.0134	0.4762	0
185	SLD 4	9.06	0.02	73.84	-0.0134	0.4762	0
185	SLD 5	-0.97	0.32	78.15	-0.227	-0.0263	0.0004
185	SLD 6	-0.97	0.32	78.15	-0.227	-0.0263	0.0004
185	SLD 7	1.68	-0.26	87.06	0.1856	0.1042	-0.0003
185	SLD 8	1.68	-0.26	87.06	0.1856	0.1042	-0.0003
185	SLD 9	-8.09	0.26	86.81	-0.1803	-0.3843	0.0003
185	SLD 10	-8.09	0.26	86.81	-0.1803	-0.3843	0.0003
185	SLD 11	-5.44	-0.33	95.72	0.2323	-0.2537	-0.0004
185	SLD 12	-5.44	-0.33	95.72	0.2323	-0.2537	-0.0004
185	SLD 13	-15.48	-0.03	100.03	0.0187	-0.7563	0
185	SLD 14	-15.48	-0.03	100.03	0.0187	-0.7563	0
185	SLD 15	-14.68	-0.2	102.7	0.1425	-0.7171	-0.0002
185	SLD 16	-14.68	-0.2	102.7	0.1425	-0.7171	-0.0002
185	SLV 1	23.63	0.47	49.8	-0.3302	1.21	0.0005
185	SLV 2	23.63	0.47	49.8	-0.3302	1.21	0.0005
185	SLV 3	25.53	0.05	56.33	-0.0322	1.3032	0.0001
185	SLV 4	25.53	0.05	56.33	-0.0322	1.3032	0.0001
185	SLV 5	1.97	0.78	65.88	-0.5491	0.1236	0.0009
185	SLV 6	1.97	0.78	65.88	-0.5491	0.1236	0.0009
185	SLV 7	8.29	-0.63	87.66	0.4442	0.4344	-0.0007
185	SLV 8	8.29	-0.63	87.66	0.4442	0.4344	-0.0007
185	SLV 9	-14.7	0.62	86.2	-0.4388	-0.7144	0.0007
185	SLV 10	-14.7	0.62	86.2	-0.4388	-0.7144	0.0007
185	SLV 11	-8.38	-0.79	107.99	0.5545	-0.4036	-0.0009
185	SLV 12	-8.38	-0.79	107.99	0.5545	-0.4036	-0.0009
185	SLV 13	-31.94	-0.06	117.54	0.0375	-1.5833	-0.0001
185	SLV 14	-31.94	-0.06	117.54	0.0375	-1.5833	-0.0001
185	SLV 15	-30.05	-0.48	124.07	0.3355	-1.4901	-0.0005
185	SLV 16	-30.05	-0.48	124.07	0.3355	-1.4901	-0.0005
186	SLU 1	-7.67	0	82.27	0.0009	-0.4193	0
186	SLU 2	-7.4	0	81.62	0.0008	-0.4064	0
186	SLU 3	-8.13	0	85.78	0.004	-0.4448	0
186	SLU 4	-7.98	0	85.39	0.004	-0.4371	0
186	SLU 5	-7.86	-0.01	84.19	0.0045	-0.4313	0
186	SLU 6	-8.59	-0.01	88.35	0.0077	-0.4697	0
186	SLU 7	-8.43	-0.01	87.96	0.0076	-0.462	0
186	SLU 8	-8.58	-0.01	87.41	0.0082	-0.4692	0
186	SLU 9	-8.43	-0.01	87.02	0.0082	-0.4614	0
186	SLU 10	-8.54	0	97.05	0.0001	-0.4695	0
186	SLU 11	-9.27	0	101.21	0.0033	-0.5078	0
186	SLU 12	-9.11	0	100.82	0.0032	-0.5001	0
186	SLU 13	-8.99	0	99.62	0.0037	-0.4944	0
186	SLU 14	-9.73	-0.01	103.78	0.0069	-0.5328	0
186	SLU 15	-9.57	-0.01	103.39	0.0069	-0.525	0
186	SLU 16	-9.72	-0.01	102.84	0.0075	-0.5322	0
186	SLU 17	-9.56	-0.01	102.45	0.0074	-0.5244	0
186	SLU 18	-9.29	0	104.31	-0.0001	-0.5094	0
186	SLU 19	-9.13	0	103.92	-0.0002	-0.5016	0
186	SLU 20	-9.74	0	106.89	0.0035	-0.5343	0
186	SLU 21	-9.59	0	106.5	0.0034	-0.5265	0
186	SLU 22	-8.99	0	96.24	0.0017	-0.4923	0
186	SLU 23	-8.73	0	95.59	0.0016	-0.4794	0
186	SLU 24	-9.46	0	99.75	0.0048	-0.5178	0
186	SLU 25	-9.3	-0.01	99.36	0.0047	-0.5101	0
186	SLU 26	-9.19	-0.01	98.16	0.0052	-0.5043	0
186	SLU 27	-9.92	-0.01	102.32	0.0085	-0.5427	0
186	SLU 28	-9.76	-0.01	101.93	0.0084	-0.535	0
186	SLU 29	-9.91	-0.01	101.38	0.009	-0.5421	0
186	SLU 30	-9.75	-0.01	100.99	0.0089	-0.5344	0
186	SLU 31	-9.86	0	111.02	0.0008	-0.5424	0
186	SLU 32	-10.59	0	115.18	0.004	-0.5808	0
186	SLU 33	-10.44	0	114.79	0.004	-0.5731	0
186	SLU 34	-10.32	0	113.59	0.0045	-0.5673	0
186	SLU 35	-11.05	-0.01	117.75	0.0077	-0.6057	0
186	SLU 36	-10.89	-0.01	117.36	0.0076	-0.598	0
186	SLU 37	-11.04	-0.01	116.81	0.0082	-0.6051	0
186	SLU 38	-10.89	-0.01	116.42	0.0082	-0.5974	0
186	SLU 39	-10.61	0	118.28	0.0006	-0.5823	0
186	SLU 40	-10.45	0	117.89	0.0005	-0.5746	0
186	SLU 41	-11.07	0	120.85	0.0043	-0.6072	0
186	SLU 42	-10.91	0	120.46	0.0042	-0.5995	0
186	SLU 43	-9.51	0	102.16	0.001	-0.5201	0
186	SLU 44	-9.25	0	101.51	0.0008	-0.5072	0
186	SLU 45	-9.98	0	105.67	0.0041	-0.5456	0
186	SLU 46	-9.82	0	105.28	0.004	-0.5379	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
186	SLU 47			-9.71	-0.01	104.08	0.0045	-0.5321	0
186	SLU 48			-10.44	-0.01	108.24	0.0077	-0.5705	0
186	SLU 49			-10.28	-0.01	107.85	0.0076	-0.5628	0
186	SLU 50			-10.43	-0.01	107.31	0.0083	-0.5699	0
186	SLU 51			-10.27	-0.01	106.92	0.0082	-0.5622	0
186	SLU 52			-10.38	0	116.94	0.0001	-0.5702	0
186	SLU 53			-11.11	0	121.1	0.0033	-0.6086	0
186	SLU 54			-10.95	0	120.71	0.0032	-0.6009	0
186	SLU 55			-10.84	0	119.51	0.0037	-0.5951	0
186	SLU 56			-11.57	-0.01	123.67	0.007	-0.6335	0
186	SLU 57			-11.41	-0.01	123.28	0.0069	-0.6258	0
186	SLU 58			-11.56	-0.01	122.74	0.0075	-0.633	0
186	SLU 59			-11.4	-0.01	122.35	0.0074	-0.6252	0
186	SLU 60			-11.13	0	124.21	-0.0001	-0.6101	0
186	SLU 61			-10.97	0	123.82	-0.0002	-0.6024	0
186	SLU 62			-11.59	0	126.78	0.0035	-0.635	0
186	SLU 63			-11.43	0	126.39	0.0035	-0.6273	0
186	SLU 64			-10.84	0	116.13	0.0017	-0.5931	0
186	SLU 65			-10.57	0	115.48	0.0016	-0.5802	0
186	SLU 66			-11.31	0	119.64	0.0048	-0.6186	0
186	SLU 67			-11.15	0	119.25	0.0048	-0.6108	0
186	SLU 68			-11.03	-0.01	118.05	0.0053	-0.6051	0
186	SLU 69			-11.76	-0.01	122.21	0.0085	-0.6435	0
186	SLU 70			-11.61	-0.01	121.82	0.0084	-0.6358	0
186	SLU 71			-11.76	-0.01	121.27	0.009	-0.6429	0
186	SLU 72			-11.6	-0.01	120.88	0.009	-0.6352	0
186	SLU 73			-11.71	0	130.91	0.0008	-0.6432	0
186	SLU 74			-12.44	0	135.07	0.0041	-0.6816	0
186	SLU 75			-12.28	0	134.68	0.004	-0.6739	0
186	SLU 76			-12.17	0	133.48	0.0045	-0.6681	0
186	SLU 77			-12.9	-0.01	137.64	0.0077	-0.7065	0
186	SLU 78			-12.74	-0.01	137.25	0.0076	-0.6988	0
186	SLU 79			-12.89	-0.01	136.7	0.0083	-0.7059	0
186	SLU 80			-12.73	-0.01	136.31	0.0082	-0.6982	0
186	SLU 81			-12.46	0	138.17	0.0006	-0.6831	0
186	SLU 82			-12.3	0	137.78	0.0006	-0.6754	0
186	SLU 83			-12.92	0	140.75	0.0043	-0.708	0
186	SLU 84			-12.76	0	140.36	0.0042	-0.7003	0
186	SLE RA 1			-8.05	0	86.26	0.0012	-0.4402	0
186	SLE RA 2			-7.87	0	85.83	0.0011	-0.4316	0
186	SLE RA 3			-8.36	0	88.6	0.0032	-0.4572	0
186	SLE RA 4			-8.25	0	88.34	0.0032	-0.452	0
186	SLE RA 5			-8.18	0	87.54	0.0035	-0.4482	0
186	SLE RA 6			-8.66	-0.01	90.31	0.0057	-0.4738	0
186	SLE RA 7			-8.56	-0.01	90.05	0.0056	-0.4686	0
186	SLE RA 8			-8.66	-0.01	89.69	0.006	-0.4734	0
186	SLE RA 9			-8.55	-0.01	89.43	0.006	-0.4682	0
186	SLE RA 10			-8.63	0	96.11	0.0006	-0.4736	0
186	SLE RA 11			-9.11	0	98.89	0.0027	-0.4992	0
186	SLE RA 12			-9.01	0	98.63	0.0027	-0.494	0
186	SLE RA 13			-8.93	0	97.83	0.003	-0.4902	0
186	SLE RA 14			-9.42	-0.01	100.6	0.0052	-0.5158	0
186	SLE RA 15			-9.31	-0.01	100.34	0.0051	-0.5106	0
186	SLE RA 16			-9.41	-0.01	99.98	0.0055	-0.5154	0
186	SLE RA 17			-9.31	-0.01	99.72	0.0055	-0.5103	0
186	SLE RA 18			-9.13	0	100.96	0.0004	-0.5002	0
186	SLE RA 19			-9.02	0	100.7	0.0004	-0.495	0
186	SLE RA 20			-9.43	0	102.67	0.0029	-0.5168	0
186	SLE RA 21			-9.33	0	102.41	0.0028	-0.5116	0
186	SLE FR 1			-8.05	0	86.26	0.0012	-0.4402	0
186	SLE FR 2			-8.01	0	86.17	0.0011	-0.4384	0
186	SLE FR 3			-8.17	0	86.95	0.0021	-0.4468	0
186	SLE FR 4			-8.33	0	90.58	0.0009	-0.4565	0
186	SLE FR 5			-8.49	0	91.36	0.0019	-0.4648	0
186	SLE FR 6			-8.59	0	93.61	0.0008	-0.4702	0
186	SLE QP 1			-8.05	0	86.26	0.0012	-0.4402	0
186	SLE QP 2			-8.37	0	90.67	0.0009	-0.4582	0
186	SLD 1			1.12	0.09	60.63	-0.0654	0.0932	0.0002
186	SLD 2			1.12	0.09	60.63	-0.0654	0.0932	0.0002
186	SLD 3			1.71	0.01	63.41	-0.0068	0.1263	0
186	SLD 4			1.71	0.01	63.41	-0.0068	0.1263	0
186	SLD 5			-6.43	0.15	77.45	-0.1079	-0.3431	0.0003
186	SLD 6			-6.43	0.15	77.45	-0.1079	-0.3431	0.0003
186	SLD 7			-4.44	-0.12	86.7	0.0875	-0.2325	-0.0003
186	SLD 8			-4.44	-0.12	86.7	0.0875	-0.2325	-0.0003
186	SLD 9			-12.3	0.12	94.63	-0.0856	-0.6838	0.0003
186	SLD 10			-12.3	0.12	94.63	-0.0856	-0.6838	0.0003
186	SLD 11			-10.31	-0.15	103.89	0.1098	-0.5732	-0.0003
186	SLD 12			-10.31	-0.15	103.89	0.1098	-0.5732	-0.0003
186	SLD 13			-18.45	-0.01	117.93	0.0087	-1.0427	0
186	SLD 14			-18.45	-0.01	117.93	0.0087	-1.0427	0
186	SLD 15			-17.86	-0.09	120.71	0.0673	-1.0095	-0.0002
186	SLD 16			-17.86	-0.09	120.71	0.0673	-1.0095	-0.0002
186	SLV 1			13.83	0.21	20.14	-0.1551	0.8319	0.0004
186	SLV 2			13.83	0.21	20.14	-0.1551	0.8319	0.0004
186	SLV 3			15.25	0.02	26.91	-0.0171	0.9112	0
186	SLV 4			15.25	0.02	26.91	-0.0171	0.9112	0
186	SLV 5			-3.87	0.35	59.25	-0.2552	-0.1915	0.0008
186	SLV 6			-3.87	0.35	59.25	-0.2552	-0.1915	0.0008
186	SLV 7			0.88	-0.28	81.8	0.2048	0.073	-0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
187	SLU 82	-19.91	0.01	80.67	-0.0007	-0.4935	-0.0001
187	SLU 83	-20.51	0.01	82.63	0.001	-0.5123	0.0001
187	SLU 84	-20.4	0	82.36	0.0013	-0.5085	0.0002
187	SLE RA 1	-12.62	0.01	50.7	-0.0003	-0.3167	-0.0001
187	SLE RA 2	-12.5	0	50.4	0.0001	-0.3124	0
187	SLE RA 3	-13.01	0	52.16	0.0009	-0.3276	0.0001
187	SLE RA 4	-12.94	0	51.98	0.0011	-0.3251	0.0001
187	SLE RA 5	-12.83	0	51.53	0.0015	-0.3224	0.0002
187	SLE RA 6	-13.34	0	53.29	0.0023	-0.3376	0.0003
187	SLE RA 7	-13.27	0	53.11	0.0025	-0.335	0.0004
187	SLE RA 8	-13.28	0	52.96	0.0025	-0.3366	0.0004
187	SLE RA 9	-13.21	0	52.78	0.0027	-0.334	0.0004
187	SLE RA 10	-13.91	0	56.32	-0.0003	-0.3454	-0.0001
187	SLE RA 11	-14.42	0.01	58.07	0.0005	-0.3606	0
187	SLE RA 12	-14.35	0	57.89	0.0007	-0.3581	0.0001
187	SLE RA 13	-14.24	0	57.44	0.0011	-0.3554	0.0002
187	SLE RA 14	-14.75	0	59.2	0.0019	-0.3706	0.0003
187	SLE RA 15	-14.68	0	59.02	0.0021	-0.368	0.0003
187	SLE RA 16	-14.69	0	58.87	0.0021	-0.3696	0.0003
187	SLE RA 17	-14.62	0	58.69	0.0023	-0.3671	0.0003
187	SLE RA 18	-14.63	0.01	59.15	-0.0008	-0.3639	-0.0002
187	SLE RA 19	-14.56	0.01	58.97	-0.0006	-0.3613	-0.0001
187	SLE RA 20	-14.96	0.01	60.28	0.0006	-0.3738	0.0001
187	SLE RA 21	-14.89	0	60.1	0.0008	-0.3713	0.0001
187	SLE FR 1	-12.62	0.01	50.7	-0.0003	-0.3167	-0.0001
187	SLE FR 2	-12.6	0.01	50.64	-0.0002	-0.3158	-0.0001
187	SLE FR 3	-12.75	0.01	51.16	0.0003	-0.3206	0
187	SLE FR 4	-13.2	0.01	53.18	-0.0004	-0.33	-0.0001
187	SLE FR 5	-13.36	0.01	53.69	0.0001	-0.3348	0
187	SLE FR 6	-13.63	0.01	54.93	-0.0005	-0.3403	-0.0001
187	SLE QP 1	-12.62	0.01	50.7	-0.0003	-0.3167	-0.0001
187	SLE QP 2	-13.23	0.01	53.24	-0.0004	-0.3308	-0.0001
187	SLD 1	-4.34	-0.27	26.59	-0.0291	-0.0228	-0.0061
187	SLD 2	-4.34	-0.27	26.59	-0.0291	-0.0228	-0.0061
187	SLD 3	-4.85	-0.01	28.34	0.0019	-0.0049	0.0001
187	SLD 4	-4.85	-0.01	28.34	0.0019	-0.0049	0.0001
187	SLD 5	-9.78	-0.47	42.58	-0.056	-0.2655	-0.0114
187	SLD 6	-9.78	-0.47	42.58	-0.056	-0.2655	-0.0114
187	SLD 7	-11.49	0.39	48.42	0.0473	-0.206	0.0095
187	SLD 8	-11.49	0.39	48.42	0.0473	-0.206	0.0095
187	SLD 9	-14.96	-0.38	58.05	-0.0482	-0.4557	-0.0097
187	SLD 10	-14.96	-0.38	58.05	-0.0482	-0.4557	-0.0097
187	SLD 11	-16.67	0.48	63.89	0.0551	-0.3961	0.0112
187	SLD 12	-16.67	0.48	63.89	0.0551	-0.3961	0.0112
187	SLD 13	-21.6	0.02	78.14	-0.0028	-0.6567	-0.0004
187	SLD 14	-21.6	0.02	78.14	-0.0028	-0.6567	-0.0004
187	SLD 15	-22.12	0.28	79.89	0.0282	-0.6389	0.0059
187	SLD 16	-22.12	0.28	79.89	0.0282	-0.6389	0.0059
187	SLV 1	7.61	-0.65	-9.27	-0.0686	0.3901	-0.0145
187	SLV 2	7.61	-0.65	-9.27	-0.0686	0.3901	-0.0145
187	SLV 3	6.38	-0.02	-5.03	0.0055	0.4328	0.0006
187	SLV 4	6.38	-0.02	-5.03	0.0055	0.4328	0.0006
187	SLV 5	-5.1	-1.14	28.05	-0.1332	-0.1794	-0.0273
187	SLV 6	-5.1	-1.14	28.05	-0.1332	-0.1794	-0.0273
187	SLV 7	-9.22	0.95	42.19	0.1136	-0.0369	0.023
187	SLV 8	-9.22	0.95	42.19	0.1136	-0.0369	0.023
187	SLV 9	-17.23	-0.93	64.28	-0.1145	-0.6248	-0.0232
187	SLV 10	-17.23	-0.93	64.28	-0.1145	-0.6248	-0.0232
187	SLV 11	-21.35	1.15	78.42	0.1323	-0.4822	0.0271
187	SLV 12	-21.35	1.15	78.42	0.1323	-0.4822	0.0271
187	SLV 13	-32.83	0.04	111.5	-0.0064	-1.0945	-0.0008
187	SLV 14	-32.83	0.04	111.5	-0.0064	-1.0945	-0.0008
187	SLV 15	-34.06	0.66	115.74	0.0677	-1.0517	0.0143
187	SLV 16	-34.06	0.66	115.74	0.0677	-1.0517	0.0143
188	SLU 1	7.49	-0.11	33.96	0.0217	0.0258	-0.0047
188	SLU 2	7.61	-0.11	34.36	0.0226	0.0282	-0.0049
188	SLU 3	7.66	-0.11	34.87	0.022	0.0239	-0.0048
188	SLU 4	7.73	-0.11	35.11	0.0226	0.0254	-0.0049
188	SLU 5	7.65	-0.11	34.69	0.0227	0.0252	-0.0049
188	SLU 6	7.7	-0.11	35.2	0.0221	0.0209	-0.0048
188	SLU 7	7.77	-0.11	35.44	0.0226	0.0223	-0.0049
188	SLU 8	7.57	-0.11	34.63	0.0218	0.0198	-0.0048
188	SLU 9	7.64	-0.11	34.87	0.0223	0.0212	-0.0049
188	SLU 10	9.14	-0.13	41.27	0.0272	0.0342	-0.0059
188	SLU 11	9.19	-0.13	41.78	0.0266	0.03	-0.0058
188	SLU 12	9.26	-0.14	42.02	0.0271	0.0314	-0.0059
188	SLU 13	9.18	-0.14	41.6	0.0272	0.0312	-0.0059
188	SLU 14	9.23	-0.14	42.11	0.0266	0.027	-0.0058
188	SLU 15	9.3	-0.14	42.35	0.0272	0.0284	-0.0059
188	SLU 16	9.1	-0.13	41.54	0.0263	0.0258	-0.0057
188	SLU 17	9.17	-0.14	41.78	0.0269	0.0272	-0.0059
188	SLU 18	9.67	-0.14	43.83	0.0282	0.0344	-0.0061
188	SLU 19	9.74	-0.14	44.07	0.0287	0.0358	-0.0062
188	SLU 20	9.71	-0.14	44.17	0.0282	0.0314	-0.0061
188	SLU 21	9.78	-0.14	44.4	0.0288	0.0328	-0.0063
188	SLU 22	8.59	-0.12	39.14	0.0245	0.0262	-0.0053
188	SLU 23	8.71	-0.13	39.53	0.0254	0.0285	-0.0055
188	SLU 24	8.76	-0.13	40.05	0.0248	0.0243	-0.0054
188	SLU 25	8.83	-0.13	40.28	0.0254	0.0257	-0.0055
188	SLU 26	8.75	-0.13	39.87	0.0254	0.0255	-0.0055



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
188	SLU 27	8.8	-0.13	40.38	0.0249	0.0213	-0.0054
188	SLU 28	8.87	-0.13	40.62	0.0254	0.0227	-0.0055
188	SLU 29	8.67	-0.13	39.8	0.0246	0.0201	-0.0054
188	SLU 30	8.74	-0.13	40.04	0.0251	0.0216	-0.0055
188	SLU 31	10.24	-0.15	46.44	0.0299	0.0346	-0.0065
188	SLU 32	10.29	-0.15	46.95	0.0294	0.0303	-0.0064
188	SLU 33	10.36	-0.15	47.19	0.0299	0.0317	-0.0065
188	SLU 34	10.28	-0.15	46.77	0.03	0.0315	-0.0065
188	SLU 35	10.33	-0.15	47.29	0.0294	0.0273	-0.0064
188	SLU 36	10.4	-0.15	47.52	0.03	0.0287	-0.0065
188	SLU 37	10.2	-0.15	46.71	0.0291	0.0262	-0.0064
188	SLU 38	10.27	-0.15	46.95	0.0297	0.0276	-0.0065
188	SLU 39	10.77	-0.16	49.01	0.031	0.0348	-0.0067
188	SLU 40	10.85	-0.16	49.24	0.0315	0.0362	-0.0068
188	SLU 41	10.81	-0.16	49.34	0.031	0.0318	-0.0068
188	SLU 42	10.89	-0.16	49.58	0.0316	0.0332	-0.0069
188	SLU 43	9.35	-0.13	42.38	0.0273	0.0334	-0.0059
188	SLU 44	9.47	-0.14	42.77	0.0282	0.0358	-0.0061
188	SLU 45	9.53	-0.14	43.29	0.0276	0.0316	-0.006
188	SLU 46	9.6	-0.14	43.52	0.0282	0.033	-0.0061
188	SLU 47	9.51	-0.14	43.11	0.0282	0.0328	-0.0061
188	SLU 48	9.57	-0.14	43.62	0.0276	0.0286	-0.006
188	SLU 49	9.64	-0.14	43.86	0.0282	0.03	-0.0061
188	SLU 50	9.43	-0.14	43.04	0.0273	0.0274	-0.006
188	SLU 51	9.51	-0.14	43.28	0.0279	0.0288	-0.0061
188	SLU 52	11.01	-0.16	49.68	0.0327	0.0418	-0.0071
188	SLU 53	11.06	-0.16	50.2	0.0321	0.0376	-0.007
188	SLU 54	11.13	-0.16	50.43	0.0327	0.039	-0.0071
188	SLU 55	11.04	-0.16	50.02	0.0328	0.0388	-0.0071
188	SLU 56	11.1	-0.16	50.53	0.0322	0.0346	-0.007
188	SLU 57	11.17	-0.16	50.77	0.0327	0.036	-0.0071
188	SLU 58	10.96	-0.16	49.95	0.0319	0.0335	-0.0069
188	SLU 59	11.04	-0.16	50.19	0.0324	0.0349	-0.0071
188	SLU 60	11.54	-0.17	52.25	0.0337	0.0421	-0.0073
188	SLU 61	11.61	-0.17	52.49	0.0343	0.0435	-0.0074
188	SLU 62	11.58	-0.17	52.58	0.0338	0.0391	-0.0073
188	SLU 63	11.65	-0.17	52.82	0.0343	0.0405	-0.0074
188	SLU 64	10.46	-0.15	47.55	0.0301	0.0338	-0.0065
188	SLU 65	10.58	-0.15	47.95	0.031	0.0361	-0.0067
188	SLU 66	10.63	-0.15	48.46	0.0304	0.0319	-0.0066
188	SLU 67	10.7	-0.15	48.7	0.0309	0.0333	-0.0067
188	SLU 68	10.62	-0.15	48.28	0.031	0.0331	-0.0067
188	SLU 69	10.67	-0.15	48.79	0.0304	0.0289	-0.0066
188	SLU 70	10.74	-0.16	49.03	0.031	0.0303	-0.0067
188	SLU 71	10.54	-0.15	48.22	0.0301	0.0278	-0.0066
188	SLU 72	10.61	-0.16	48.46	0.0307	0.0292	-0.0067
188	SLU 73	12.11	-0.18	54.86	0.0355	0.0422	-0.0077
188	SLU 74	12.16	-0.18	55.37	0.0349	0.038	-0.0076
188	SLU 75	12.23	-0.18	55.61	0.0355	0.0394	-0.0077
188	SLU 76	12.15	-0.18	55.19	0.0355	0.0392	-0.0077
188	SLU 77	12.2	-0.18	55.7	0.035	0.0349	-0.0076
188	SLU 78	12.27	-0.18	55.94	0.0355	0.0364	-0.0077
188	SLU 79	12.07	-0.18	55.13	0.0347	0.0338	-0.0076
188	SLU 80	12.14	-0.18	55.36	0.0352	0.0352	-0.0077
188	SLU 81	12.64	-0.18	57.42	0.0365	0.0424	-0.0079
188	SLU 82	12.71	-0.18	57.66	0.0371	0.0438	-0.008
188	SLU 83	12.68	-0.18	57.75	0.0366	0.0394	-0.008
188	SLU 84	12.75	-0.19	57.99	0.0371	0.0408	-0.0081
188	SLE RA 1	7.8	-0.11	35.44	0.0225	0.0259	-0.0049
188	SLE RA 2	7.88	-0.11	35.71	0.0231	0.0275	-0.005
188	SLE RA 3	7.92	-0.11	36.05	0.0227	0.0247	-0.0049
188	SLE RA 4	7.96	-0.11	36.21	0.0231	0.0256	-0.005
188	SLE RA 5	7.91	-0.12	35.93	0.0231	0.0255	-0.005
188	SLE RA 6	7.94	-0.12	36.27	0.0228	0.0227	-0.005
188	SLE RA 7	7.99	-0.12	36.43	0.0231	0.0236	-0.005
188	SLE RA 8	7.85	-0.11	35.88	0.0226	0.0219	-0.0049
188	SLE RA 9	7.9	-0.12	36.04	0.0229	0.0228	-0.005
188	SLE RA 10	8.9	-0.13	40.31	0.0261	0.0315	-0.0057
188	SLE RA 11	8.94	-0.13	40.65	0.0258	0.0287	-0.0056
188	SLE RA 12	8.98	-0.13	40.81	0.0261	0.0296	-0.0057
188	SLE RA 13	8.93	-0.13	40.53	0.0262	0.0295	-0.0057
188	SLE RA 14	8.96	-0.13	40.87	0.0258	0.0267	-0.0056
188	SLE RA 15	9.01	-0.13	41.03	0.0261	0.0276	-0.0057
188	SLE RA 16	8.87	-0.13	40.49	0.0256	0.0259	-0.0056
188	SLE RA 17	8.92	-0.13	40.65	0.0259	0.0269	-0.0056
188	SLE RA 18	9.26	-0.13	42.02	0.0268	0.0317	-0.0058
188	SLE RA 19	9.31	-0.13	42.18	0.0272	0.0326	-0.0059
188	SLE RA 20	9.28	-0.13	42.24	0.0269	0.0297	-0.0058
188	SLE RA 21	9.33	-0.14	42.4	0.0272	0.0306	-0.0059
188	SLE FR 1	7.8	-0.11	35.44	0.0225	0.0259	-0.0049
188	SLE FR 2	7.82	-0.11	35.49	0.0226	0.0262	-0.0049
188	SLE FR 3	7.81	-0.11	35.53	0.0225	0.0251	-0.0049
188	SLE FR 4	8.25	-0.12	37.47	0.0239	0.028	-0.0052
188	SLE FR 5	8.25	-0.12	37.5	0.0238	0.0268	-0.0052
188	SLE FR 6	8.53	-0.12	38.73	0.0247	0.0288	-0.0053
188	SLE QP 1	7.8	-0.11	35.44	0.0225	0.0259	-0.0049
188	SLE QP 2	8.24	-0.12	37.42	0.0238	0.0276	-0.0052
188	SLD 1	9.26	-0.45	30.39	0.0569	0.1184	-0.0144
188	SLD 2	9.26	-0.45	30.39	0.0569	0.1184	-0.0144
188	SLD 3	10.44	-0.53	34.63	0.0693	0.1368	-0.0173



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
188	SLD 4	10.44	-0.53	34.63	0.0693	0.1368	-0.0173
188	SLD 5	6.75	-0.1	28.88	0.0149	0.0269	-0.0035
188	SLD 6	6.75	-0.1	28.88	0.0149	0.0269	-0.0035
188	SLD 7	10.7	-0.36	43.01	0.0563	0.0883	-0.0132
188	SLD 8	10.7	-0.36	43.01	0.0563	0.0883	-0.0132
188	SLD 9	5.78	0.13	31.82	-0.0087	-0.0331	0.0029
188	SLD 10	5.78	0.13	31.82	-0.0087	-0.0331	0.0029
188	SLD 11	9.73	-0.14	45.95	0.0327	0.0284	-0.0068
188	SLD 12	9.73	-0.14	45.95	0.0327	0.0284	-0.0068
188	SLD 13	6.03	0.29	40.2	-0.0217	-0.0815	0.007
188	SLD 14	6.03	0.29	40.2	-0.0217	-0.0815	0.007
188	SLD 15	7.22	0.21	44.44	-0.0093	-0.0631	0.0041
188	SLD 16	7.22	0.21	44.44	-0.0093	-0.0631	0.0041
188	SLV 1	10.61	-0.96	20.92	0.1081	0.2398	-0.0286
188	SLV 2	10.61	-0.96	20.92	0.1081	0.2398	-0.0286
188	SLV 3	13.41	-1.15	30.97	0.1374	0.2833	-0.0355
188	SLV 4	13.41	-1.15	30.97	0.1374	0.2833	-0.0355
188	SLV 5	4.7	-0.08	17.22	0.0045	0.0254	-0.0017
188	SLV 6	4.7	-0.08	17.22	0.0045	0.0254	-0.0017
188	SLV 7	14.04	-0.72	50.73	0.1024	0.1702	-0.0248
188	SLV 8	14.04	-0.72	50.73	0.1024	0.1702	-0.0248
188	SLV 9	2.44	0.48	24.11	-0.0548	-0.1149	0.0145
188	SLV 10	2.44	0.48	24.11	-0.0548	-0.1149	0.0145
188	SLV 11	11.77	-0.15	57.61	0.0431	0.0299	-0.0086
188	SLV 12	11.77	-0.15	57.61	0.0431	0.0299	-0.0086
188	SLV 13	3.07	0.92	43.86	-0.0898	-0.228	0.0252
188	SLV 14	3.07	0.92	43.86	-0.0898	-0.228	0.0252
188	SLV 15	5.87	0.72	53.91	-0.0605	-0.1845	0.0183
188	SLV 16	5.87	0.72	53.91	-0.0605	-0.1845	0.0183
189	SLU 1	0.23	-13.79	90.52	0.2744	-0.0483	-0.0018
189	SLU 2	0.26	-14.18	91.61	0.2896	-0.0472	-0.0019
189	SLU 3	0.23	-14.05	93.24	0.2737	-0.0526	-0.0018
189	SLU 4	0.25	-14.28	93.89	0.2828	-0.0519	-0.0019
189	SLU 5	0.26	-14.22	92.94	0.2844	-0.0516	-0.0019
189	SLU 6	0.23	-14.09	94.57	0.2685	-0.057	-0.0019
189	SLU 7	0.24	-14.32	95.23	0.2776	-0.0563	-0.0019
189	SLU 8	0.23	-13.87	93.19	0.264	-0.0571	-0.0018
189	SLU 9	0.24	-14.1	93.84	0.2731	-0.0564	-0.0019
189	SLU 10	0.29	-16.96	109.79	0.3446	-0.0558	-0.0022
189	SLU 11	0.26	-16.83	111.42	0.3288	-0.0612	-0.0022
189	SLU 12	0.28	-17.06	112.07	0.3379	-0.0606	-0.0022
189	SLU 13	0.29	-17	111.12	0.3394	-0.0602	-0.0022
189	SLU 14	0.26	-16.87	112.76	0.3235	-0.0656	-0.0022
189	SLU 15	0.28	-17.1	113.41	0.3327	-0.065	-0.0023
189	SLU 16	0.26	-16.65	111.37	0.319	-0.0657	-0.0022
189	SLU 17	0.28	-16.88	112.02	0.3281	-0.0651	-0.0022
189	SLU 18	0.28	-17.77	116.5	0.353	-0.0606	-0.0023
189	SLU 19	0.29	-18	117.15	0.3621	-0.06	-0.0024
189	SLU 20	0.28	-17.8	117.83	0.3478	-0.065	-0.0023
189	SLU 21	0.29	-18.04	118.48	0.3569	-0.0644	-0.0024
189	SLU 22	0.25	-15.75	104.67	0.3051	-0.0595	-0.002
189	SLU 23	0.27	-16.13	105.75	0.3203	-0.0584	-0.0021
189	SLU 24	0.25	-16	107.39	0.3044	-0.0638	-0.0021
189	SLU 25	0.26	-16.24	108.04	0.3135	-0.0631	-0.0021
189	SLU 26	0.27	-16.17	107.09	0.3151	-0.0628	-0.0021
189	SLU 27	0.25	-16.04	108.72	0.2992	-0.0682	-0.0021
189	SLU 28	0.26	-16.27	109.37	0.3083	-0.0675	-0.0021
189	SLU 29	0.25	-15.82	107.33	0.2947	-0.0683	-0.0021
189	SLU 30	0.26	-16.06	107.98	0.3038	-0.0676	-0.0021
189	SLU 31	0.31	-18.91	123.94	0.3753	-0.067	-0.0025
189	SLU 32	0.28	-18.78	125.57	0.3595	-0.0724	-0.0025
189	SLU 33	0.3	-19.02	126.22	0.3686	-0.0717	-0.0025
189	SLU 34	0.31	-18.95	125.27	0.3701	-0.0714	-0.0025
189	SLU 35	0.28	-18.82	126.9	0.3542	-0.0768	-0.0025
189	SLU 36	0.3	-19.05	127.55	0.3633	-0.0761	-0.0025
189	SLU 37	0.28	-18.6	125.52	0.3497	-0.0769	-0.0024
189	SLU 38	0.3	-18.84	126.17	0.3588	-0.0763	-0.0025
189	SLU 39	0.3	-19.72	130.64	0.3837	-0.0718	-0.0026
189	SLU 40	0.31	-19.95	131.29	0.3928	-0.0712	-0.0026
189	SLU 41	0.3	-19.76	131.98	0.3785	-0.0762	-0.0026
189	SLU 42	0.31	-19.99	132.63	0.3876	-0.0756	-0.0026
189	SLU 43	0.29	-17.26	112.83	0.3462	-0.059	-0.0023
189	SLU 44	0.32	-17.65	113.91	0.3614	-0.0579	-0.0023
189	SLU 45	0.29	-17.52	115.55	0.3455	-0.0632	-0.0023
189	SLU 46	0.31	-17.75	116.2	0.3546	-0.0626	-0.0023
189	SLU 47	0.32	-17.69	115.25	0.3562	-0.0623	-0.0023
189	SLU 48	0.29	-17.56	116.88	0.3403	-0.0677	-0.0023
189	SLU 49	0.31	-17.79	117.53	0.3494	-0.067	-0.0023
189	SLU 50	0.29	-17.34	115.49	0.3358	-0.0678	-0.0023
189	SLU 51	0.31	-17.57	116.14	0.3449	-0.0671	-0.0023
189	SLU 52	0.35	-20.43	132.1	0.4164	-0.0665	-0.0027
189	SLU 53	0.33	-20.3	133.73	0.4006	-0.0719	-0.0027
189	SLU 54	0.34	-20.53	134.38	0.4097	-0.0712	-0.0027
189	SLU 55	0.35	-20.47	133.43	0.4112	-0.0709	-0.0027
189	SLU 56	0.33	-20.34	135.06	0.3953	-0.0763	-0.0027
189	SLU 57	0.34	-20.57	135.71	0.4045	-0.0756	-0.0027
189	SLU 58	0.32	-20.12	133.68	0.3908	-0.0764	-0.0027
189	SLU 59	0.34	-20.35	134.33	0.3999	-0.0757	-0.0027
189	SLU 60	0.34	-21.23	138.8	0.4248	-0.0713	-0.0028
189	SLU 61	0.36	-21.47	139.45	0.4339	-0.0706	-0.0028



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
190	SLU 7	-9.43	0.03	25.32	0.0068	-0.068	0.0019
190	SLU 8	-9.25	0.03	24.86	0.0064	-0.0669	0.0018
190	SLU 9	-9.3	0.03	24.99	0.0067	-0.0673	0.0019
190	SLU 10	-10.75	0.03	28.83	0.0088	-0.0766	0.0025
190	SLU 11	-10.97	0.03	29.44	0.0081	-0.0784	0.0023
190	SLU 12	-11.02	0.03	29.57	0.0084	-0.0788	0.0024
190	SLU 13	-10.93	0.03	29.32	0.0085	-0.0783	0.0024
190	SLU 14	-11.15	0.03	29.93	0.0078	-0.0801	0.0022
190	SLU 15	-11.2	0.03	30.06	0.0081	-0.0804	0.0023
190	SLU 16	-11.03	0.03	29.6	0.0077	-0.0793	0.0022
190	SLU 17	-11.08	0.03	29.73	0.008	-0.0797	0.0022
190	SLU 18	-11.42	0.03	30.64	0.0089	-0.0813	0.0025
190	SLU 19	-11.48	0.03	30.77	0.0092	-0.0817	0.0026
190	SLU 20	-11.61	0.03	31.14	0.0086	-0.083	0.0024
190	SLU 21	-11.66	0.03	31.27	0.0089	-0.0834	0.0025
190	SLU 22	-10.33	0.03	27.73	0.0077	-0.0741	0.0022
190	SLU 23	-10.41	0.03	27.95	0.0081	-0.0748	0.0023
190	SLU 24	-10.63	0.03	28.55	0.0075	-0.0765	0.0021
190	SLU 25	-10.69	0.03	28.69	0.0078	-0.0769	0.0022
190	SLU 26	-10.6	0.03	28.44	0.0078	-0.0764	0.0022
190	SLU 27	-10.81	0.03	29.05	0.0072	-0.0782	0.002
190	SLU 28	-10.87	0.03	29.18	0.0075	-0.0786	0.0021
190	SLU 29	-10.69	0.03	28.71	0.0071	-0.0775	0.0021
190	SLU 30	-10.74	0.03	28.85	0.0073	-0.0779	0.0021
190	SLU 31	-12.19	0.03	32.69	0.0094	-0.0872	0.0027
190	SLU 32	-12.41	0.03	33.29	0.0088	-0.089	0.0025
190	SLU 33	-12.46	0.03	33.43	0.0091	-0.0893	0.0026
190	SLU 34	-12.37	0.03	33.18	0.0091	-0.0889	0.0026
190	SLU 35	-12.59	0.04	33.79	0.0085	-0.0906	0.0024
190	SLU 36	-12.64	0.04	33.92	0.0088	-0.091	0.0025
190	SLU 37	-12.46	0.04	33.46	0.0084	-0.0899	0.0023
190	SLU 38	-12.51	0.04	33.59	0.0087	-0.0903	0.0024
190	SLU 39	-12.86	0.03	34.5	0.0095	-0.0919	0.0027
190	SLU 40	-12.91	0.03	34.63	0.0098	-0.0923	0.0028
190	SLU 41	-13.04	0.04	34.99	0.0092	-0.0936	0.0026
190	SLU 42	-13.09	0.04	35.13	0.0095	-0.0939	0.0027
190	SLU 43	-11.07	0.03	29.71	0.0089	-0.079	0.0025
190	SLU 44	-11.15	0.03	29.93	0.0093	-0.0796	0.0027
190	SLU 45	-11.37	0.03	30.53	0.0087	-0.0814	0.0025
190	SLU 46	-11.42	0.03	30.67	0.009	-0.0818	0.0026
190	SLU 47	-11.33	0.03	30.42	0.009	-0.0813	0.0026
190	SLU 48	-11.55	0.03	31.03	0.0084	-0.0831	0.0024
190	SLU 49	-11.6	0.03	31.16	0.0087	-0.0835	0.0025
190	SLU 50	-11.43	0.03	30.69	0.0083	-0.0823	0.0023
190	SLU 51	-11.48	0.03	30.83	0.0086	-0.0827	0.0024
190	SLU 52	-12.93	0.03	34.67	0.0107	-0.0921	0.003
190	SLU 53	-13.14	0.03	35.27	0.01	-0.0938	0.0028
190	SLU 54	-13.2	0.03	35.41	0.0103	-0.0942	0.0029
190	SLU 55	-13.11	0.03	35.16	0.0104	-0.0937	0.0029
190	SLU 56	-13.32	0.04	35.77	0.0097	-0.0955	0.0027
190	SLU 57	-13.38	0.04	35.9	0.01	-0.0959	0.0028
190	SLU 58	-13.2	0.04	35.44	0.0096	-0.0948	0.0027
190	SLU 59	-13.25	0.04	35.57	0.0099	-0.0952	0.0028
190	SLU 60	-13.6	0.03	36.48	0.0107	-0.0968	0.0031
190	SLU 61	-13.65	0.03	36.61	0.011	-0.0971	0.0031
190	SLU 62	-13.78	0.04	36.97	0.0104	-0.0984	0.003
190	SLU 63	-13.83	0.04	37.11	0.0107	-0.0988	0.003
190	SLU 64	-12.5	0.03	33.57	0.0095	-0.0896	0.0027
190	SLU 65	-12.59	0.03	33.79	0.01	-0.0902	0.0029
190	SLU 66	-12.81	0.03	34.39	0.0094	-0.092	0.0027
190	SLU 67	-12.86	0.03	34.52	0.0097	-0.0924	0.0027
190	SLU 68	-12.77	0.03	34.28	0.0097	-0.0919	0.0028
190	SLU 69	-12.99	0.04	34.88	0.0091	-0.0936	0.0026
190	SLU 70	-13.04	0.04	35.02	0.0094	-0.094	0.0026
190	SLU 71	-12.86	0.04	34.55	0.0089	-0.0929	0.0025
190	SLU 72	-12.92	0.04	34.68	0.0092	-0.0933	0.0026
190	SLU 73	-14.36	0.04	38.53	0.0113	-0.1026	0.0032
190	SLU 74	-14.58	0.04	39.13	0.0107	-0.1044	0.003
190	SLU 75	-14.63	0.04	39.26	0.011	-0.1048	0.0031
190	SLU 76	-14.54	0.04	39.02	0.011	-0.1043	0.0031
190	SLU 77	-14.76	0.04	39.63	0.0104	-0.1061	0.0029
190	SLU 78	-14.81	0.04	39.76	0.0107	-0.1065	0.003
190	SLU 79	-14.64	0.04	39.29	0.0102	-0.1054	0.0029
190	SLU 80	-14.69	0.04	39.43	0.0105	-0.1057	0.003
190	SLU 81	-15.04	0.04	40.34	0.0114	-0.1073	0.0032
190	SLU 82	-15.09	0.04	40.47	0.0117	-0.1077	0.0033
190	SLU 83	-15.22	0.04	40.83	0.0111	-0.109	0.0031
190	SLU 84	-15.27	0.04	40.96	0.0114	-0.1094	0.0032
190	SLE RA 1	-9.3	0.02	24.97	0.0072	-0.0666	0.0021
190	SLE RA 2	-9.36	0.02	25.12	0.0075	-0.067	0.0021
190	SLE RA 3	-9.51	0.02	25.52	0.0071	-0.0682	0.002
190	SLE RA 4	-9.54	0.02	25.61	0.0073	-0.0684	0.0021
190	SLE RA 5	-9.48	0.02	25.45	0.0073	-0.0681	0.0021
190	SLE RA 6	-9.63	0.03	25.85	0.0069	-0.0693	0.0019
190	SLE RA 7	-9.66	0.03	25.94	0.0071	-0.0695	0.002
190	SLE RA 8	-9.54	0.03	25.63	0.0068	-0.0688	0.0019
190	SLE RA 9	-9.58	0.03	25.72	0.007	-0.0691	0.002
190	SLE RA 10	-10.54	0.03	28.28	0.0084	-0.0753	0.0024
190	SLE RA 11	-10.69	0.03	28.68	0.008	-0.0765	0.0023
190	SLE RA 12	-10.72	0.03	28.77	0.0081	-0.0767	0.0023



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
190	SLE RA 13	-10.66	0.03	28.61	0.0082	-0.0764	0.0023
190	SLE RA 14	-10.81	0.03	29.01	0.0078	-0.0776	0.0022
190	SLE RA 15	-10.84	0.03	29.1	0.0079	-0.0778	0.0022
190	SLE RA 16	-10.72	0.03	28.79	0.0077	-0.0771	0.0022
190	SLE RA 17	-10.76	0.03	28.88	0.0078	-0.0774	0.0022
190	SLE RA 18	-10.99	0.03	29.49	0.0084	-0.0784	0.0024
190	SLE RA 19	-11.03	0.03	29.58	0.0086	-0.0787	0.0025
190	SLE RA 20	-11.11	0.03	29.82	0.0082	-0.0795	0.0023
190	SLE RA 21	-11.15	0.03	29.9	0.0084	-0.0798	0.0024
190	SLE FR 1	-9.3	0.02	24.97	0.0072	-0.0666	0.0021
190	SLE FR 2	-9.31	0.02	25	0.0072	-0.0667	0.0021
190	SLE FR 3	-9.35	0.02	25.1	0.0071	-0.067	0.002
190	SLE FR 4	-9.82	0.02	26.36	0.0076	-0.0702	0.0022
190	SLE FR 5	-9.86	0.03	26.46	0.0075	-0.0706	0.0021
190	SLE FR 6	-10.15	0.03	27.23	0.0078	-0.0725	0.0022
190	SLE QP 1	-9.3	0.02	24.97	0.0072	-0.0666	0.0021
190	SLE QP 2	-9.81	0.02	26.33	0.0076	-0.0701	0.0022
190	SLD 1	-6.12	0.37	16.18	-0.0126	-0.0233	-0.0053
190	SLD 2	-6.12	0.37	16.18	-0.0126	-0.0233	-0.0053
190	SLD 3	-7.18	0.32	18.94	-0.0081	-0.0319	-0.0038
190	SLD 4	-7.18	0.32	18.94	-0.0081	-0.0319	-0.0038
190	SLD 5	-7.09	0.21	19.1	-0.0054	-0.0431	-0.0024
190	SLD 6	-7.09	0.21	19.1	-0.0054	-0.0431	-0.0024
190	SLD 7	-10.63	0.03	28.3	0.0098	-0.0717	0.0026
190	SLD 8	-10.63	0.03	28.3	0.0098	-0.0717	0.0026
190	SLD 9	-8.99	0.02	24.35	0.0053	-0.0686	0.0017
190	SLD 10	-8.99	0.02	24.35	0.0053	-0.0686	0.0017
190	SLD 11	-12.52	-0.16	33.55	0.0206	-0.0972	0.0067
190	SLD 12	-12.52	-0.16	33.55	0.0206	-0.0972	0.0067
190	SLD 13	-12.43	-0.27	33.71	0.0232	-0.1084	0.0081
190	SLD 14	-12.43	-0.27	33.71	0.0232	-0.1084	0.0081
190	SLD 15	-13.49	-0.32	36.47	0.0278	-0.117	0.0096
190	SLD 16	-13.49	-0.32	36.47	0.0278	-0.117	0.0096
190	SLV 1	-1.16	0.9	2.52	-0.043	0.0397	-0.0166
190	SLV 2	-1.16	0.9	2.52	-0.043	0.0397	-0.0166
190	SLV 3	-3.67	0.76	9.05	-0.0319	0.0194	-0.0129
190	SLV 4	-3.67	0.76	9.05	-0.0319	0.0194	-0.0129
190	SLV 5	-3.4	0.49	9.27	-0.0244	-0.0064	-0.009
190	SLV 6	-3.4	0.49	9.27	-0.0244	-0.0064	-0.009
190	SLV 7	-11.78	0.04	31.06	0.0125	-0.074	0.0031
190	SLV 8	-11.78	0.04	31.06	0.0125	-0.074	0.0031
190	SLV 9	-7.84	0.01	21.6	0.0026	-0.0662	0.0012
190	SLV 10	-7.84	0.01	21.6	0.0026	-0.0662	0.0012
190	SLV 11	-16.21	-0.44	43.38	0.0395	-0.1338	0.0133
190	SLV 12	-16.21	-0.44	43.38	0.0395	-0.1338	0.0133
190	SLV 13	-15.95	-0.72	43.6	0.047	-0.1596	0.0172
190	SLV 14	-15.95	-0.72	43.6	0.047	-0.1596	0.0172
190	SLV 15	-18.46	-0.85	50.13	0.0581	-0.1799	0.0209
190	SLV 16	-18.46	-0.85	50.13	0.0581	-0.1799	0.0209
191	SLU 1	5.65	0.01	42.1	-0.0045	-0.2231	0.0007
191	SLU 2	5.67	0.01	42.24	-0.0046	-0.2242	0.0008
191	SLU 3	5.81	0.01	43.39	-0.0046	-0.2333	0.0008
191	SLU 4	5.83	0.01	43.48	-0.0047	-0.2339	0.0008
191	SLU 5	5.74	0.01	42.86	-0.0046	-0.2308	0.0008
191	SLU 6	5.89	0.01	44.01	-0.0047	-0.2399	0.0008
191	SLU 7	5.9	0.01	44.09	-0.0047	-0.2405	0.0008
191	SLU 8	5.8	0.01	43.34	-0.0046	-0.2364	0.0008
191	SLU 9	5.81	0.01	43.42	-0.0046	-0.237	0.0008
191	SLU 10	6.82	0.01	50.79	-0.0055	-0.2693	0.0009
191	SLU 11	6.96	0.01	51.94	-0.0056	-0.2784	0.001
191	SLU 12	6.98	0.01	52.02	-0.0056	-0.279	0.001
191	SLU 13	6.89	0.01	51.41	-0.0056	-0.2759	0.001
191	SLU 14	7.04	0.01	52.56	-0.0056	-0.285	0.001
191	SLU 15	7.05	0.01	52.64	-0.0057	-0.2857	0.001
191	SLU 16	6.95	0.01	51.88	-0.0055	-0.2815	0.001
191	SLU 17	6.96	0.01	51.97	-0.0056	-0.2821	0.001
191	SLU 18	7.29	0.01	54.31	-0.0058	-0.2876	0.001
191	SLU 19	7.31	0.01	54.4	-0.0059	-0.2882	0.001
191	SLU 20	7.37	0.01	54.93	-0.0059	-0.2942	0.001
191	SLU 21	7.38	0.01	55.02	-0.0059	-0.2949	0.001
191	SLU 22	6.53	0.01	48.78	-0.0053	-0.2622	0.0009
191	SLU 23	6.55	0.01	48.92	-0.0054	-0.2633	0.0009
191	SLU 24	6.7	0.01	50.07	-0.0055	-0.2724	0.0009
191	SLU 25	6.71	0.01	50.15	-0.0055	-0.273	0.001
191	SLU 26	6.63	0.01	49.54	-0.0054	-0.2699	0.0009
191	SLU 27	6.77	0.01	50.69	-0.0055	-0.279	0.001
191	SLU 28	6.78	0.01	50.77	-0.0056	-0.2796	0.001
191	SLU 29	6.68	0.01	50.01	-0.0054	-0.2755	0.0009
191	SLU 30	6.69	0.01	50.1	-0.0054	-0.2761	0.0009
191	SLU 31	7.7	0.01	57.47	-0.0063	-0.3084	0.0011
191	SLU 32	7.85	0.01	58.62	-0.0064	-0.3175	0.0011
191	SLU 33	7.86	0.01	58.7	-0.0065	-0.3182	0.0011
191	SLU 34	7.78	0.01	58.09	-0.0064	-0.315	0.0011
191	SLU 35	7.92	0.01	59.23	-0.0065	-0.3241	0.0011
191	SLU 36	7.93	0.01	59.32	-0.0065	-0.3248	0.0011
191	SLU 37	7.83	0.01	58.56	-0.0063	-0.3206	0.0011
191	SLU 38	7.84	0.01	58.65	-0.0064	-0.3213	0.0011
191	SLU 39	8.18	0.01	60.99	-0.0067	-0.3267	0.0012
191	SLU 40	8.19	0.01	61.08	-0.0067	-0.3273	0.0012
191	SLU 41	8.25	0.01	61.61	-0.0067	-0.3333	0.0012



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
191	SLU 42	8.26	0.01	61.69	-0.0068	-0.334	0.0012
191	SLU 43	7.04	0.01	52.44	-0.0055	-0.2766	0.0009
191	SLU 44	7.06	0.01	52.59	-0.0056	-0.2777	0.0009
191	SLU 45	7.21	0.01	53.73	-0.0057	-0.2868	0.001
191	SLU 46	7.22	0.01	53.82	-0.0057	-0.2874	0.001
191	SLU 47	7.14	0.01	53.2	-0.0057	-0.2843	0.001
191	SLU 48	7.28	0.01	54.35	-0.0057	-0.2934	0.001
191	SLU 49	7.29	0.01	54.43	-0.0058	-0.294	0.001
191	SLU 50	7.19	0.01	53.68	-0.0056	-0.2899	0.001
191	SLU 51	7.2	0.01	53.76	-0.0057	-0.2905	0.001
191	SLU 52	8.21	0.01	61.13	-0.0066	-0.3228	0.0011
191	SLU 53	8.36	0.01	62.28	-0.0066	-0.3319	0.0011
191	SLU 54	8.37	0.01	62.37	-0.0067	-0.3326	0.0011
191	SLU 55	8.29	0.01	61.75	-0.0066	-0.3295	0.0011
191	SLU 56	8.43	0.01	62.9	-0.0067	-0.3386	0.0011
191	SLU 57	8.44	0.01	62.98	-0.0067	-0.3392	0.0012
191	SLU 58	8.34	0.01	62.23	-0.0066	-0.335	0.0011
191	SLU 59	8.35	0.01	62.31	-0.0066	-0.3357	0.0011
191	SLU 60	8.69	0.01	64.66	-0.0069	-0.3411	0.0012
191	SLU 61	8.7	0.01	64.74	-0.0069	-0.3418	0.0012
191	SLU 62	8.76	0.01	65.27	-0.0069	-0.3477	0.0012
191	SLU 63	8.77	0.01	65.36	-0.007	-0.3484	0.0012
191	SLU 64	7.93	0.01	59.12	-0.0064	-0.3157	0.0011
191	SLU 65	7.95	0.01	59.26	-0.0064	-0.3168	0.0011
191	SLU 66	8.09	0.01	60.41	-0.0065	-0.3259	0.0011
191	SLU 67	8.1	0.01	60.5	-0.0066	-0.3265	0.0011
191	SLU 68	8.02	0.01	59.88	-0.0065	-0.3234	0.0011
191	SLU 69	8.16	0.01	61.03	-0.0066	-0.3325	0.0011
191	SLU 70	8.18	0.01	61.11	-0.0066	-0.3332	0.0011
191	SLU 71	8.07	0.01	60.36	-0.0065	-0.329	0.0011
191	SLU 72	8.09	0.01	60.44	-0.0065	-0.3296	0.0011
191	SLU 73	9.1	0.01	67.81	-0.0074	-0.3619	0.0013
191	SLU 74	9.24	0.01	68.96	-0.0075	-0.371	0.0013
191	SLU 75	9.25	0.01	69.04	-0.0075	-0.3717	0.0013
191	SLU 76	9.17	0.01	68.43	-0.0074	-0.3686	0.0013
191	SLU 77	9.31	0.01	69.58	-0.0075	-0.3777	0.0013
191	SLU 78	9.33	0.01	69.66	-0.0076	-0.3783	0.0013
191	SLU 79	9.22	0.01	68.9	-0.0074	-0.3741	0.0013
191	SLU 80	9.24	0.01	68.99	-0.0075	-0.3748	0.0013
191	SLU 81	9.57	0.01	71.33	-0.0077	-0.3802	0.0013
191	SLU 82	9.58	0.01	71.42	-0.0078	-0.3809	0.0013
191	SLU 83	9.64	0.01	71.95	-0.0078	-0.3869	0.0013
191	SLU 84	9.66	0.01	72.04	-0.0078	-0.3875	0.0014
191	SLE RA 1	5.9	0.01	44.01	-0.0047	-0.2343	0.0008
191	SLE RA 2	5.92	0.01	44.11	-0.0048	-0.235	0.0008
191	SLE RA 3	6.01	0.01	44.87	-0.0048	-0.241	0.0008
191	SLE RA 4	6.02	0.01	44.93	-0.0049	-0.2415	0.0008
191	SLE RA 5	5.97	0.01	44.52	-0.0048	-0.2394	0.0008
191	SLE RA 6	6.06	0.01	45.28	-0.0049	-0.2455	0.0008
191	SLE RA 7	6.07	0.01	45.34	-0.0049	-0.2459	0.0008
191	SLE RA 8	6	0.01	44.83	-0.0048	-0.2431	0.0008
191	SLE RA 9	6.01	0.01	44.89	-0.0048	-0.2435	0.0008
191	SLE RA 10	6.68	0.01	49.8	-0.0054	-0.2651	0.0009
191	SLE RA 11	6.78	0.01	50.57	-0.0055	-0.2711	0.0009
191	SLE RA 12	6.79	0.01	50.63	-0.0055	-0.2716	0.0009
191	SLE RA 13	6.73	0.01	50.22	-0.0054	-0.2695	0.0009
191	SLE RA 14	6.83	0.01	50.98	-0.0055	-0.2756	0.0009
191	SLE RA 15	6.84	0.01	51.04	-0.0055	-0.276	0.001
191	SLE RA 16	6.77	0.01	50.53	-0.0054	-0.2732	0.0009
191	SLE RA 17	6.78	0.01	50.59	-0.0054	-0.2736	0.0009
191	SLE RA 18	7	0.01	52.15	-0.0056	-0.2773	0.001
191	SLE RA 19	7.01	0.01	52.21	-0.0057	-0.2777	0.001
191	SLE RA 20	7.05	0.01	52.56	-0.0057	-0.2817	0.001
191	SLE RA 21	7.06	0.01	52.62	-0.0057	-0.2821	0.001
191	SLE FR 1	5.9	0.01	44.01	-0.0047	-0.2343	0.0008
191	SLE FR 2	5.91	0.01	44.03	-0.0047	-0.2344	0.0008
191	SLE FR 3	5.92	0.01	44.18	-0.0047	-0.236	0.0008
191	SLE FR 4	6.23	0.01	46.47	-0.005	-0.2473	0.0008
191	SLE FR 5	6.25	0.01	46.62	-0.005	-0.2489	0.0008
191	SLE FR 6	6.45	0.01	48.08	-0.0052	-0.2558	0.0009
191	SLE QP 1	5.9	0.01	44.01	-0.0047	-0.2343	0.0008
191	SLE QP 2	6.23	0.01	46.45	-0.005	-0.2472	0.0008
191	SLD 1	5.55	0.03	41.33	0.0012	-0.0887	0.0003
191	SLD 2	5.55	0.03	41.33	0.0012	-0.0887	0.0003
191	SLD 3	5.96	0.18	43.83	-0.0276	-0.1019	0.0062
191	SLD 4	5.96	0.18	43.83	-0.0276	-0.1019	0.0062
191	SLD 5	5.41	-0.21	41.12	0.0405	-0.1797	-0.0083
191	SLD 6	5.41	-0.21	41.12	0.0405	-0.1797	-0.0083
191	SLD 7	6.77	0.28	49.46	-0.0554	-0.2236	0.0114
191	SLD 8	6.77	0.28	49.46	-0.0554	-0.2236	0.0114
191	SLD 9	5.7	-0.27	43.45	0.0454	-0.2708	-0.0097
191	SLD 10	5.7	-0.27	43.45	0.0454	-0.2708	-0.0097
191	SLD 11	7.05	0.23	51.78	-0.0504	-0.3147	0.0099
191	SLD 12	7.05	0.23	51.78	-0.0504	-0.3147	0.0099
191	SLD 13	6.51	-0.16	49.08	0.0176	-0.3925	-0.0045
191	SLD 14	6.51	-0.16	49.08	0.0176	-0.3925	-0.0045
191	SLD 15	6.92	-0.01	51.58	-0.0111	-0.4056	0.0014
191	SLD 16	6.92	-0.01	51.58	-0.0111	-0.4056	0.0014
191	SLV 1	4.63	0.06	34.41	0.0087	0.1247	-0.0003
191	SLV 2	4.63	0.06	34.41	0.0087	0.1247	-0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
191	SLV 3	5.6	0.41	40.35	-0.0581	0.0927	0.0135
191	SLV 4	5.6	0.41	40.35	-0.0581	0.0927	0.0135
191	SLV 5	4.29	-0.51	33.82	0.1004	-0.0871	-0.0203
191	SLV 6	4.29	-0.51	33.82	0.1004	-0.0871	-0.0203
191	SLV 7	7.5	0.66	53.64	-0.1222	-0.1938	0.0254
191	SLV 8	7.5	0.66	53.64	-0.1222	-0.1938	0.0254
191	SLV 9	4.96	-0.65	39.26	0.1122	-0.3006	-0.0237
191	SLV 10	4.96	-0.65	39.26	0.1122	-0.3006	-0.0237
191	SLV 11	8.17	0.52	59.08	-0.1104	-0.4073	0.022
191	SLV 12	8.17	0.52	59.08	-0.1104	-0.4073	0.022
191	SLV 13	6.87	-0.39	52.55	0.0481	-0.5871	-0.0118
191	SLV 14	6.87	-0.39	52.55	0.0481	-0.5871	-0.0118
191	SLV 15	7.83	-0.04	58.5	-0.0187	-0.6191	0.0019
191	SLV 16	7.83	-0.04	58.5	-0.0187	-0.6191	0.0019
193	SLU 1	-6.7	-3.3	62.21	0.0631	3.7159	0.7424
193	SLU 2	-6.72	-3.31	62.47	0.0634	3.7316	0.7459
193	SLU 3	-6.94	-3.39	64.34	0.0641	3.8273	0.7626
193	SLU 4	-6.96	-3.4	64.49	0.0642	3.8368	0.7647
193	SLU 5	-6.87	-3.36	63.66	0.0634	3.7917	0.7563
193	SLU 6	-7.09	-3.43	65.53	0.0641	3.8874	0.773
193	SLU 7	-7.1	-3.44	65.69	0.0643	3.8969	0.7751
193	SLU 8	-6.98	-3.39	64.6	0.0632	3.836	0.7633
193	SLU 9	-7	-3.4	64.75	0.0633	3.8455	0.7654
193	SLU 10	-8.05	-4.09	75.22	0.079	4.5472	0.9213
193	SLU 11	-8.27	-4.17	77.09	0.0797	4.6429	0.938
193	SLU 12	-8.29	-4.18	77.25	0.0799	4.6524	0.9401
193	SLU 13	-8.2	-4.14	76.41	0.079	4.6072	0.9317
193	SLU 14	-8.42	-4.21	78.29	0.0797	4.703	0.9484
193	SLU 15	-8.43	-4.22	78.44	0.0799	4.7124	0.9505
193	SLU 16	-8.31	-4.17	77.35	0.0788	4.6516	0.9387
193	SLU 17	-8.33	-4.18	77.51	0.0789	4.661	0.9408
193	SLU 18	-8.6	-4.41	80.43	0.0853	4.881	0.993
193	SLU 19	-8.61	-4.42	80.58	0.0855	4.8904	0.9951
193	SLU 20	-8.74	-4.46	81.62	0.0854	4.941	1.0034
193	SLU 21	-8.76	-4.47	81.78	0.0856	4.9505	1.0055
193	SLU 22	-7.76	-3.75	71.93	0.0706	4.261	0.8445
193	SLU 23	-7.79	-3.77	72.19	0.0709	4.2768	0.848
193	SLU 24	-8	-3.84	74.06	0.0716	4.3725	0.8647
193	SLU 25	-8.02	-3.85	74.22	0.0718	4.382	0.8668
193	SLU 26	-7.93	-3.81	73.38	0.0709	4.3369	0.8584
193	SLU 27	-8.15	-3.89	75.26	0.0717	4.4326	0.8751
193	SLU 28	-8.17	-3.9	75.41	0.0718	4.4421	0.8772
193	SLU 29	-8.05	-3.84	74.32	0.0707	4.3812	0.8653
193	SLU 30	-8.06	-3.85	74.48	0.0709	4.3906	0.8675
193	SLU 31	-9.12	-4.55	84.94	0.0865	5.0923	1.0234
193	SLU 32	-9.33	-4.62	86.81	0.0872	5.1881	1.0401
193	SLU 33	-9.35	-4.63	86.97	0.0874	5.1975	1.0422
193	SLU 34	-9.26	-4.59	86.14	0.0865	5.1524	1.0338
193	SLU 35	-9.48	-4.67	88.01	0.0873	5.2482	1.0505
193	SLU 36	-9.5	-4.68	88.16	0.0874	5.2576	1.0526
193	SLU 37	-9.38	-4.62	87.07	0.0863	5.1968	1.0408
193	SLU 38	-9.39	-4.63	87.23	0.0865	5.2062	1.0429
193	SLU 39	-9.66	-4.86	90.15	0.0929	5.4261	1.0951
193	SLU 40	-9.68	-4.87	90.3	0.0931	5.4356	1.0972
193	SLU 41	-9.8	-4.91	91.34	0.0929	5.4862	1.1055
193	SLU 42	-9.82	-4.92	91.5	0.0931	5.4957	1.1076
193	SLU 43	-8.34	-4.13	77.54	0.0794	4.6437	0.9301
193	SLU 44	-8.37	-4.14	77.8	0.0797	4.6594	0.9336
193	SLU 45	-8.59	-4.22	79.67	0.0804	4.7552	0.9503
193	SLU 46	-8.6	-4.23	79.82	0.0806	4.7646	0.9524
193	SLU 47	-8.51	-4.19	78.99	0.0797	4.7195	0.944
193	SLU 48	-8.73	-4.27	80.86	0.0805	4.8153	0.9607
193	SLU 49	-8.75	-4.28	81.02	0.0806	4.8247	0.9628
193	SLU 50	-8.63	-4.22	79.93	0.0795	4.7638	0.951
193	SLU 51	-8.64	-4.23	80.08	0.0797	4.7733	0.9531
193	SLU 52	-9.7	-4.92	90.55	0.0953	5.475	1.109
193	SLU 53	-9.92	-5	92.42	0.096	5.5707	1.1257
193	SLU 54	-9.93	-5.01	92.58	0.0962	5.5802	1.1278
193	SLU 55	-9.84	-4.97	91.74	0.0953	5.5351	1.1195
193	SLU 56	-10.06	-5.05	93.62	0.0961	5.6308	1.1361
193	SLU 57	-10.08	-5.06	93.77	0.0962	5.6403	1.1382
193	SLU 58	-9.96	-5	92.68	0.0951	5.5794	1.1264
193	SLU 59	-9.98	-5.01	92.84	0.0953	5.5889	1.1285
193	SLU 60	-10.24	-5.24	95.76	0.1017	5.8088	1.1807
193	SLU 61	-10.26	-5.25	95.91	0.1019	5.8182	1.1828
193	SLU 62	-10.38	-5.29	96.95	0.1017	5.8689	1.1911
193	SLU 63	-10.4	-5.3	97.11	0.1019	5.8783	1.1932
193	SLU 64	-9.4	-4.58	87.26	0.0869	5.1889	1.0322
193	SLU 65	-9.43	-4.6	87.52	0.0872	5.2046	1.0357
193	SLU 66	-9.65	-4.67	89.39	0.0879	5.3004	1.0524
193	SLU 67	-9.67	-4.68	89.55	0.0881	5.3098	1.0545
193	SLU 68	-9.57	-4.65	88.71	0.0873	5.2647	1.0461
193	SLU 69	-9.79	-4.72	90.59	0.088	5.3604	1.0628
193	SLU 70	-9.81	-4.73	90.74	0.0882	5.3699	1.0649
193	SLU 71	-9.69	-4.68	89.65	0.087	5.309	1.0531
193	SLU 72	-9.71	-4.69	89.8	0.0872	5.3185	1.0552
193	SLU 73	-10.76	-5.38	100.27	0.1028	6.0202	1.2111
193	SLU 74	-10.98	-5.45	102.14	0.1035	6.1159	1.2278
193	SLU 75	-11	-5.46	102.3	0.1037	6.1254	1.2299
193	SLU 76	-10.91	-5.43	101.47	0.1029	6.0803	1.2215



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
200	SLU 52	-4.24	0	96.53	0.0014	-0.2069	0
200	SLU 53	-3.84	0	99.54	0.005	-0.1898	0
200	SLU 54	-4.12	0	99.01	0.0041	-0.2024	0
200	SLU 55	-4.19	0	97.74	0.0038	-0.2054	0
200	SLU 56	-3.78	0	100.75	0.0075	-0.1883	0
200	SLU 57	-4.06	0	100.23	0.0065	-0.2009	0
200	SLU 58	-3.67	0	99.83	0.0079	-0.1829	0
200	SLU 59	-3.95	0	99.31	0.0069	-0.1955	0
200	SLU 60	-4.13	0	103.38	0.0029	-0.203	0
200	SLU 61	-4.41	0	102.85	0.002	-0.2155	0
200	SLU 62	-4.08	0	104.59	0.0054	-0.2014	0
200	SLU 63	-4.36	0	104.07	0.0044	-0.214	0
200	SLU 64	-3.31	0	95.53	0.0044	-0.1642	0
200	SLU 65	-3.77	0	94.66	0.0028	-0.1852	0
200	SLU 66	-3.37	0	97.67	0.0065	-0.1682	0
200	SLU 67	-3.65	0	97.14	0.0055	-0.1807	0
200	SLU 68	-3.72	0	95.87	0.0053	-0.1837	0
200	SLU 69	-3.31	-0.01	98.89	0.0089	-0.1666	0
200	SLU 70	-3.59	-0.01	98.36	0.008	-0.1792	0
200	SLU 71	-3.2	-0.01	97.96	0.0093	-0.1612	0
200	SLU 72	-3.48	-0.01	97.44	0.0084	-0.1738	0
200	SLU 73	-4.6	0	108.6	0.0027	-0.225	0
200	SLU 74	-4.19	0	111.61	0.0064	-0.208	0
200	SLU 75	-4.47	0	111.09	0.0054	-0.2206	0
200	SLU 76	-4.54	0	109.82	0.0052	-0.2235	0
200	SLU 77	-4.14	0	112.83	0.0088	-0.2065	0
200	SLU 78	-4.42	0	112.31	0.0079	-0.2191	0
200	SLU 79	-4.02	-0.01	111.91	0.0092	-0.201	0
200	SLU 80	-4.3	0	111.39	0.0083	-0.2136	0
200	SLU 81	-4.49	0	115.45	0.0043	-0.2211	0
200	SLU 82	-4.77	0	114.93	0.0033	-0.2337	0
200	SLU 83	-4.43	0	116.67	0.0067	-0.2196	0
200	SLU 84	-4.71	0	116.15	0.0058	-0.2322	0
200	SLE RA 1	-2.46	0	70.83	0.0031	-0.1223	0
200	SLE RA 2	-2.78	0	70.25	0.002	-0.1363	0
200	SLE RA 3	-2.51	0	72.26	0.0045	-0.125	0
200	SLE RA 4	-2.69	0	71.91	0.0038	-0.1333	0
200	SLE RA 5	-2.74	0	71.06	0.0037	-0.1353	0
200	SLE RA 6	-2.47	0	73.07	0.0061	-0.124	0
200	SLE RA 7	-2.66	0	72.72	0.0055	-0.1323	0
200	SLE RA 8	-2.39	0	72.45	0.0064	-0.1203	0
200	SLE RA 9	-2.58	0	72.1	0.0057	-0.1287	0
200	SLE RA 10	-3.33	0	79.55	0.002	-0.1629	0
200	SLE RA 11	-3.06	0	81.55	0.0044	-0.1515	0
200	SLE RA 12	-3.24	0	81.2	0.0038	-0.1599	0
200	SLE RA 13	-3.29	0	80.36	0.0036	-0.1618	0
200	SLE RA 14	-3.02	0	82.37	0.006	-0.1505	0
200	SLE RA 15	-3.21	0	82.02	0.0054	-0.1589	0
200	SLE RA 16	-2.94	0	81.75	0.0063	-0.1469	0
200	SLE RA 17	-3.13	0	81.4	0.0057	-0.1552	0
200	SLE RA 18	-3.25	0	84.11	0.003	-0.1602	0
200	SLE RA 19	-3.44	0	83.76	0.0024	-0.1686	0
200	SLE RA 20	-3.22	0	84.92	0.0046	-0.1592	0
200	SLE RA 21	-3.4	0	84.57	0.004	-0.1676	0
200	SLE FR 1	-2.46	0	70.83	0.0031	-0.1223	0
200	SLE FR 2	-2.53	0	70.71	0.0029	-0.1251	0
200	SLE FR 3	-2.45	0	71.15	0.0038	-0.1219	0
200	SLE FR 4	-2.76	0	74.7	0.0029	-0.1365	0
200	SLE FR 5	-2.69	0	75.14	0.0037	-0.1333	0
200	SLE FR 6	-2.86	0	77.47	0.003	-0.1413	0
200	SLE QP 1	-2.46	0	70.83	0.0031	-0.1223	0
200	SLE QP 2	-2.7	0	74.81	0.0031	-0.1337	0
200	SLD 1	9.82	-0.02	77.27	0.0198	0.4902	0
200	SLD 2	9.82	-0.02	77.27	0.0198	0.4902	0
200	SLD 3	8.65	-0.19	81	0.1643	0.4343	0.0001
200	SLD 4	8.65	-0.19	81	0.1643	0.4343	0.0001
200	SLD 5	2.83	0.26	69.9	-0.2111	0.1382	-0.0001
200	SLD 6	2.83	0.26	69.9	-0.2111	0.1382	-0.0001
200	SLD 7	-1.07	-0.32	82.32	0.2707	-0.048	0.0001
200	SLD 8	-1.07	-0.32	82.32	0.2707	-0.048	0.0001
200	SLD 9	-4.33	0.32	67.31	-0.2645	-0.2194	-0.0001
200	SLD 10	-4.33	0.32	67.31	-0.2645	-0.2194	-0.0001
200	SLD 11	-8.23	-0.26	79.73	0.2173	-0.4056	0.0001
200	SLD 12	-8.23	-0.26	79.73	0.2173	-0.4056	0.0001
200	SLD 13	-14.05	0.19	68.63	-0.1582	-0.7017	-0.0001
200	SLD 14	-14.05	0.19	68.63	-0.1582	-0.7017	-0.0001
200	SLD 15	-15.22	0.02	72.36	-0.0137	-0.7576	0
200	SLD 16	-15.22	0.02	72.36	-0.0137	-0.7576	0
200	SLV 1	26.65	-0.04	80.51	0.0406	1.329	0
200	SLV 2	26.65	-0.04	80.51	0.0406	1.329	0
200	SLV 3	23.89	-0.46	89.36	0.3936	1.1971	0.0001
200	SLV 4	23.89	-0.46	89.36	0.3936	1.1971	0.0001
200	SLV 5	10.29	0.63	63.1	-0.5211	0.5052	-0.0002
200	SLV 6	10.29	0.63	63.1	-0.5211	0.5052	-0.0002
200	SLV 7	1.09	-0.79	92.61	0.6557	0.0655	0.0003
200	SLV 8	1.09	-0.79	92.61	0.6557	0.0655	0.0003
200	SLV 9	-6.49	0.78	57.02	-0.6495	-0.3329	-0.0003
200	SLV 10	-6.49	0.78	57.02	-0.6495	-0.3329	-0.0003
200	SLV 11	-15.69	-0.63	86.53	0.5272	-0.7726	0.0002
200	SLV 12	-15.69	-0.63	86.53	0.5272	-0.7726	0.0002



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
200	SLV 13	-29.29	0.46	60.27	-0.3875	-1.4645	-0.0001
200	SLV 14	-29.29	0.46	60.27	-0.3875	-1.4645	-0.0001
200	SLV 15	-32.05	0.04	69.12	-0.0344	-1.5964	0
200	SLV 16	-32.05	0.04	69.12	-0.0344	-1.5964	0
201	SLU 1	-5.6	0	68.27	0.0027	-0.2592	0
201	SLU 2	-6	0	67.38	0.0003	-0.2781	0
201	SLU 3	-5.77	0	70.6	0.0042	-0.268	0
201	SLU 4	-6.01	0	70.06	0.0028	-0.2794	0
201	SLU 5	-6.01	0	68.76	0.0022	-0.2796	0
201	SLU 6	-5.79	0	71.98	0.0061	-0.2695	0
201	SLU 7	-6.02	0	71.44	0.0047	-0.2809	0
201	SLU 8	-5.63	0	71.02	0.0063	-0.2622	0
201	SLU 9	-5.87	0	70.49	0.0049	-0.2735	0
201	SLU 10	-7.47	0	81.55	0.0004	-0.3472	0
201	SLU 11	-7.25	0	84.77	0.0043	-0.3371	0
201	SLU 12	-7.49	0	84.24	0.0029	-0.3485	0
201	SLU 13	-7.49	0	82.93	0.0022	-0.3487	0
201	SLU 14	-7.27	0	86.15	0.0061	-0.3386	0
201	SLU 15	-7.5	0	85.62	0.0047	-0.35	0
201	SLU 16	-7.11	0	85.2	0.0064	-0.3313	0
201	SLU 17	-7.35	0	84.66	0.005	-0.3426	0
201	SLU 18	-7.71	0	88.52	0.0027	-0.3579	0
201	SLU 19	-7.95	0	87.98	0.0013	-0.3692	0
201	SLU 20	-7.73	0	89.9	0.0046	-0.3594	0
201	SLU 21	-7.97	0	89.36	0.0032	-0.3707	0
201	SLU 22	-6.54	0	80.55	0.0038	-0.303	0
201	SLU 23	-6.94	0	79.66	0.0015	-0.322	0
201	SLU 24	-6.71	0	82.88	0.0054	-0.3119	0
201	SLU 25	-6.95	0	82.35	0.004	-0.3232	0
201	SLU 26	-6.96	0	81.04	0.0033	-0.3235	0
201	SLU 27	-6.73	0	84.26	0.0072	-0.3134	0
201	SLU 28	-6.97	0	83.72	0.0058	-0.3248	0
201	SLU 29	-6.58	0	83.31	0.0075	-0.3061	0
201	SLU 30	-6.81	0	82.77	0.0061	-0.3174	0
201	SLU 31	-8.42	0	93.84	0.0015	-0.3911	0
201	SLU 32	-8.19	0	97.05	0.0054	-0.381	0
201	SLU 33	-8.43	0	96.52	0.004	-0.3923	0
201	SLU 34	-8.44	0	95.21	0.0034	-0.3926	0
201	SLU 35	-8.21	0	98.43	0.0072	-0.3825	0
201	SLU 36	-8.45	0	97.9	0.0058	-0.3938	0
201	SLU 37	-8.06	0	97.48	0.0075	-0.3751	0
201	SLU 38	-8.29	0	96.95	0.0061	-0.3865	0
201	SLU 39	-8.66	0	100.8	0.0038	-0.4018	0
201	SLU 40	-8.89	0	100.27	0.0025	-0.4131	0
201	SLU 41	-8.67	0	102.18	0.0057	-0.4033	0
201	SLU 42	-8.91	0	101.64	0.0043	-0.4146	0
201	SLU 43	-6.96	0	84.54	0.0031	-0.3219	0
201	SLU 44	-7.35	0	83.65	0.0007	-0.3408	0
201	SLU 45	-7.13	0	86.87	0.0046	-0.3307	0
201	SLU 46	-7.36	0	86.33	0.0032	-0.3421	0
201	SLU 47	-7.37	0	85.03	0.0026	-0.3423	0
201	SLU 48	-7.14	0	88.25	0.0065	-0.3322	0
201	SLU 49	-7.38	0	87.71	0.0051	-0.3436	0
201	SLU 50	-6.99	0	87.29	0.0067	-0.3249	0
201	SLU 51	-7.23	0	86.76	0.0054	-0.3362	0
201	SLU 52	-8.83	0	97.82	0.0008	-0.4099	0
201	SLU 53	-8.61	0	101.04	0.0047	-0.3998	0
201	SLU 54	-8.84	0	100.51	0.0033	-0.4112	0
201	SLU 55	-8.85	0	99.2	0.0026	-0.4114	0
201	SLU 56	-8.62	0	102.42	0.0065	-0.4013	0
201	SLU 57	-8.86	0	101.89	0.0051	-0.4127	0
201	SLU 58	-8.47	0	101.47	0.0068	-0.394	0
201	SLU 59	-8.71	0	100.93	0.0054	-0.4053	0
201	SLU 60	-9.07	0	104.79	0.0031	-0.4206	0
201	SLU 61	-9.31	0	104.25	0.0017	-0.4319	0
201	SLU 62	-9.09	0	106.16	0.005	-0.4221	0
201	SLU 63	-9.32	0	105.63	0.0036	-0.4335	0
201	SLU 64	-7.9	0	96.82	0.0042	-0.3658	0
201	SLU 65	-8.3	0	95.93	0.0019	-0.3847	0
201	SLU 66	-8.07	0	99.15	0.0058	-0.3746	0
201	SLU 67	-8.31	0	98.62	0.0044	-0.386	0
201	SLU 68	-8.31	0	97.31	0.0037	-0.3862	0
201	SLU 69	-8.09	0	100.53	0.0076	-0.3761	0
201	SLU 70	-8.32	0	99.99	0.0062	-0.3875	0
201	SLU 71	-7.93	0	99.58	0.0079	-0.3688	0
201	SLU 72	-8.17	0	99.04	0.0065	-0.3801	0
201	SLU 73	-9.78	0	110.11	0.0019	-0.4538	0
201	SLU 74	-9.55	0	113.32	0.0058	-0.4437	0
201	SLU 75	-9.79	0	112.79	0.0044	-0.455	0
201	SLU 76	-9.79	0	111.48	0.0038	-0.4553	0
201	SLU 77	-9.57	0	114.7	0.0076	-0.4452	0
201	SLU 78	-9.8	0	114.17	0.0062	-0.4566	0
201	SLU 79	-9.41	0	113.75	0.0079	-0.4379	0
201	SLU 80	-9.65	0	113.22	0.0065	-0.4492	0
201	SLU 81	-10.01	0	117.07	0.0043	-0.4645	0
201	SLU 82	-10.25	0	116.54	0.0029	-0.4758	0
201	SLU 83	-10.03	0	118.45	0.0061	-0.466	0
201	SLU 84	-10.27	0	117.91	0.0047	-0.4773	0
201	SLE RA 1	-5.87	0	71.78	0.003	-0.2717	0
201	SLE RA 2	-6.13	0	71.19	0.0014	-0.2843	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
201	SLE RA 3	-5.98	0	73.33	0.004	-0.2776	0
201	SLE RA 4	-6.14	0	72.98	0.0031	-0.2852	0
201	SLE RA 5	-6.14	0	72.1	0.0027	-0.2853	0
201	SLE RA 6	-5.99	0	74.25	0.0052	-0.2786	0
201	SLE RA 7	-6.15	0	73.89	0.0043	-0.2862	0
201	SLE RA 8	-5.89	0	73.61	0.0054	-0.2737	0
201	SLE RA 9	-6.05	0	73.26	0.0045	-0.2813	0
201	SLE RA 10	-7.12	0	80.63	0.0015	-0.3304	0
201	SLE RA 11	-6.97	0	82.78	0.004	-0.3237	0
201	SLE RA 12	-7.13	0	82.42	0.0031	-0.3312	0
201	SLE RA 13	-7.13	0	81.55	0.0027	-0.3314	0
201	SLE RA 14	-6.98	0	83.7	0.0053	-0.3247	0
201	SLE RA 15	-7.14	0	83.34	0.0043	-0.3322	0
201	SLE RA 16	-6.88	0	83.06	0.0055	-0.3198	0
201	SLE RA 17	-7.04	0	82.71	0.0045	-0.3274	0
201	SLE RA 18	-7.28	0	85.28	0.003	-0.3375	0
201	SLE RA 19	-7.44	0	84.92	0.0021	-0.3451	0
201	SLE RA 20	-7.29	0	86.2	0.0042	-0.3385	0
201	SLE RA 21	-7.45	0	85.84	0.0033	-0.3461	0
201	SLE FR 1	-5.87	0	71.78	0.003	-0.2717	0
201	SLE FR 2	-5.92	0	71.66	0.0027	-0.2742	0
201	SLE FR 3	-5.87	0	72.15	0.0035	-0.2721	0
201	SLE FR 4	-6.34	0	75.71	0.0027	-0.294	0
201	SLE FR 5	-6.3	0	76.2	0.0035	-0.2918	0
201	SLE FR 6	-6.57	0	78.53	0.003	-0.3046	0
201	SLE QP 1	-5.87	0	71.78	0.003	-0.2717	0
201	SLE QP 2	-6.29	0	75.83	0.003	-0.2914	0
201	SLD 1	5.72	-0.02	68.09	0.0256	0.3337	0.0001
201	SLD 2	5.72	-0.02	68.09	0.0256	0.3337	0.0001
201	SLD 3	4.45	-0.23	72.08	0.1992	0.2718	0
201	SLD 4	4.45	-0.23	72.08	0.1992	0.2718	0
201	SLD 5	-0.77	0.3	67.45	-0.2536	-0.0101	0.0001
201	SLD 6	-0.77	0.3	67.45	-0.2536	-0.0101	0.0001
201	SLD 7	-4.99	-0.38	80.76	0.3252	-0.2162	-0.0001
201	SLD 8	-4.99	-0.38	80.76	0.3252	-0.2162	-0.0001
201	SLD 9	-7.6	0.38	70.89	-0.3192	-0.3666	0.0001
201	SLD 10	-7.6	0.38	70.89	-0.3192	-0.3666	0.0001
201	SLD 11	-11.81	-0.31	84.21	0.2595	-0.5728	-0.0001
201	SLD 12	-11.81	-0.31	84.21	0.2595	-0.5728	-0.0001
201	SLD 13	-17.04	0.23	79.58	-0.1932	-0.8547	0
201	SLD 14	-17.04	0.23	79.58	-0.1932	-0.8547	0
201	SLD 15	-18.3	0.02	83.57	-0.0196	-0.9166	-0.0001
201	SLD 16	-18.3	0.02	83.57	-0.0196	-0.9166	-0.0001
201	SLV 1	21.86	-0.05	57.62	0.0538	1.1741	0.0002
201	SLV 2	21.86	-0.05	57.62	0.0538	1.1741	0.0002
201	SLV 3	18.88	-0.55	67.11	0.4779	1.0282	0
201	SLV 4	18.88	-0.55	67.11	0.4779	1.0282	0
201	SLV 5	6.68	0.74	55.98	-0.6249	0.3696	0.0003
201	SLV 6	6.68	0.74	55.98	-0.6249	0.3696	0.0003
201	SLV 7	-3.27	-0.93	87.6	0.7886	-0.1169	-0.0003
201	SLV 8	-3.27	-0.93	87.6	0.7886	-0.1169	-0.0003
201	SLV 9	-9.32	0.92	64.06	-0.7826	-0.4659	0.0003
201	SLV 10	-9.32	0.92	64.06	-0.7826	-0.4659	0.0003
201	SLV 11	-19.26	-0.75	95.68	0.6309	-0.9525	-0.0003
201	SLV 12	-19.26	-0.75	95.68	0.6309	-0.9525	-0.0003
201	SLV 13	-31.46	0.55	84.55	-0.4719	-1.611	0
201	SLV 14	-31.46	0.55	84.55	-0.4719	-1.611	0
201	SLV 15	-34.45	0.05	94.03	-0.0478	-1.757	-0.0002
201	SLV 16	-34.45	0.05	94.03	-0.0478	-1.757	-0.0002
202	SLU 1	-8.78	0	72.45	0.003	-0.4829	0
202	SLU 2	-9.01	0	71.71	0	-0.4949	0
202	SLU 3	-9.07	0	75.1	0.0041	-0.5001	0
202	SLU 4	-9.21	0	74.65	0.0022	-0.5072	0
202	SLU 5	-9.12	0	73.29	0.0012	-0.5021	0
202	SLU 6	-9.18	0	76.68	0.0053	-0.5073	0
202	SLU 7	-9.32	0	76.23	0.0035	-0.5144	0
202	SLU 8	-9	-0.01	75.61	0.0055	-0.4973	0
202	SLU 9	-9.14	0	75.17	0.0036	-0.5045	0
202	SLU 10	-11.08	0	86.97	0.0002	-0.609	0
202	SLU 11	-11.14	0	90.36	0.0043	-0.6142	0
202	SLU 12	-11.28	0	89.91	0.0025	-0.6213	0
202	SLU 13	-11.19	0	88.55	0.0014	-0.6162	0
202	SLU 14	-11.25	-0.01	91.93	0.0056	-0.6214	0
202	SLU 15	-11.39	0	91.49	0.0037	-0.6285	0
202	SLU 16	-11.07	-0.01	90.87	0.0057	-0.6114	0
202	SLU 17	-11.21	0	90.42	0.0039	-0.6186	0
202	SLU 18	-11.74	0	94.25	0.0034	-0.646	0
202	SLU 19	-11.88	0	93.81	0.0016	-0.6531	0
202	SLU 20	-11.85	0	95.83	0.0046	-0.6531	0
202	SLU 21	-11.99	0	95.38	0.0028	-0.6603	0
202	SLU 22	-10.33	0	85.54	0.004	-0.5685	0
202	SLU 23	-10.56	0	84.79	0.0009	-0.5804	0
202	SLU 24	-10.62	0	88.18	0.0051	-0.5856	0
202	SLU 25	-10.75	0	87.74	0.0032	-0.5928	0
202	SLU 26	-10.67	0	86.37	0.0022	-0.5876	0
202	SLU 27	-10.73	-0.01	89.76	0.0063	-0.5928	0
202	SLU 28	-10.86	0	89.31	0.0044	-0.6	0
202	SLU 29	-10.55	-0.01	88.69	0.0065	-0.5829	0
202	SLU 30	-10.69	0	88.25	0.0046	-0.59	0
202	SLU 31	-12.63	0	100.05	0.0012	-0.6945	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
205	SLV 8			-0.41	-15.63	118.49	0.5085	-0.0074	-0.0003
205	SLV 9			0.67	-0.72	53.83	-0.0677	-0.0575	0
205	SLV 10			0.67	-0.72	53.83	-0.0677	-0.0575	0
205	SLV 11			0.28	-14.45	112.68	0.56	-0.2165	-0.0012
205	SLV 12			0.28	-14.45	112.68	0.56	-0.2165	-0.0012
205	SLV 13			1.34	-4.15	67.65	0.2121	-0.3571	-0.0014
205	SLV 14			1.34	-4.15	67.65	0.2121	-0.3571	-0.0014
205	SLV 15			1.22	-8.26	85.31	0.4004	-0.4049	-0.0018
205	SLV 16			1.22	-8.26	85.31	0.4004	-0.4049	-0.0018
206	SLU 1			-7.81	-0.04	30.41	0.0132	-0.0867	0.0028
206	SLU 2			-7.17	-0.04	28.17	0.0111	-0.078	0.0024
206	SLU 3			-8.2	-0.04	31.88	0.014	-0.092	0.0029
206	SLU 4			-7.82	-0.04	30.54	0.0127	-0.0868	0.0027
206	SLU 5			-7.46	-0.04	29.27	0.0118	-0.0819	0.0026
206	SLU 6			-8.5	-0.04	32.99	0.0147	-0.0959	0.0031
206	SLU 7			-8.11	-0.04	31.64	0.0134	-0.0906	0.0029
206	SLU 8			-8.4	-0.04	32.62	0.0146	-0.0945	0.0031
206	SLU 9			-8.02	-0.04	31.27	0.0133	-0.0892	0.0028
206	SLU 10			-8.71	-0.05	34.17	0.0133	-0.0963	0.0029
206	SLU 11			-9.75	-0.05	37.88	0.0161	-0.1103	0.0034
206	SLU 12			-9.36	-0.05	36.54	0.0149	-0.1051	0.0032
206	SLU 13			-9.01	-0.05	35.27	0.014	-0.1002	0.003
206	SLU 14			-10.04	-0.05	38.98	0.0168	-0.1142	0.0035
206	SLU 15			-9.66	-0.05	37.64	0.0156	-0.109	0.0033
206	SLU 16			-9.95	-0.05	38.61	0.0167	-0.1128	0.0035
206	SLU 17			-9.56	-0.05	37.27	0.0155	-0.1076	0.0033
206	SLU 18			-10.02	-0.05	38.98	0.0163	-0.1129	0.0034
206	SLU 19			-9.63	-0.05	37.63	0.015	-0.1077	0.0032
206	SLU 20			-10.31	-0.05	40.08	0.017	-0.1168	0.0035
206	SLU 21			-9.93	-0.05	38.74	0.0157	-0.1116	0.0033
206	SLU 22			-9.25	-0.05	36	0.0154	-0.1031	0.0032
206	SLU 23			-8.61	-0.05	33.76	0.0133	-0.0944	0.0029
206	SLU 24			-9.64	-0.05	37.48	0.0162	-0.1083	0.0034
206	SLU 25			-9.26	-0.05	36.13	0.0149	-0.1031	0.0032
206	SLU 26			-8.9	-0.05	34.86	0.014	-0.0982	0.003
206	SLU 27			-9.94	-0.05	38.58	0.0169	-0.1122	0.0035
206	SLU 28			-9.55	-0.05	37.23	0.0156	-0.107	0.0033
206	SLU 29			-9.84	-0.05	38.21	0.0168	-0.1108	0.0035
206	SLU 30			-9.46	-0.05	36.86	0.0155	-0.1056	0.0033
206	SLU 31			-10.15	-0.06	39.76	0.0155	-0.1127	0.0033
206	SLU 32			-11.19	-0.06	43.47	0.0183	-0.1267	0.0038
206	SLU 33			-10.8	-0.06	42.13	0.0171	-0.1214	0.0036
206	SLU 34			-10.45	-0.06	40.86	0.0162	-0.1166	0.0035
206	SLU 35			-11.48	-0.06	44.58	0.019	-0.1305	0.004
206	SLU 36			-11.1	-0.06	43.23	0.0178	-0.1253	0.0038
206	SLU 37			-11.39	-0.06	44.21	0.0189	-0.1292	0.0039
206	SLU 38			-11	-0.06	42.86	0.0177	-0.1239	0.0037
206	SLU 39			-11.46	-0.06	44.57	0.0185	-0.1293	0.0039
206	SLU 40			-11.07	-0.06	43.22	0.0172	-0.124	0.0037
206	SLU 41			-11.75	-0.06	45.67	0.0191	-0.1331	0.004
206	SLU 42			-11.37	-0.06	44.33	0.0179	-0.1279	0.0038
206	SLU 43			-9.66	-0.05	37.61	0.0164	-0.1072	0.0035
206	SLU 44			-9.02	-0.05	35.37	0.0144	-0.0984	0.0031
206	SLU 45			-10.05	-0.05	39.09	0.0172	-0.1124	0.0036
206	SLU 46			-9.67	-0.05	37.74	0.016	-0.1072	0.0034
206	SLU 47			-9.31	-0.05	36.48	0.015	-0.1023	0.0033
206	SLU 48			-10.35	-0.05	40.19	0.0179	-0.1163	0.0037
206	SLU 49			-9.96	-0.05	38.85	0.0166	-0.111	0.0035
206	SLU 50			-10.25	-0.05	39.82	0.0178	-0.1149	0.0037
206	SLU 51			-9.87	-0.05	38.48	0.0166	-0.1097	0.0035
206	SLU 52			-10.56	-0.06	41.37	0.0165	-0.1168	0.0036
206	SLU 53			-11.6	-0.06	45.09	0.0193	-0.1307	0.0041
206	SLU 54			-11.21	-0.06	43.74	0.0181	-0.1255	0.0038
206	SLU 55			-10.86	-0.06	42.47	0.0172	-0.1206	0.0037
206	SLU 56			-11.89	-0.06	46.19	0.02	-0.1346	0.0042
206	SLU 57			-11.51	-0.06	44.84	0.0188	-0.1294	0.004
206	SLU 58			-11.8	-0.06	45.82	0.0199	-0.1332	0.0042
206	SLU 59			-11.41	-0.06	44.47	0.0187	-0.128	0.004
206	SLU 60			-11.87	-0.06	46.18	0.0195	-0.1333	0.0041
206	SLU 61			-11.48	-0.06	44.84	0.0182	-0.1281	0.0039
206	SLU 62			-12.16	-0.06	47.29	0.0202	-0.1372	0.0042
206	SLU 63			-11.78	-0.06	45.94	0.0189	-0.132	0.004
206	SLU 64			-11.1	-0.06	43.21	0.0186	-0.1235	0.0039
206	SLU 65			-10.46	-0.06	40.97	0.0166	-0.1148	0.0036
206	SLU 66			-11.49	-0.06	44.68	0.0194	-0.1288	0.0041
206	SLU 67			-11.11	-0.06	43.34	0.0182	-0.1235	0.0039
206	SLU 68			-10.75	-0.06	42.07	0.0172	-0.1186	0.0037
206	SLU 69			-11.79	-0.06	45.78	0.0201	-0.1326	0.0042
206	SLU 70			-11.4	-0.06	44.44	0.0188	-0.1274	0.004
206	SLU 71			-11.69	-0.06	45.41	0.02	-0.1312	0.0042
206	SLU 72			-11.31	-0.06	44.07	0.0188	-0.126	0.004
206	SLU 73			-12	-0.07	46.96	0.0187	-0.1331	0.004
206	SLU 74			-13.04	-0.07	50.68	0.0215	-0.1471	0.0045
206	SLU 75			-12.65	-0.07	49.33	0.0203	-0.1419	0.0043
206	SLU 76			-12.3	-0.07	48.07	0.0194	-0.137	0.0042
206	SLU 77			-13.33	-0.07	51.78	0.0222	-0.151	0.0046
206	SLU 78			-12.95	-0.07	50.44	0.021	-0.1457	0.0044
206	SLU 79			-13.24	-0.07	51.41	0.0221	-0.1496	0.0046
206	SLU 80			-12.85	-0.07	50.07	0.0209	-0.1443	0.0044
206	SLU 81			-13.31	-0.07	51.78	0.0217	-0.1497	0.0045



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
206	SLU 82			-12.92	-0.07	50.43	0.0204	-0.1445	0.0043
206	SLU 83			-13.6	-0.07	52.88	0.0224	-0.1536	0.0047
206	SLU 84			-13.22	-0.07	51.53	0.0211	-0.1483	0.0045
206	SLE RA 1			-8.22	-0.04	32.01	0.0139	-0.0914	0.0029
206	SLE RA 2			-7.8	-0.04	30.51	0.0125	-0.0856	0.0027
206	SLE RA 3			-8.48	-0.04	32.99	0.0144	-0.0949	0.003
206	SLE RA 4			-8.23	-0.04	32.09	0.0135	-0.0914	0.0029
206	SLE RA 5			-7.99	-0.04	31.25	0.0129	-0.0882	0.0028
206	SLE RA 6			-8.68	-0.04	33.72	0.0148	-0.0975	0.0031
206	SLE RA 7			-8.42	-0.04	32.83	0.014	-0.094	0.003
206	SLE RA 8			-8.62	-0.04	33.48	0.0148	-0.0966	0.0031
206	SLE RA 9			-8.36	-0.04	32.58	0.0139	-0.0931	0.003
206	SLE RA 10			-8.83	-0.05	34.51	0.0139	-0.0978	0.003
206	SLE RA 11			-9.51	-0.05	36.99	0.0158	-0.1071	0.0033
206	SLE RA 12			-9.26	-0.05	36.09	0.015	-0.1036	0.0032
206	SLE RA 13			-9.02	-0.05	35.25	0.0143	-0.1004	0.0031
206	SLE RA 14			-9.71	-0.05	37.72	0.0162	-0.1097	0.0034
206	SLE RA 15			-9.45	-0.05	36.83	0.0154	-0.1062	0.0033
206	SLE RA 16			-9.65	-0.05	37.48	0.0162	-0.1088	0.0034
206	SLE RA 17			-9.39	-0.05	36.58	0.0154	-0.1053	0.0033
206	SLE RA 18			-9.7	-0.05	37.72	0.0159	-0.1089	0.0033
206	SLE RA 19			-9.44	-0.05	36.82	0.015	-0.1054	0.0032
206	SLE RA 20			-9.89	-0.05	38.45	0.0163	-0.1114	0.0034
206	SLE RA 21			-9.63	-0.05	37.56	0.0155	-0.108	0.0033
206	SLE FR 1			-8.22	-0.04	32.01	0.0139	-0.0914	0.0029
206	SLE FR 2			-8.14	-0.04	31.71	0.0136	-0.0902	0.0029
206	SLE FR 3			-8.3	-0.04	32.3	0.014	-0.0924	0.0029
206	SLE FR 4			-8.58	-0.04	33.42	0.0142	-0.0955	0.003
206	SLE FR 5			-8.74	-0.04	34.02	0.0146	-0.0977	0.0031
206	SLE FR 6			-8.96	-0.04	34.86	0.0149	-0.1001	0.0031
206	SLE QP 1			-8.22	-0.04	32.01	0.0139	-0.0914	0.0029
206	SLE QP 2			-8.67	-0.04	33.72	0.0145	-0.0966	0.003
206	SLD 1			-5.81	0.13	23.82	-0.0168	-0.0078	-0.0019
206	SLD 2			-5.81	0.13	23.82	-0.0168	-0.0078	-0.0019
206	SLD 3			-6.8	0.28	27.15	-0.0032	-0.0269	-0.0058
206	SLD 4			-6.8	0.28	27.15	-0.0032	-0.0269	-0.0058
206	SLD 5			-6.31	-0.21	25.71	-0.0156	-0.041	0.0074
206	SLD 6			-6.31	-0.21	25.71	-0.0156	-0.041	0.0074
206	SLD 7			-9.6	0.27	36.79	0.0299	-0.1048	-0.0055
206	SLD 8			-9.6	0.27	36.79	0.0299	-0.1048	-0.0055
206	SLD 9			-7.73	-0.36	30.65	-0.001	-0.0885	0.0116
206	SLD 10			-7.73	-0.36	30.65	-0.001	-0.0885	0.0116
206	SLD 11			-11.02	0.12	41.73	0.0445	-0.1523	-0.0014
206	SLD 12			-11.02	0.12	41.73	0.0445	-0.1523	-0.0014
206	SLD 13			-10.54	-0.36	40.3	0.0321	-0.1664	0.0119
206	SLD 14			-10.54	-0.36	40.3	0.0321	-0.1664	0.0119
206	SLD 15			-11.52	-0.22	43.62	0.0457	-0.1855	0.008
206	SLD 16			-11.52	-0.22	43.62	0.0457	-0.1855	0.008
206	SLV 1			-1.96	0.39	10.47	-0.063	0.1117	-0.0091
206	SLV 2			-1.96	0.39	10.47	-0.063	0.1117	-0.0091
206	SLV 3			-4.3	0.75	18.38	-0.0288	0.0663	-0.0188
206	SLV 4			-4.3	0.75	18.38	-0.0288	0.0663	-0.0188
206	SLV 5			-3.1	-0.46	14.75	-0.0607	0.0346	0.0142
206	SLV 6			-3.1	-0.46	14.75	-0.0607	0.0346	0.0142
206	SLV 7			-10.91	0.74	41.11	0.0534	-0.1165	-0.0183
206	SLV 8			-10.91	0.74	41.11	0.0534	-0.1165	-0.0183
206	SLV 9			-6.42	-0.83	26.33	-0.0245	-0.0768	0.0244
206	SLV 10			-6.42	-0.83	26.33	-0.0245	-0.0768	0.0244
206	SLV 11			-14.23	0.38	52.69	0.0897	-0.2279	-0.0081
206	SLV 12			-14.23	0.38	52.69	0.0897	-0.2279	-0.0081
206	SLV 13			-13.03	-0.84	49.07	0.0577	-0.2596	0.0249
206	SLV 14			-13.03	-0.84	49.07	0.0577	-0.2596	0.0249
206	SLV 15			-15.37	-0.47	56.97	0.092	-0.305	0.0151
206	SLV 16			-15.37	-0.47	56.97	0.092	-0.305	0.0151
207	SLU 1			6.42	0.01	26.71	-0.0053	0.1095	0.0009
207	SLU 2			6.54	0.03	26.77	-0.0077	0.1169	0.0014
207	SLU 3			6.39	0.01	26.98	-0.0054	0.1043	0.0009
207	SLU 4			6.47	0.02	27.01	-0.0069	0.1087	0.0012
207	SLU 5			6.5	0.03	26.9	-0.0078	0.1122	0.0014
207	SLU 6			6.35	0.01	27.1	-0.0056	0.0996	0.001
207	SLU 7			6.42	0.02	27.14	-0.007	0.1041	0.0013
207	SLU 8			6.33	0.01	26.97	-0.0055	0.1002	0.0009
207	SLU 9			6.4	0.02	27	-0.007	0.1046	0.0013
207	SLU 10			7.47	0.03	31.18	-0.0087	0.126	0.0016
207	SLU 11			7.32	0.01	31.38	-0.0064	0.1134	0.0011
207	SLU 12			7.39	0.02	31.42	-0.0079	0.1179	0.0014
207	SLU 13			7.43	0.03	31.3	-0.0088	0.1214	0.0016
207	SLU 14			7.27	0.01	31.51	-0.0065	0.1088	0.0011
207	SLU 15			7.35	0.02	31.55	-0.008	0.1132	0.0014
207	SLU 16			7.25	0.01	31.37	-0.0065	0.1093	0.0011
207	SLU 17			7.33	0.02	31.41	-0.0079	0.1138	0.0014
207	SLU 18			7.74	0.01	33	-0.0066	0.1225	0.0011
207	SLU 19			7.82	0.02	33.04	-0.0081	0.127	0.0014
207	SLU 20			7.69	0.01	33.13	-0.0067	0.1179	0.0012
207	SLU 21			7.77	0.02	33.17	-0.0082	0.1223	0.0015
207	SLU 22			7.25	0.01	30.72	-0.0062	0.1172	0.0011
207	SLU 23			7.38	0.03	30.78	-0.0086	0.1246	0.0016
207	SLU 24			7.22	0.01	30.98	-0.0063	0.112	0.0011
207	SLU 25			7.3	0.02	31.02	-0.0078	0.1165	0.0014
207	SLU 26			7.33	0.03	30.91	-0.0087	0.12	0.0016



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
207	SLU 27	7.18	0.01	31.11	-0.0065	0.1074	0.0011
207	SLU 28	7.26	0.02	31.15	-0.0079	0.1118	0.0014
207	SLU 29	7.16	0.01	30.97	-0.0064	0.1079	0.0011
207	SLU 30	7.24	0.02	31.01	-0.0079	0.1124	0.0014
207	SLU 31	8.3	0.03	35.18	-0.0096	0.1338	0.0017
207	SLU 32	8.15	0.02	35.39	-0.0073	0.1212	0.0013
207	SLU 33	8.23	0.03	35.42	-0.0088	0.1256	0.0016
207	SLU 34	8.26	0.03	35.31	-0.0097	0.1291	0.0018
207	SLU 35	8.11	0.02	35.52	-0.0074	0.1166	0.0013
207	SLU 36	8.18	0.03	35.55	-0.0089	0.121	0.0016
207	SLU 37	8.09	0.02	35.38	-0.0074	0.1171	0.0013
207	SLU 38	8.16	0.03	35.42	-0.0088	0.1215	0.0016
207	SLU 39	8.57	0.02	37.01	-0.0075	0.1303	0.0013
207	SLU 40	8.65	0.03	37.05	-0.009	0.1347	0.0016
207	SLU 41	8.53	0.02	37.14	-0.0077	0.1257	0.0013
207	SLU 42	8.61	0.03	37.18	-0.0091	0.1301	0.0016
207	SLU 43	8.06	0.01	33.35	-0.0065	0.1396	0.0011
207	SLU 44	8.18	0.03	33.41	-0.009	0.147	0.0016
207	SLU 45	8.03	0.01	33.61	-0.0067	0.1345	0.0011
207	SLU 46	8.11	0.02	33.65	-0.0082	0.1389	0.0015
207	SLU 47	8.14	0.03	33.54	-0.0091	0.1424	0.0017
207	SLU 48	7.99	0.01	33.74	-0.0068	0.1298	0.0012
207	SLU 49	8.06	0.02	33.78	-0.0083	0.1343	0.0015
207	SLU 50	7.97	0.01	33.61	-0.0068	0.1304	0.0012
207	SLU 51	8.04	0.02	33.64	-0.0082	0.1348	0.0015
207	SLU 52	9.11	0.03	37.82	-0.0099	0.1562	0.0018
207	SLU 53	8.96	0.02	38.02	-0.0076	0.1436	0.0013
207	SLU 54	9.03	0.03	38.06	-0.0091	0.1481	0.0016
207	SLU 55	9.07	0.03	37.94	-0.0101	0.1516	0.0018
207	SLU 56	8.91	0.02	38.15	-0.0078	0.139	0.0013
207	SLU 57	8.99	0.03	38.18	-0.0092	0.1434	0.0016
207	SLU 58	8.89	0.02	38.01	-0.0077	0.1395	0.0013
207	SLU 59	8.97	0.03	38.05	-0.0092	0.144	0.0016
207	SLU 60	9.38	0.02	39.64	-0.0079	0.1527	0.0014
207	SLU 61	9.45	0.03	39.68	-0.0094	0.1572	0.0017
207	SLU 62	9.33	0.02	39.77	-0.008	0.1481	0.0014
207	SLU 63	9.41	0.03	39.81	-0.0095	0.1525	0.0017
207	SLU 64	8.89	0.02	37.36	-0.0074	0.1474	0.0013
207	SLU 65	9.02	0.03	37.42	-0.0099	0.1548	0.0018
207	SLU 66	8.86	0.02	37.62	-0.0076	0.1422	0.0013
207	SLU 67	8.94	0.03	37.66	-0.0091	0.1466	0.0016
207	SLU 68	8.97	0.03	37.55	-0.01	0.1501	0.0018
207	SLU 69	8.82	0.02	37.75	-0.0077	0.1376	0.0013
207	SLU 70	8.9	0.03	37.79	-0.0092	0.142	0.0016
207	SLU 71	8.8	0.02	37.61	-0.0077	0.1381	0.0013
207	SLU 72	8.88	0.03	37.65	-0.0092	0.1426	0.0016
207	SLU 73	9.94	0.03	41.82	-0.0108	0.1639	0.002
207	SLU 74	9.79	0.02	42.03	-0.0086	0.1514	0.0015
207	SLU 75	9.87	0.03	42.06	-0.01	0.1558	0.0018
207	SLU 76	9.9	0.03	41.95	-0.011	0.1593	0.002
207	SLU 77	9.74	0.02	42.16	-0.0087	0.1467	0.0015
207	SLU 78	9.82	0.03	42.19	-0.0102	0.1512	0.0018
207	SLU 79	9.73	0.02	42.02	-0.0086	0.1473	0.0015
207	SLU 80	9.8	0.03	42.06	-0.0101	0.1517	0.0018
207	SLU 81	10.21	0.02	43.65	-0.0088	0.1605	0.0015
207	SLU 82	10.29	0.03	43.69	-0.0103	0.1649	0.0018
207	SLU 83	10.17	0.02	43.78	-0.0089	0.1558	0.0015
207	SLU 84	10.24	0.03	43.82	-0.0104	0.1603	0.0018
207	SLE RA 1	6.65	0.01	27.85	-0.0055	0.1117	0.0009
207	SLE RA 2	6.74	0.02	27.9	-0.0072	0.1166	0.0013
207	SLE RA 3	6.64	0.01	28.03	-0.0056	0.1082	0.001
207	SLE RA 4	6.69	0.02	28.06	-0.0066	0.1112	0.0012
207	SLE RA 5	6.71	0.02	27.98	-0.0072	0.1135	0.0013
207	SLE RA 6	6.61	0.01	28.12	-0.0057	0.1051	0.001
207	SLE RA 7	6.66	0.02	28.14	-0.0067	0.1081	0.0012
207	SLE RA 8	6.6	0.01	28.03	-0.0057	0.1055	0.001
207	SLE RA 9	6.65	0.02	28.05	-0.0067	0.1084	0.0012
207	SLE RA 10	7.36	0.02	30.83	-0.0078	0.1227	0.0014
207	SLE RA 11	7.25	0.01	30.97	-0.0063	0.1143	0.0011
207	SLE RA 12	7.31	0.02	30.99	-0.0072	0.1173	0.0013
207	SLE RA 13	7.33	0.02	30.92	-0.0079	0.1196	0.0014
207	SLE RA 14	7.22	0.01	31.05	-0.0063	0.1112	0.0011
207	SLE RA 15	7.28	0.02	31.08	-0.0073	0.1142	0.0013
207	SLE RA 16	7.21	0.01	30.96	-0.0063	0.1116	0.0011
207	SLE RA 17	7.26	0.02	30.99	-0.0073	0.1146	0.0013
207	SLE RA 18	7.54	0.01	32.05	-0.0064	0.1204	0.0011
207	SLE RA 19	7.59	0.02	32.08	-0.0074	0.1234	0.0013
207	SLE RA 20	7.51	0.01	32.14	-0.0065	0.1173	0.0011
207	SLE RA 21	7.56	0.02	32.16	-0.0075	0.1203	0.0013
207	SLE FR 1	6.65	0.01	27.85	-0.0055	0.1117	0.0009
207	SLE FR 2	6.67	0.01	27.86	-0.0058	0.1127	0.001
207	SLE FR 3	6.64	0.01	27.89	-0.0055	0.1104	0.001
207	SLE FR 4	6.94	0.01	29.12	-0.0061	0.1153	0.0011
207	SLE FR 5	6.91	0.01	29.15	-0.0058	0.1131	0.001
207	SLE FR 6	7.1	0.01	29.95	-0.006	0.116	0.001
207	SLE QP 1	6.65	0.01	27.85	-0.0055	0.1117	0.0009
207	SLE QP 2	6.92	0.01	29.11	-0.0058	0.1143	0.001
207	SLD 1	13.68	-0.14	48.17	0.0379	0.3538	-0.0078
207	SLD 2	13.68	-0.14	48.17	0.0379	0.3538	-0.0078
207	SLD 3	13.21	0.35	46.79	-0.0191	0.3376	0.0048



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
207	SLD 4		13.21	0.35	46.79	-0.0191	0.3376	0.0048
207	SLD 5		9.66	-0.77	36.93	0.0939	0.2108	-0.0208
207	SLD 6		9.66	-0.77	36.93	0.0939	0.2108	-0.0208
207	SLD 7		8.1	0.85	32.32	-0.0963	0.1566	0.0213
207	SLD 8		8.1	0.85	32.32	-0.0963	0.1566	0.0213
207	SLD 9		5.74	-0.83	25.9	0.0848	0.072	-0.0193
207	SLD 10		5.74	-0.83	25.9	0.0848	0.072	-0.0193
207	SLD 11		4.18	0.79	21.3	-0.1055	0.0178	0.0228
207	SLD 12		4.18	0.79	21.3	-0.1055	0.0178	0.0228
207	SLD 13		0.63	-0.32	11.44	0.0076	-0.109	-0.0028
207	SLD 14		0.63	-0.32	11.44	0.0076	-0.109	-0.0028
207	SLD 15		0.16	0.16	10.05	-0.0495	-0.1252	0.0098
207	SLD 16		0.16	0.16	10.05	-0.0495	-0.1252	0.0098
207	SLV 1		22.76	-0.38	73.79	0.1049	0.6753	-0.0214
207	SLV 2		22.76	-0.38	73.79	0.1049	0.6753	-0.0214
207	SLV 3		21.65	0.87	70.53	-0.0399	0.6369	0.0108
207	SLV 4		21.65	0.87	70.53	-0.0399	0.6369	0.0108
207	SLV 5		13.35	-1.99	47.46	0.2472	0.3408	-0.0546
207	SLV 6		13.35	-1.99	47.46	0.2472	0.3408	-0.0546
207	SLV 7		9.66	2.16	36.59	-0.2358	0.2128	0.0528
207	SLV 8		9.66	2.16	36.59	-0.2358	0.2128	0.0528
207	SLV 9		4.18	-2.13	21.64	0.2242	0.0158	-0.0508
207	SLV 10		4.18	-2.13	21.64	0.2242	0.0158	-0.0508
207	SLV 11		0.49	2.02	10.76	-0.2587	-0.1123	0.0566
207	SLV 12		0.49	2.02	10.76	-0.2587	-0.1123	0.0566
207	SLV 13		-7.81	-0.84	-12.3	0.0284	-0.4083	-0.0089
207	SLV 14		-7.81	-0.84	-12.3	0.0284	-0.4083	-0.0089
207	SLV 15		-8.92	0.4	-15.56	-0.1165	-0.4467	0.0234
207	SLV 16		-8.92	0.4	-15.56	-0.1165	-0.4467	0.0234
208	SLU 1		3.13	0.01	49.3	-0.0087	0.1689	-0.0001
208	SLU 2		3.44	0.02	49.03	-0.0099	0.1847	-0.0001
208	SLU 3		2.93	0.01	50.24	-0.009	0.1578	-0.0001
208	SLU 4		3.12	0.02	50.08	-0.0097	0.1673	-0.0001
208	SLU 5		3.26	0.02	49.62	-0.0101	0.1749	-0.0001
208	SLU 6		2.75	0.01	50.84	-0.0092	0.148	-0.0001
208	SLU 7		2.93	0.02	50.67	-0.0099	0.1575	-0.0001
208	SLU 8		2.77	0.01	50.49	-0.0091	0.1493	-0.0001
208	SLU 9		2.96	0.02	50.33	-0.0098	0.1588	-0.0001
208	SLU 10		3.58	0.02	57.74	-0.0115	0.1923	-0.0001
208	SLU 11		3.06	0.02	58.96	-0.0106	0.1654	-0.0001
208	SLU 12		3.25	0.02	58.79	-0.0113	0.1749	-0.0001
208	SLU 13		3.4	0.02	58.34	-0.0117	0.1825	-0.0001
208	SLU 14		2.88	0.02	59.55	-0.0108	0.1556	-0.0001
208	SLU 15		3.07	0.02	59.39	-0.0115	0.1651	-0.0001
208	SLU 16		2.9	0.02	59.21	-0.0107	0.1569	-0.0001
208	SLU 17		3.09	0.02	59.04	-0.0114	0.1664	-0.0001
208	SLU 18		3.32	0.02	61.75	-0.011	0.1797	-0.0001
208	SLU 19		3.51	0.02	61.59	-0.0117	0.1892	-0.0001
208	SLU 20		3.14	0.02	62.35	-0.0112	0.1699	-0.0001
208	SLU 21		3.33	0.02	62.18	-0.0119	0.1794	-0.0001
208	SLU 22		3.24	0.02	57.24	-0.0102	0.1754	-0.0001
208	SLU 23		3.55	0.02	56.96	-0.0115	0.1911	-0.0001
208	SLU 24		3.04	0.02	58.18	-0.0105	0.1642	-0.0001
208	SLU 25		3.22	0.02	58.01	-0.0112	0.1737	-0.0001
208	SLU 26		3.37	0.02	57.56	-0.0117	0.1813	-0.0001
208	SLU 27		2.85	0.02	58.77	-0.0107	0.1544	-0.0001
208	SLU 28		3.04	0.02	58.61	-0.0114	0.1639	-0.0001
208	SLU 29		2.87	0.02	58.43	-0.0106	0.1557	-0.0001
208	SLU 30		3.06	0.02	58.26	-0.0114	0.1652	-0.0001
208	SLU 31		3.69	0.02	65.68	-0.013	0.1987	-0.0001
208	SLU 32		3.17	0.02	66.9	-0.0121	0.1718	-0.0001
208	SLU 33		3.36	0.02	66.73	-0.0128	0.1813	-0.0001
208	SLU 34		3.5	0.02	66.27	-0.0133	0.1889	-0.0001
208	SLU 35		2.99	0.02	67.49	-0.0123	0.162	-0.0001
208	SLU 36		3.17	0.02	67.33	-0.013	0.1715	-0.0001
208	SLU 37		3.01	0.02	67.14	-0.0122	0.1633	-0.0001
208	SLU 38		3.2	0.02	66.98	-0.013	0.1728	-0.0001
208	SLU 39		3.43	0.02	69.69	-0.0125	0.1862	-0.0001
208	SLU 40		3.62	0.02	69.53	-0.0132	0.1956	-0.0001
208	SLU 41		3.25	0.02	70.28	-0.0127	0.1764	-0.0001
208	SLU 42		3.44	0.02	70.12	-0.0134	0.1858	-0.0001
208	SLU 43		4.04	0.02	61.37	-0.0108	0.2174	-0.0001
208	SLU 44		4.35	0.02	61.1	-0.012	0.2332	-0.0001
208	SLU 45		3.83	0.02	62.31	-0.011	0.2063	-0.0001
208	SLU 46		4.02	0.02	62.15	-0.0118	0.2158	-0.0001
208	SLU 47		4.17	0.02	61.69	-0.0122	0.2234	-0.0001
208	SLU 48		3.65	0.02	62.91	-0.0113	0.1965	-0.0001
208	SLU 49		3.84	0.02	62.74	-0.012	0.206	-0.0001
208	SLU 50		3.67	0.02	62.56	-0.0112	0.1978	-0.0001
208	SLU 51		3.86	0.02	62.4	-0.0119	0.2073	-0.0001
208	SLU 52		4.48	0.02	69.81	-0.0136	0.2408	-0.0001
208	SLU 53		3.97	0.02	71.03	-0.0126	0.2139	-0.0001
208	SLU 54		4.15	0.02	70.86	-0.0134	0.2233	-0.0001
208	SLU 55		4.3	0.02	70.41	-0.0138	0.231	-0.0001
208	SLU 56		3.78	0.02	71.62	-0.0128	0.2041	-0.0001
208	SLU 57		3.97	0.02	71.46	-0.0136	0.2135	-0.0001
208	SLU 58		3.81	0.02	71.28	-0.0128	0.2054	-0.0001
208	SLU 59		3.99	0.02	71.11	-0.0135	0.2149	-0.0001
208	SLU 60		4.23	0.02	73.82	-0.013	0.2282	-0.0001
208	SLU 61		4.41	0.02	73.66	-0.0138	0.2377	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
208	SLU 62	4.04	0.02	74.42	-0.0133	0.2184	-0.0001
208	SLU 63	4.23	0.02	74.25	-0.014	0.2279	-0.0001
208	SLU 64	4.14	0.02	69.31	-0.0123	0.2238	-0.0001
208	SLU 65	4.45	0.02	69.03	-0.0135	0.2396	-0.0001
208	SLU 66	3.94	0.02	70.25	-0.0126	0.2127	-0.0001
208	SLU 67	4.13	0.02	70.08	-0.0133	0.2222	-0.0001
208	SLU 68	4.27	0.02	69.63	-0.0137	0.2298	-0.0001
208	SLU 69	3.76	0.02	70.84	-0.0128	0.2029	-0.0001
208	SLU 70	3.94	0.02	70.68	-0.0135	0.2124	-0.0001
208	SLU 71	3.78	0.02	70.5	-0.0127	0.2042	-0.0001
208	SLU 72	3.97	0.02	70.33	-0.0135	0.2137	-0.0001
208	SLU 73	4.59	0.03	77.75	-0.0151	0.2472	-0.0001
208	SLU 74	4.07	0.02	78.96	-0.0142	0.2203	-0.0001
208	SLU 75	4.26	0.02	78.8	-0.0149	0.2298	-0.0001
208	SLU 76	4.41	0.03	78.34	-0.0153	0.2374	-0.0001
208	SLU 77	3.89	0.02	79.56	-0.0144	0.2105	-0.0001
208	SLU 78	4.08	0.02	79.39	-0.0151	0.22	-0.0001
208	SLU 79	3.91	0.02	79.21	-0.0143	0.2118	-0.0001
208	SLU 80	4.1	0.02	79.05	-0.015	0.2213	-0.0001
208	SLU 81	4.33	0.02	81.76	-0.0146	0.2346	-0.0001
208	SLU 82	4.52	0.02	81.59	-0.0153	0.2441	-0.0001
208	SLU 83	4.15	0.02	82.35	-0.0148	0.2248	-0.0001
208	SLU 84	4.34	0.03	82.19	-0.0155	0.2343	-0.0001
208	SLE RA 1	3.16	0.01	51.57	-0.0091	0.1708	-0.0001
208	SLE RA 2	3.37	0.02	51.39	-0.0099	0.1813	-0.0001
208	SLE RA 3	3.03	0.01	52.2	-0.0093	0.1634	-0.0001
208	SLE RA 4	3.15	0.02	52.09	-0.0098	0.1697	-0.0001
208	SLE RA 5	3.25	0.02	51.78	-0.0101	0.1748	-0.0001
208	SLE RA 6	2.91	0.01	52.59	-0.0094	0.1568	-0.0001
208	SLE RA 7	3.03	0.02	52.48	-0.0099	0.1631	-0.0001
208	SLE RA 8	2.92	0.01	52.36	-0.0094	0.1577	-0.0001
208	SLE RA 9	3.04	0.02	52.25	-0.0099	0.164	-0.0001
208	SLE RA 10	3.46	0.02	57.2	-0.011	0.1863	-0.0001
208	SLE RA 11	3.12	0.02	58.01	-0.0104	0.1684	-0.0001
208	SLE RA 12	3.24	0.02	57.9	-0.0109	0.1747	-0.0001
208	SLE RA 13	3.34	0.02	57.59	-0.0111	0.1798	-0.0001
208	SLE RA 14	2.99	0.02	58.4	-0.0105	0.1619	-0.0001
208	SLE RA 15	3.12	0.02	58.29	-0.011	0.1682	-0.0001
208	SLE RA 16	3.01	0.02	58.17	-0.0105	0.1627	-0.0001
208	SLE RA 17	3.13	0.02	58.06	-0.011	0.1691	-0.0001
208	SLE RA 18	3.29	0.02	59.87	-0.0106	0.178	-0.0001
208	SLE RA 19	3.42	0.02	59.76	-0.0111	0.1843	-0.0001
208	SLE RA 20	3.17	0.02	60.27	-0.0108	0.1714	-0.0001
208	SLE RA 21	3.29	0.02	60.16	-0.0113	0.1778	-0.0001
208	SLE FR 1	3.16	0.01	51.57	-0.0091	0.1708	-0.0001
208	SLE FR 2	3.2	0.01	51.53	-0.0093	0.1729	-0.0001
208	SLE FR 3	3.11	0.01	51.73	-0.0092	0.1682	-0.0001
208	SLE FR 4	3.24	0.01	54.02	-0.0097	0.175	-0.0001
208	SLE FR 5	3.15	0.01	54.22	-0.0096	0.1703	-0.0001
208	SLE FR 6	3.23	0.01	55.72	-0.0099	0.1744	-0.0001
208	SLE QP 1	3.16	0.01	51.57	-0.0091	0.1708	-0.0001
208	SLE QP 2	3.2	0.01	54.06	-0.0096	0.1729	-0.0001
208	SLD 1	11.12	-0.1	74.64	0.0055	0.6373	0.0004
208	SLD 2	11.12	-0.1	74.64	0.0055	0.6373	0.0004
208	SLD 3	10.53	0.01	73.07	0.0543	0.6011	0.0001
208	SLD 4	10.53	0.01	73.07	0.0543	0.6011	0.0001
208	SLD 5	6.47	-0.18	62.62	-0.079	0.3672	0.0005
208	SLD 6	6.47	-0.18	62.62	-0.079	0.3672	0.0005
208	SLD 7	4.51	0.17	57.37	0.0835	0.2464	-0.0005
208	SLD 8	4.51	0.17	57.37	0.0835	0.2464	-0.0005
208	SLD 9	1.89	-0.14	50.75	-0.1027	0.0994	0.0003
208	SLD 10	1.89	-0.14	50.75	-0.1027	0.0994	0.0003
208	SLD 11	-0.06	0.2	45.49	0.0598	-0.0213	-0.0006
208	SLD 12	-0.06	0.2	45.49	0.0598	-0.0213	-0.0006
208	SLD 13	-4.13	0.02	35.05	-0.0734	-0.2552	-0.0002
208	SLD 14	-4.13	0.02	35.05	-0.0734	-0.2552	-0.0002
208	SLD 15	-4.72	0.12	33.48	-0.0247	-0.2914	-0.0005
208	SLD 16	-4.72	0.12	33.48	-0.0247	-0.2914	-0.0005
208	SLV 1	21.76	-0.26	102.34	0.0338	1.2618	0.0011
208	SLV 2	21.76	-0.26	102.34	0.0338	1.2618	0.0011
208	SLV 3	20.37	-0.01	98.6	0.1483	1.1755	0.0003
208	SLV 4	20.37	-0.01	98.6	0.1483	1.1755	0.0003
208	SLV 5	10.88	-0.45	74.22	-0.1703	0.6304	0.0013
208	SLV 6	10.88	-0.45	74.22	-0.1703	0.6304	0.0013
208	SLV 7	6.24	0.39	61.74	0.2115	0.3428	-0.001
208	SLV 8	6.24	0.39	61.74	0.2115	0.3428	-0.001
208	SLV 9	0.16	-0.36	46.38	-0.2306	0.003	0.0009
208	SLV 10	0.16	-0.36	46.38	-0.2306	0.003	0.0009
208	SLV 11	-4.48	0.48	33.9	0.1511	-0.2846	-0.0015
208	SLV 12	-4.48	0.48	33.9	0.1511	-0.2846	-0.0015
208	SLV 13	-13.97	0.04	9.52	-0.1674	-0.8296	-0.0005
208	SLV 14	-13.97	0.04	9.52	-0.1674	-0.8296	-0.0005
208	SLV 15	-15.36	0.29	5.78	-0.0529	-0.9159	-0.0012
208	SLV 16	-15.36	0.29	5.78	-0.0529	-0.9159	-0.0012
209	SLU 1	-0.52	0.01	50.81	-0.006	-0.0486	0
209	SLU 2	-0.05	0.01	50.42	-0.0033	-0.0269	0
209	SLU 3	-0.92	0.01	52.05	-0.0062	-0.0686	0
209	SLU 4	-0.64	0.01	51.82	-0.0046	-0.0556	0
209	SLU 5	-0.38	0.01	51.23	-0.0034	-0.0432	0
209	SLU 6	-1.25	0.01	52.86	-0.0064	-0.0848	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
209	SLU 7			-0.97	0.01	52.63	-0.0047	-0.0718	0
209	SLU 8			-1.18	0.01	52.44	-0.0063	-0.0811	0
209	SLU 9			-0.9	0.01	52.2	-0.0047	-0.0681	0
209	SLU 10			-0.77	0.01	59.69	-0.0044	-0.0652	0
209	SLU 11			-1.64	0.01	61.33	-0.0074	-0.1069	0
209	SLU 12			-1.36	0.01	61.09	-0.0057	-0.0939	0
209	SLU 13			-1.1	0.01	60.51	-0.0046	-0.0814	0
209	SLU 14			-1.97	0.01	62.14	-0.0075	-0.1231	0
209	SLU 15			-1.69	0.01	61.91	-0.0058	-0.1101	0
209	SLU 16			-1.9	0.01	61.71	-0.0075	-0.1193	0
209	SLU 17			-1.62	0.01	61.48	-0.0058	-0.1063	0
209	SLU 18			-1.55	0.01	64.06	-0.0077	-0.1033	0
209	SLU 19			-1.26	0.01	63.83	-0.006	-0.0903	0
209	SLU 20			-1.88	0.01	64.87	-0.0078	-0.1195	0
209	SLU 21			-1.6	0.01	64.64	-0.0061	-0.1065	0
209	SLU 22			-1.19	0.01	59.24	-0.0071	-0.0845	0
209	SLU 23			-0.72	0.01	58.85	-0.0044	-0.0628	0
209	SLU 24			-1.6	0.01	60.48	-0.0073	-0.1045	0
209	SLU 25			-1.31	0.01	60.25	-0.0057	-0.0915	0
209	SLU 26			-1.05	0.01	59.67	-0.0045	-0.079	0
209	SLU 27			-1.93	0.01	61.3	-0.0075	-0.1207	0
209	SLU 28			-1.64	0.01	61.07	-0.0058	-0.1077	0
209	SLU 29			-1.86	0.01	60.87	-0.0074	-0.1169	0
209	SLU 30			-1.57	0.01	60.64	-0.0058	-0.1039	0
209	SLU 31			-1.45	0.01	68.13	-0.0055	-0.1011	0
209	SLU 32			-2.32	0.01	69.76	-0.0084	-0.1427	0
209	SLU 33			-2.03	0.01	69.53	-0.0068	-0.1297	0
209	SLU 34			-1.78	0.01	68.94	-0.0057	-0.1173	0
209	SLU 35			-2.65	0.01	70.58	-0.0086	-0.1589	0
209	SLU 36			-2.37	0.01	70.34	-0.0069	-0.146	0
209	SLU 37			-2.58	0.01	70.15	-0.0086	-0.1552	0
209	SLU 38			-2.29	0.01	69.92	-0.0069	-0.1422	0
209	SLU 39			-2.22	0.01	72.5	-0.0087	-0.1391	0
209	SLU 40			-1.94	0.01	72.26	-0.0071	-0.1261	0
209	SLU 41			-2.56	0.01	73.31	-0.0089	-0.1554	0
209	SLU 42			-2.27	0.01	73.08	-0.0072	-0.1424	0
209	SLU 43			-0.44	0.01	63.16	-0.0075	-0.0509	0
209	SLU 44			0.03	0.01	62.77	-0.0047	-0.0292	0
209	SLU 45			-0.84	0.01	64.4	-0.0077	-0.0709	0
209	SLU 46			-0.56	0.01	64.17	-0.006	-0.0579	0
209	SLU 47			-0.3	0.01	63.58	-0.0049	-0.0455	0
209	SLU 48			-1.17	0.01	65.21	-0.0078	-0.0871	0
209	SLU 49			-0.89	0.01	64.98	-0.0062	-0.0741	0
209	SLU 50			-1.1	0.01	64.79	-0.0078	-0.0833	0
209	SLU 51			-0.82	0.01	64.55	-0.0061	-0.0703	0
209	SLU 52			-0.69	0.01	72.04	-0.0059	-0.0675	0
209	SLU 53			-1.56	0.01	73.68	-0.0088	-0.1091	0
209	SLU 54			-1.28	0.01	73.44	-0.0071	-0.0961	0
209	SLU 55			-1.02	0.01	72.86	-0.006	-0.0837	0
209	SLU 56			-1.89	0.01	74.49	-0.0089	-0.1254	0
209	SLU 57			-1.61	0.01	74.26	-0.0073	-0.1124	0
209	SLU 58			-1.82	0.01	74.06	-0.0089	-0.1216	0
209	SLU 59			-1.54	0.01	73.83	-0.0072	-0.1086	0
209	SLU 60			-1.47	0.01	76.41	-0.0091	-0.1056	0
209	SLU 61			-1.19	0.01	76.18	-0.0074	-0.0926	0
209	SLU 62			-1.8	0.01	77.22	-0.0092	-0.1218	0
209	SLU 63			-1.52	0.01	76.99	-0.0076	-0.1088	0
209	SLU 64			-1.12	0.01	71.59	-0.0086	-0.0868	0
209	SLU 65			-0.65	0.01	71.2	-0.0058	-0.0651	0
209	SLU 66			-1.52	0.01	72.83	-0.0088	-0.1067	0
209	SLU 67			-1.24	0.01	72.6	-0.0071	-0.0937	0
209	SLU 68			-0.98	0.01	72.02	-0.006	-0.0813	0
209	SLU 69			-1.85	0.01	73.65	-0.0089	-0.123	0
209	SLU 70			-1.57	0.01	73.42	-0.0073	-0.11	0
209	SLU 71			-1.78	0.01	73.22	-0.0089	-0.1192	0
209	SLU 72			-1.5	0.01	72.99	-0.0072	-0.1062	0
209	SLU 73			-1.37	0.01	80.48	-0.007	-0.1034	0
209	SLU 74			-2.24	0.01	82.11	-0.0099	-0.145	0
209	SLU 75			-1.96	0.01	81.88	-0.0082	-0.132	0
209	SLU 76			-1.7	0.01	81.29	-0.0071	-0.1196	0
209	SLU 77			-2.57	0.01	82.93	-0.01	-0.1612	0
209	SLU 78			-2.29	0.01	82.69	-0.0084	-0.1482	0
209	SLU 79			-2.5	0.01	82.5	-0.01	-0.1575	0
209	SLU 80			-2.22	0.01	82.27	-0.0083	-0.1445	0
209	SLU 81			-2.15	0.01	84.84	-0.0102	-0.1414	0
209	SLU 82			-1.86	0.01	84.61	-0.0085	-0.1284	0
209	SLU 83			-2.48	0.01	85.66	-0.0103	-0.1577	0
209	SLU 84			-2.2	0.01	85.43	-0.0087	-0.1447	0
209	SLE RA 1			-0.71	0.01	53.22	-0.0064	-0.0589	0
209	SLE RA 2			-0.4	0.01	52.96	-0.0045	-0.0444	0
209	SLE RA 3			-0.98	0.01	54.04	-0.0065	-0.0722	0
209	SLE RA 4			-0.79	0.01	53.89	-0.0054	-0.0635	0
209	SLE RA 5			-0.62	0.01	53.5	-0.0046	-0.0552	0
209	SLE RA 6			-1.2	0.01	54.59	-0.0066	-0.083	0
209	SLE RA 7			-1.01	0.01	54.43	-0.0055	-0.0743	0
209	SLE RA 8			-1.15	0.01	54.3	-0.0066	-0.0805	0
209	SLE RA 9			-0.96	0.01	54.15	-0.0055	-0.0718	0
209	SLE RA 10			-0.88	0.01	59.14	-0.0053	-0.0699	0
209	SLE RA 11			-1.46	0.01	60.23	-0.0072	-0.0977	0
209	SLE RA 12			-1.27	0.01	60.07	-0.0061	-0.089	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
209	SLE RA 13			-1.1	0.01	59.69	-0.0054	-0.0807	0
209	SLE RA 14			-1.68	0.01	60.77	-0.0073	-0.1085	0
209	SLE RA 15			-1.49	0.01	60.62	-0.0062	-0.0998	0
209	SLE RA 16			-1.63	0.01	60.49	-0.0073	-0.106	0
209	SLE RA 17			-1.44	0.01	60.33	-0.0062	-0.0973	0
209	SLE RA 18			-1.4	0.01	62.05	-0.0074	-0.0953	0
209	SLE RA 19			-1.21	0.01	61.9	-0.0063	-0.0866	0
209	SLE RA 20			-1.62	0.01	62.6	-0.0075	-0.1061	0
209	SLE RA 21			-1.43	0.01	62.44	-0.0064	-0.0975	0
209	SLE FR 1			-0.71	0.01	53.22	-0.0064	-0.0589	0
209	SLE FR 2			-0.65	0.01	53.16	-0.006	-0.056	0
209	SLE FR 3			-0.8	0.01	53.43	-0.0064	-0.0632	0
209	SLE FR 4			-0.85	0.01	55.82	-0.0063	-0.0669	0
209	SLE FR 5			-1	0.01	56.08	-0.0067	-0.0741	0
209	SLE FR 6			-1.05	0.01	57.63	-0.0069	-0.0771	0
209	SLE QP 1			-0.71	0.01	53.22	-0.0064	-0.0589	0
209	SLE QP 2			-0.92	0.01	55.87	-0.0067	-0.0698	0
209	SLD 1			8.95	0.01	66.04	-0.0265	0.4171	-0.0001
209	SLD 2			8.95	0.01	66.04	-0.0265	0.4171	-0.0001
209	SLD 3			8.22	-0.15	65.1	0.123	0.3817	0.0006
209	SLD 4			8.22	-0.15	65.1	0.123	0.3817	0.0006
209	SLD 5			3.16	0.25	60.34	-0.2394	0.13	-0.0011
209	SLD 6			3.16	0.25	60.34	-0.2394	0.13	-0.0011
209	SLD 7			0.71	-0.28	57.21	0.259	0.0119	0.0012
209	SLD 8			0.71	-0.28	57.21	0.259	0.0119	0.0012
209	SLD 9			-2.54	0.29	54.52	-0.2723	-0.1515	-0.0012
209	SLD 10			-2.54	0.29	54.52	-0.2723	-0.1515	-0.0012
209	SLD 11			-4.99	-0.24	51.39	0.226	-0.2696	0.0011
209	SLD 12			-4.99	-0.24	51.39	0.226	-0.2696	0.0011
209	SLD 13			-10.05	0.16	46.64	-0.1364	-0.5213	-0.0006
209	SLD 14			-10.05	0.16	46.64	-0.1364	-0.5213	-0.0006
209	SLD 15			-10.78	0	45.7	0.0132	-0.5567	0.0001
209	SLD 16			-10.78	0	45.7	0.0132	-0.5567	0.0001
209	SLV 1			22.2	0.02	79.76	-0.0551	1.0708	-0.0002
209	SLV 2			22.2	0.02	79.76	-0.0551	1.0708	-0.0002
209	SLV 3			20.46	-0.38	77.5	0.3228	0.9866	0.0015
209	SLV 4			20.46	-0.38	77.5	0.3228	0.9866	0.0015
209	SLV 5			8.66	0.61	66.48	-0.5944	0.4	-0.0027
209	SLV 6			8.66	0.61	66.48	-0.5944	0.4	-0.0027
209	SLV 7			2.85	-0.71	58.91	0.6654	0.1195	0.003
209	SLV 8			2.85	-0.71	58.91	0.6654	0.1195	0.003
209	SLV 9			-4.68	0.72	52.82	-0.6787	-0.2591	-0.0031
209	SLV 10			-4.68	0.72	52.82	-0.6787	-0.2591	-0.0031
209	SLV 11			-10.5	-0.6	45.26	0.5811	-0.5396	0.0027
209	SLV 12			-10.5	-0.6	45.26	0.5811	-0.5396	0.0027
209	SLV 13			-22.29	0.39	34.24	-0.3362	-1.1262	-0.0015
209	SLV 14			-22.29	0.39	34.24	-0.3362	-1.1262	-0.0015
209	SLV 15			-24.03	-0.01	31.97	0.0417	-1.2104	0.0002
209	SLV 16			-24.03	-0.01	31.97	0.0417	-1.2104	0.0002
210	SLU 1			-2.72	0	51.84	-0.004	-0.1162	0
210	SLU 2			-2.2	0	51.56	0.0019	-0.0937	0
210	SLU 3			-3.21	0	53.17	-0.0041	-0.1385	0
210	SLU 4			-2.9	0	53	-0.0005	-0.1249	0
210	SLU 5			-2.6	0	52.42	0.0018	-0.1114	0
210	SLU 6			-3.61	0	54.03	-0.0042	-0.1562	0
210	SLU 7			-3.3	0	53.86	-0.0006	-0.1427	0
210	SLU 8			-3.51	0	53.57	-0.0042	-0.1517	0
210	SLU 9			-3.2	0	53.4	-0.0006	-0.1382	0
210	SLU 10			-3.43	0	61.02	0.0012	-0.1478	0
210	SLU 11			-4.45	0	62.64	-0.0048	-0.1926	0
210	SLU 12			-4.13	0	62.47	-0.0013	-0.1791	0
210	SLU 13			-3.83	0	61.89	0.0011	-0.1655	0
210	SLU 14			-4.84	0	63.5	-0.0049	-0.2103	0
210	SLU 15			-4.53	0	63.33	-0.0014	-0.1968	0
210	SLU 16			-4.75	0	63.03	-0.0049	-0.2058	0
210	SLU 17			-4.43	0	62.86	-0.0014	-0.1923	0
210	SLU 18			-4.48	0	65.37	-0.0051	-0.1936	0
210	SLU 19			-4.17	0	65.19	-0.0015	-0.18	0
210	SLU 20			-4.88	0	66.23	-0.0051	-0.2113	0
210	SLU 21			-4.56	0	66.06	-0.0016	-0.1978	0
210	SLU 22			-3.85	0	60.43	-0.0047	-0.1657	0
210	SLU 23			-3.33	0	60.15	0.0012	-0.1432	0
210	SLU 24			-4.35	0	61.76	-0.0048	-0.188	0
210	SLU 25			-4.03	0	61.59	-0.0013	-0.1744	0
210	SLU 26			-3.73	0	61.01	0.0011	-0.1609	0
210	SLU 27			-4.74	0	62.62	-0.0049	-0.2057	0
210	SLU 28			-4.43	0	62.45	-0.0014	-0.1922	0
210	SLU 29			-4.64	0	62.16	-0.0049	-0.2012	0
210	SLU 30			-4.33	0	61.99	-0.0014	-0.1877	0
210	SLU 31			-4.56	0	69.61	0.0004	-0.1973	0
210	SLU 32			-5.58	0	71.23	-0.0056	-0.2421	0
210	SLU 33			-5.27	0	71.06	-0.0021	-0.2286	0
210	SLU 34			-4.96	0	70.48	0.0003	-0.215	0
210	SLU 35			-5.98	0	72.09	-0.0057	-0.2598	0
210	SLU 36			-5.66	0	71.92	-0.0022	-0.2463	0
210	SLU 37			-5.88	0	71.62	-0.0057	-0.2553	0
210	SLU 38			-5.56	0	71.45	-0.0021	-0.2418	0
210	SLU 39			-5.61	0	73.96	-0.0058	-0.2431	0
210	SLU 40			-5.3	0	73.78	-0.0023	-0.2295	0
210	SLU 41			-6.01	0	74.82	-0.0059	-0.2608	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
210	SLU 42			-5.7	0	74.65	-0.0024	-0.2473	0
210	SLU 43			-3.15	0	64.45	-0.0049	-0.1341	0
210	SLU 44			-2.63	0	64.16	0.001	-0.1116	0
210	SLU 45			-3.64	0	65.78	-0.005	-0.1564	0
210	SLU 46			-3.33	0	65.61	-0.0015	-0.1428	0
210	SLU 47			-3.02	0	65.03	0.0009	-0.1293	0
210	SLU 48			-4.04	0	66.64	-0.0051	-0.1741	0
210	SLU 49			-3.73	0	66.47	-0.0016	-0.1606	0
210	SLU 50			-3.94	0	66.17	-0.0051	-0.1696	0
210	SLU 51			-3.63	0	66	-0.0016	-0.1561	0
210	SLU 52			-3.86	0	73.63	0.0002	-0.1657	0
210	SLU 53			-4.87	0	75.25	-0.0058	-0.2105	0
210	SLU 54			-4.56	0	75.08	-0.0022	-0.197	0
210	SLU 55			-4.26	0	74.49	0.0001	-0.1834	0
210	SLU 56			-5.27	0	76.11	-0.0059	-0.2282	0
210	SLU 57			-4.96	0	75.94	-0.0023	-0.2147	0
210	SLU 58			-5.17	0	75.64	-0.0059	-0.2237	0
210	SLU 59			-4.86	0	75.47	-0.0023	-0.2102	0
210	SLU 60			-4.91	0	77.97	-0.006	-0.2115	0
210	SLU 61			-4.6	0	77.8	-0.0024	-0.1979	0
210	SLU 62			-5.3	0	78.84	-0.0061	-0.2292	0
210	SLU 63			-4.99	0	78.67	-0.0025	-0.2157	0
210	SLU 64			-4.28	0	73.04	-0.0057	-0.1836	0
210	SLU 65			-3.76	0	72.75	0.0002	-0.1611	0
210	SLU 66			-4.77	0	74.37	-0.0058	-0.2059	0
210	SLU 67			-4.46	0	74.2	-0.0022	-0.1923	0
210	SLU 68			-4.15	0	73.62	0.0001	-0.1788	0
210	SLU 69			-5.17	0	75.23	-0.0059	-0.2236	0
210	SLU 70			-4.86	0	75.06	-0.0023	-0.2101	0
210	SLU 71			-5.07	0	74.76	-0.0059	-0.2191	0
210	SLU 72			-4.76	0	74.59	-0.0023	-0.2056	0
210	SLU 73			-4.99	0	82.22	-0.0005	-0.2152	0
210	SLU 74		0.01	-6.01	0	83.84	-0.0065	-0.26	0
210	SLU 75		0	-5.69	0	83.67	-0.003	-0.2465	0
210	SLU 76		0	-5.39	0	83.08	-0.0006	-0.2329	0
210	SLU 77		0.01	-6.4	0	84.7	-0.0066	-0.2777	0
210	SLU 78		0	-6.09	0	84.53	-0.0031	-0.2642	0
210	SLU 79		0.01	-6.3	0	84.23	-0.0066	-0.2732	0
210	SLU 80		0	-5.99	0	84.06	-0.0031	-0.2597	0
210	SLU 81		0.01	-6.04	0	86.56	-0.0067	-0.2609	0
210	SLU 82		0	-5.73	0	86.39	-0.0032	-0.2474	0
210	SLU 83		0.01	-6.44	0	87.43	-0.0068	-0.2787	0
210	SLU 84		0	-6.12	0	87.25	-0.0033	-0.2652	0
210	SLE RA 1		0	-3.04	0	54.3	-0.0042	-0.1304	0
210	SLE RA 2		0	-2.69	0	54.11	-0.0003	-0.1153	0
210	SLE RA 3		0	-3.37	0	55.18	-0.0043	-0.1452	0
210	SLE RA 4		0	-3.16	0	55.07	-0.0019	-0.1362	0
210	SLE RA 5		0	-2.96	0	54.68	-0.0003	-0.1272	0
210	SLE RA 6		0	-3.64	0	55.76	-0.0043	-0.157	0
210	SLE RA 7		0	-3.43	0	55.64	-0.002	-0.148	0
210	SLE RA 8		0	-3.57	0	55.45	-0.0043	-0.154	0
210	SLE RA 9		0	-3.36	0	55.33	-0.002	-0.145	0
210	SLE RA 10		0	-3.52	0	60.42	-0.0008	-0.1514	0
210	SLE RA 11		0	-4.19	0	61.49	-0.0048	-0.1813	0
210	SLE RA 12		0	-3.99	0	61.38	-0.0024	-0.1723	0
210	SLE RA 13		0	-3.78	0	60.99	-0.0008	-0.1632	0
210	SLE RA 14		0	-4.46	0	62.07	-0.0048	-0.1931	0
210	SLE RA 15		0	-4.25	0	61.96	-0.0025	-0.1841	0
210	SLE RA 16		0	-4.39	0	61.76	-0.0048	-0.1901	0
210	SLE RA 17		0	-4.18	0	61.64	-0.0025	-0.1811	0
210	SLE RA 18		0	-4.22	0	63.31	-0.0049	-0.1819	0
210	SLE RA 19		0	-4.01	0	63.2	-0.0025	-0.1729	0
210	SLE RA 20		0	-4.48	0	63.89	-0.005	-0.1937	0
210	SLE RA 21		0	-4.27	0	63.77	-0.0026	-0.1847	0
210	SLE FR 1		0	-3.04	0	54.3	-0.0042	-0.1304	0
210	SLE FR 2		0	-2.97	0	54.26	-0.0034	-0.1274	0
210	SLE FR 3		0	-3.15	0	54.53	-0.0042	-0.1351	0
210	SLE FR 4		0	-3.32	0	56.96	-0.0036	-0.1428	0
210	SLE FR 5		0	-3.5	0	57.23	-0.0044	-0.1506	0
210	SLE FR 6		0	-3.63	0	58.8	-0.0045	-0.1561	0
210	SLE QP 1		0	-3.04	0	54.3	-0.0042	-0.1304	0
210	SLE QP 2		0	-3.39	0	57	-0.0044	-0.1458	0
210	SLD 1		0.05	7.46	61.84	-0.059	0.3667	-0.0002	
210	SLD 2		0.05	7.46	61.84	-0.059	0.3667	-0.0002	
210	SLD 3		-0.19	6.61	62.51	0.1788	0.3257	0.0009	
210	SLD 4		-0.19	6.61	62.51	0.1788	0.3257	0.0009	
210	SLD 5		0.38	1.16	57.43	-0.3813	0.0702	-0.0017	
210	SLD 6		0.38	1.16	57.43	-0.3813	0.0702	-0.0017	
210	SLD 7		-0.42	-1.69	59.68	0.4111	-0.0667	0.0019	
210	SLD 8		-0.42	-1.69	59.68	0.4111	-0.0667	0.0019	
210	SLD 9		0.42	-5.1	54.32	-0.4199	-0.225	-0.0019	
210	SLD 10		0.42	-5.1	54.32	-0.4199	-0.225	-0.0019	
210	SLD 11		-0.37	-7.95	56.57	0.3725	-0.3619	0.0017	
210	SLD 12		-0.37	-7.95	56.57	0.3725	-0.3619	0.0017	
210	SLD 13		0.2	-13.4	51.49	-0.1876	-0.6173	-0.0009	
210	SLD 14		0.2	-13.4	51.49	-0.1876	-0.6173	-0.0009	
210	SLD 15		-0.04	-14.25	52.16	0.0502	-0.6584	0.0002	
210	SLD 16		-0.04	-14.25	52.16	0.0502	-0.6584	0.0002	
210	SLV 1		0.11	22.05	68.34	-0.1422	1.0556	-0.0005	
210	SLV 2		0.11	22.05	68.34	-0.1422	1.0556	-0.0005	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
210	SLV 3			20.01	-0.49	69.99	0.4626	0.9576	0.0023
210	SLV 4			20.01	-0.49	69.99	0.4626	0.9576	0.0023
210	SLV 5			7.33	0.95	57.9	-0.963	0.3632	-0.0043
210	SLV 6			7.33	0.95	57.9	-0.963	0.3632	-0.0043
210	SLV 7			0.54	-1.06	63.41	1.053	0.0366	0.0049
210	SLV 8			0.54	-1.06	63.41	1.053	0.0366	0.0049
210	SLV 9			-7.32	1.06	50.59	-1.0618	-0.3283	-0.0049
210	SLV 10			-7.32	1.06	50.59	-1.0618	-0.3283	-0.0049
210	SLV 11			-14.12	-0.94	56.1	0.9542	-0.6549	0.0043
210	SLV 12			-14.12	-0.94	56.1	0.9542	-0.6549	0.0043
210	SLV 13			-26.8	0.5	44.01	-0.4714	-1.2493	-0.0023
210	SLV 14			-26.8	0.5	44.01	-0.4714	-1.2493	-0.0023
210	SLV 15			-28.84	-0.1	45.66	0.1334	-1.3472	0.0005
210	SLV 16			-28.84	-0.1	45.66	0.1334	-1.3472	0.0005
211	SLU 1			-4.34	0	52.21	-0.0024	-0.2049	0
211	SLU 2			-3.82	0	52.08	0.0064	-0.1822	0
211	SLU 3			-4.89	0	53.56	-0.0025	-0.2299	0
211	SLU 4			-4.58	0	53.48	0.0028	-0.2162	0
211	SLU 5			-4.25	0	52.94	0.0063	-0.2017	0
211	SLU 6			-5.32	0	54.42	-0.0026	-0.2494	0
211	SLU 7			-5.01	0	54.34	0.0027	-0.2357	0
211	SLU 8			-5.21	0	53.93	-0.0026	-0.2439	0
211	SLU 9			-4.89	0	53.85	0.0027	-0.2302	0
211	SLU 10			-5.43	0	61.52	0.0059	-0.2556	0
211	SLU 11			-6.5	0	63	-0.003	-0.3033	0
211	SLU 12			-6.19	0	62.92	0.0023	-0.2896	0
211	SLU 13			-5.86	0	62.38	0.0058	-0.2751	0
211	SLU 14			-6.93	0	63.86	-0.003	-0.3227	0
211	SLU 15			-6.62	0	63.78	0.0022	-0.3091	0
211	SLU 16			-6.81	0	63.37	-0.003	-0.3173	0
211	SLU 17			-6.5	0	63.29	0.0022	-0.3036	0
211	SLU 18			-6.64	0	65.7	-0.0031	-0.3097	0
211	SLU 19			-6.33	0	65.62	0.0022	-0.2961	0
211	SLU 20			-7.07	0	66.56	-0.0032	-0.3292	0
211	SLU 21			-6.76	0	66.48	0.0021	-0.3156	0
211	SLU 22			-5.8	0	60.77	-0.0029	-0.2716	0
211	SLU 23			-5.28	0	60.64	0.0059	-0.2489	0
211	SLU 24			-6.35	0	62.12	-0.003	-0.2966	0
211	SLU 25			-6.04	0	62.04	0.0023	-0.2829	0
211	SLU 26			-5.71	0	61.5	0.0058	-0.2684	0
211	SLU 27			-6.78	0	62.98	-0.0031	-0.3161	0
211	SLU 28			-6.47	0	62.9	0.0022	-0.3024	0
211	SLU 29			-6.66	0	62.49	-0.0031	-0.3106	0
211	SLU 30			-6.35	0	62.41	0.0022	-0.2969	0
211	SLU 31			-6.89	0	70.08	0.0054	-0.3223	0
211	SLU 32			-7.96	0	71.56	-0.0035	-0.3699	0
211	SLU 33			-7.65	0	71.48	0.0018	-0.3563	0
211	SLU 34			-7.32	0	70.94	0.0053	-0.3417	0
211	SLU 35			-8.39	0	72.42	-0.0035	-0.3894	0
211	SLU 36			-8.08	0	72.34	0.0017	-0.3758	0
211	SLU 37			-8.27	0	71.93	-0.0035	-0.384	0
211	SLU 38			-7.96	0	71.85	0.0017	-0.3703	0
211	SLU 39			-8.1	0	74.26	-0.0036	-0.3764	0
211	SLU 40			-7.79	0	74.18	0.0017	-0.3628	0
211	SLU 41			-8.53	0	75.12	-0.0037	-0.3959	0
211	SLU 42			-8.22	0	75.04	0.0016	-0.3823	0
211	SLU 43			-5.15	0	64.94	-0.003	-0.2435	0
211	SLU 44			-4.63	0	64.81	0.0058	-0.2208	0
211	SLU 45			-5.7	0	66.29	-0.0031	-0.2685	0
211	SLU 46			-5.38	0	66.21	0.0022	-0.2548	0
211	SLU 47			-5.06	0	65.67	0.0057	-0.2403	0
211	SLU 48			-6.13	0	67.15	-0.0031	-0.288	0
211	SLU 49			-5.81	0	67.07	0.0021	-0.2743	0
211	SLU 50			-6.01	0	66.66	-0.0031	-0.2825	0
211	SLU 51			-5.7	0	66.58	0.0022	-0.2688	0
211	SLU 52			-6.23	0	74.25	0.0053	-0.2942	0
211	SLU 53			-7.3	0	75.73	-0.0035	-0.3419	0
211	SLU 54			-6.99	0	75.65	0.0017	-0.3282	0
211	SLU 55			-6.66	0	75.11	0.0053	-0.3137	0
211	SLU 56			-7.73	0	76.59	-0.0036	-0.3613	0
211	SLU 57			-7.42	0	76.51	0.0017	-0.3477	0
211	SLU 58			-7.62	0	76.1	-0.0036	-0.3559	0
211	SLU 59			-7.3	0	76.02	0.0017	-0.3422	0
211	SLU 60			-7.44	0	78.43	-0.0037	-0.3483	0
211	SLU 61			-7.13	0	78.35	0.0016	-0.3347	0
211	SLU 62			-7.87	0	79.29	-0.0037	-0.3678	0
211	SLU 63			-7.56	0	79.21	0.0015	-0.3542	0
211	SLU 64			-6.61	0	73.5	-0.0035	-0.3102	0
211	SLU 65			-6.08	0	73.37	0.0053	-0.2875	0
211	SLU 66			-7.16	0	74.85	-0.0035	-0.3352	0
211	SLU 67			-6.84	0	74.77	0.0017	-0.3215	0
211	SLU 68			-6.52	0	74.23	0.0052	-0.307	0
211	SLU 69			-7.59	0	75.71	-0.0036	-0.3547	0
211	SLU 70			-7.27	0	75.63	0.0017	-0.341	0
211	SLU 71			-7.47	0	75.22	-0.0036	-0.3492	0
211	SLU 72			-7.15	0	75.14	0.0017	-0.3355	0
211	SLU 73			-7.69	0	82.81	0.0048	-0.3609	0
211	SLU 74			-8.76	0	84.29	-0.004	-0.4085	0
211	SLU 75			-8.45	0	84.21	0.0012	-0.3949	0
211	SLU 76			-8.12	0	83.67	0.0048	-0.3803	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
211	SLU 77			-9.19	0	85.15	-0.0041	-0.428	0
211	SLU 78			-8.88	0	85.07	0.0012	-0.4144	0
211	SLU 79			-9.08	0	84.66	-0.0041	-0.4226	0
211	SLU 80			-8.76	0	84.58	0.0012	-0.4089	0
211	SLU 81			-8.9	0	86.99	-0.0042	-0.415	0
211	SLU 82			-8.59	0	86.91	0.0011	-0.4014	0
211	SLU 83			-9.33	0	87.85	-0.0042	-0.4345	0
211	SLU 84			-9.02	0	87.77	0.001	-0.4209	0
211	SLE RA 1			-4.76	0	54.66	-0.0026	-0.2239	0
211	SLE RA 2			-4.41	0	54.57	0.0033	-0.2088	0
211	SLE RA 3			-5.13	0	55.56	-0.0026	-0.2406	0
211	SLE RA 4			-4.92	0	55.5	0.0009	-0.2315	0
211	SLE RA 5			-4.7	0	55.14	0.0032	-0.2218	0
211	SLE RA 6			-5.41	0	56.13	-0.0027	-0.2536	0
211	SLE RA 7			-5.21	0	56.08	0.0009	-0.2445	0
211	SLE RA 8			-5.34	0	55.8	-0.0027	-0.2499	0
211	SLE RA 9			-5.13	0	55.75	0.0009	-0.2408	0
211	SLE RA 10			-5.49	0	60.86	0.003	-0.2577	0
211	SLE RA 11			-6.2	0	61.85	-0.0029	-0.2895	0
211	SLE RA 12			-5.99	0	61.8	0.0006	-0.2804	0
211	SLE RA 13			-5.77	0	61.44	0.0029	-0.2707	0
211	SLE RA 14			-6.49	0	62.43	-0.003	-0.3025	0
211	SLE RA 15			-6.28	0	62.37	0.0005	-0.2934	0
211	SLE RA 16			-6.41	0	62.1	-0.003	-0.2989	0
211	SLE RA 17			-6.2	0	62.05	0.0005	-0.2898	0
211	SLE RA 18			-6.29	0	63.65	-0.003	-0.2938	0
211	SLE RA 19			-6.08	0	63.6	0.0005	-0.2848	0
211	SLE RA 20			-6.58	0	64.22	-0.0031	-0.3068	0
211	SLE RA 21			-6.37	0	64.17	0.0004	-0.2977	0
211	SLE FR 1			-4.76	0	54.66	-0.0026	-0.2239	0
211	SLE FR 2			-4.69	0	54.64	-0.0014	-0.2209	0
211	SLE FR 3			-4.88	0	54.89	-0.0026	-0.2291	0
211	SLE FR 4			-5.15	0	57.34	-0.0015	-0.2419	0
211	SLE FR 5			-5.34	0	57.58	-0.0027	-0.2501	0
211	SLE FR 6			-5.53	0	59.15	-0.0028	-0.2589	0
211	SLE QP 1			-4.76	0	54.66	-0.0026	-0.2239	0
211	SLE QP 2			-5.22	0	57.35	-0.0027	-0.2449	0
211	SLD 1			6.04	0.08	59.56	-0.0859	0.2724	-0.0004
211	SLD 2			6.04	0.08	59.56	-0.0859	0.2724	-0.0004
211	SLD 3			5.15	-0.22	60.1	0.2188	0.2322	0.0012
211	SLD 4			5.15	-0.22	60.1	0.2188	0.2322	0.0012
211	SLD 5			-0.48	0.49	57.2	-0.4897	-0.0287	-0.0025
211	SLD 6			-0.48	0.49	57.2	-0.4897	-0.0287	-0.0025
211	SLD 7			-3.47	-0.53	59	0.5257	-0.1628	0.0028
211	SLD 8			-3.47	-0.53	59	0.5257	-0.1628	0.0028
211	SLD 9			-6.97	0.53	55.71	-0.5311	-0.327	-0.0028
211	SLD 10			-6.97	0.53	55.71	-0.5311	-0.327	-0.0028
211	SLD 11			-9.96	-0.48	57.51	0.4842	-0.4612	0.0025
211	SLD 12			-9.96	-0.48	57.51	0.4842	-0.4612	0.0025
211	SLD 13			-15.59	0.23	54.61	-0.2242	-0.722	-0.0012
211	SLD 14			-15.59	0.23	54.61	-0.2242	-0.722	-0.0012
211	SLD 15			-16.49	-0.08	55.15	0.0805	-0.7623	0.0004
211	SLD 16			-16.49	-0.08	55.15	0.0805	-0.7623	0.0004
211	SLV 1			21.17	0.2	62.54	-0.2141	0.967	-0.001
211	SLV 2			21.17	0.2	62.54	-0.2141	0.967	-0.001
211	SLV 3			19.04	-0.57	63.87	0.5624	0.8713	0.0031
211	SLV 4			19.04	-0.57	63.87	0.5624	0.8713	0.0031
211	SLV 5			5.93	1.23	56.89	-1.2438	0.2638	-0.0064
211	SLV 6			5.93	1.23	56.89	-1.2438	0.2638	-0.0064
211	SLV 7			-1.18	-1.34	61.33	1.3445	-0.0552	0.007
211	SLV 8			-1.18	-1.34	61.33	1.3445	-0.0552	0.007
211	SLV 9			-9.26	1.34	53.38	-1.35	-0.4346	-0.007
211	SLV 10			-9.26	1.34	53.38	-1.35	-0.4346	-0.007
211	SLV 11			-16.37	-1.22	57.82	1.2384	-0.7536	0.0064
211	SLV 12			-16.37	-1.22	57.82	1.2384	-0.7536	0.0064
211	SLV 13			-29.48	0.58	50.84	-0.5678	-1.3611	-0.0031
211	SLV 14			-29.48	0.58	50.84	-0.5678	-1.3611	-0.0031
211	SLV 15			-31.61	-0.19	52.17	0.2087	-1.4568	0.0009
211	SLV 16			-31.61	-0.19	52.17	0.2087	-1.4568	0.0009
212	SLU 1			-5.18	0	52.42	-0.0012	-0.2281	0
212	SLU 2			-4.69	-0.01	52.44	0.0103	-0.207	0
212	SLU 3			-5.74	0	53.78	-0.0012	-0.253	0
212	SLU 4			-5.45	0	53.78	0.0057	-0.2403	0
212	SLU 5			-5.13	-0.01	53.28	0.0103	-0.2262	0
212	SLU 6			-6.17	0	54.63	-0.0013	-0.2722	0
212	SLU 7			-5.88	0	54.63	0.0056	-0.2595	0
212	SLU 8			-6.05	0	54.12	-0.0013	-0.2665	0
212	SLU 9			-5.75	0	54.13	0.0056	-0.2539	0
212	SLU 10			-6.51	-0.01	61.78	0.01	-0.2867	0
212	SLU 11			-7.56	0	63.12	-0.0015	-0.3326	0
212	SLU 12			-7.26	0	63.12	0.0054	-0.32	0
212	SLU 13			-6.94	-0.01	62.62	0.01	-0.3059	0
212	SLU 14			-7.99	0	63.97	-0.0016	-0.3518	0
212	SLU 15			-7.7	0	63.97	0.0053	-0.3392	0
212	SLU 16			-7.86	0	63.46	-0.0016	-0.3461	0
212	SLU 17			-7.57	0	63.47	0.0053	-0.3335	0
212	SLU 18			-7.78	0	65.77	-0.0016	-0.3419	0
212	SLU 19			-7.48	0	65.77	0.0053	-0.3292	0
212	SLU 20			-8.21	0	66.61	-0.0016	-0.3611	0
212	SLU 21			-7.91	0	66.62	0.0053	-0.3484	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
212	SLU 22			-6.81	0	60.9	-0.0015	-0.2997	0
212	SLU 23			-6.32	-0.01	60.91	0.01	-0.2786	0
212	SLU 24			-7.37	0	62.25	-0.0015	-0.3246	0
212	SLU 25			-7.08	0	62.26	0.0054	-0.3119	0
212	SLU 26			-6.76	-0.01	61.76	0.01	-0.2978	0
212	SLU 27			-7.8	0	63.1	-0.0016	-0.3437	0
212	SLU 28			-7.51	0	63.11	0.0053	-0.3311	0
212	SLU 29			-7.68	0	62.59	-0.0016	-0.3381	0
212	SLU 30			-7.38	0	62.6	0.0053	-0.3254	0
212	SLU 31			-8.14	-0.01	70.25	0.0097	-0.3582	0
212	SLU 32			-9.19	0	71.59	-0.0018	-0.4042	0
212	SLU 33			-8.89	0	71.6	0.0051	-0.3915	0
212	SLU 34			-8.57	-0.01	71.1	0.0097	-0.3774	0
212	SLU 35			-9.62	0	72.44	-0.0019	-0.4234	0
212	SLU 36			-9.33	0	72.45	0.005	-0.4107	0
212	SLU 37			-9.49	0	71.93	-0.0019	-0.4177	0
212	SLU 38			-9.2	0	71.94	0.005	-0.405	0
212	SLU 39			-9.41	0	74.24	-0.0019	-0.4135	0
212	SLU 40			-9.11	0	74.25	0.005	-0.4008	0
212	SLU 41			-9.84	0	75.09	-0.0019	-0.4326	0
212	SLU 42			-9.54	0	75.09	0.005	-0.42	0
212	SLU 43			-6.18	0	65.24	-0.0015	-0.2721	0
212	SLU 44			-5.69	-0.01	65.26	0.01	-0.251	0
212	SLU 45			-6.74	0	66.6	-0.0015	-0.2969	0
212	SLU 46			-6.44	0	66.61	0.0054	-0.2843	0
212	SLU 47			-6.12	-0.01	66.11	0.01	-0.2701	0
212	SLU 48			-7.17	0	67.45	-0.0016	-0.3161	0
212	SLU 49			-6.88	0	67.45	0.0053	-0.3034	0
212	SLU 50			-7.04	0	66.94	-0.0016	-0.3104	0
212	SLU 51			-6.75	0	66.95	0.0053	-0.2978	0
212	SLU 52			-7.51	-0.01	74.6	0.0098	-0.3306	0
212	SLU 53			-8.55	0	75.94	-0.0018	-0.3765	0
212	SLU 54			-8.26	0	75.95	0.0051	-0.3639	0
212	SLU 55			-7.94	-0.01	75.45	0.0097	-0.3498	0
212	SLU 56			-8.98	0	76.79	-0.0018	-0.3957	0
212	SLU 57			-8.69	0	76.79	0.0051	-0.3831	0
212	SLU 58			-8.86	0	76.28	-0.0018	-0.3901	0
212	SLU 59			-8.57	0	76.29	0.0051	-0.3774	0
212	SLU 60			-8.77	0	78.59	-0.0019	-0.3858	0
212	SLU 61			-8.48	0	78.59	0.005	-0.3732	0
212	SLU 62			-9.2	0	79.44	-0.0019	-0.405	0
212	SLU 63			-8.91	0	79.44	0.005	-0.3923	0
212	SLU 64			-7.81	0	73.72	-0.0018	-0.3436	0
212	SLU 65			-7.32	-0.01	73.73	0.0097	-0.3225	0
212	SLU 66			-8.37	0	75.07	-0.0018	-0.3685	0
212	SLU 67			-8.07	0	75.08	0.0051	-0.3558	0
212	SLU 68			-7.75	-0.01	74.58	0.0097	-0.3417	0
212	SLU 69			-8.8	0	75.92	-0.0019	-0.3876	0
212	SLU 70			-8.51	0	75.93	0.0051	-0.375	0
212	SLU 71			-8.67	0	75.41	-0.0019	-0.382	0
212	SLU 72			-8.38	0	75.42	0.005	-0.3693	0
212	SLU 73			-9.14	-0.01	83.07	0.0095	-0.4021	0
212	SLU 74			-10.18	0	84.41	-0.0021	-0.4481	0
212	SLU 75			-9.89	0	84.42	0.0048	-0.4354	0
212	SLU 76			-9.57	-0.01	83.92	0.0094	-0.4213	0
212	SLU 77			-10.61	0	85.26	-0.0021	-0.4673	0
212	SLU 78			-10.32	0	85.27	0.0048	-0.4546	0
212	SLU 79			-10.49	0	84.75	-0.0021	-0.4616	0
212	SLU 80			-10.2	0	84.76	0.0048	-0.4489	0
212	SLU 81			-10.4	0	87.06	-0.0022	-0.4574	0
212	SLU 82			-10.11	0	87.07	0.0048	-0.4447	0
212	SLU 83			-10.83	0	87.91	-0.0022	-0.4765	0
212	SLU 84			-10.54	0	87.92	0.0047	-0.4639	0
212	SLE RA 1			-5.65	0	54.84	-0.0013	-0.2486	0
212	SLE RA 2			-5.32	0	54.85	0.0064	-0.2345	0
212	SLE RA 3			-6.02	0	55.75	-0.0013	-0.2652	0
212	SLE RA 4			-5.83	0	55.75	0.0033	-0.2567	0
212	SLE RA 5			-5.61	0	55.42	0.0063	-0.2473	0
212	SLE RA 6			-6.31	0	56.31	-0.0014	-0.2779	0
212	SLE RA 7			-6.11	0	56.32	0.0033	-0.2695	0
212	SLE RA 8			-6.23	0	55.97	-0.0014	-0.2742	0
212	SLE RA 9			-6.03	0	55.98	0.0032	-0.2657	0
212	SLE RA 10			-6.53	0	61.08	0.0062	-0.2876	0
212	SLE RA 11			-7.23	0	61.97	-0.0015	-0.3182	0
212	SLE RA 12			-7.04	0	61.98	0.0031	-0.3098	0
212	SLE RA 13			-6.82	0	61.64	0.0062	-0.3004	0
212	SLE RA 14			-7.52	0	62.54	-0.0015	-0.331	0
212	SLE RA 15			-7.32	0	62.54	0.0031	-0.3226	0
212	SLE RA 16			-7.44	0	62.2	-0.0015	-0.3273	0
212	SLE RA 17			-7.24	0	62.21	0.0031	-0.3188	0
212	SLE RA 18			-7.38	0	63.74	-0.0016	-0.3244	0
212	SLE RA 19			-7.18	0	63.74	0.0031	-0.316	0
212	SLE RA 20			-7.67	0	64.3	-0.0016	-0.3372	0
212	SLE RA 21			-7.47	0	64.31	0.003	-0.3288	0
212	SLE FR 1			-5.65	0	54.84	-0.0013	-0.2486	0
212	SLE FR 2			-5.58	0	54.85	0.0002	-0.2458	0
212	SLE FR 3			-5.76	0	55.07	-0.0013	-0.2537	0
212	SLE FR 4			-6.1	0	57.51	0.0002	-0.2685	0
212	SLE FR 5			-6.28	0	57.74	-0.0014	-0.2765	0
212	SLE FR 6			-6.51	0	59.29	-0.0014	-0.2865	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
212	SLE QP 1		x	-5.65	0	54.84	-0.0013	-0.2486	0
212	SLE QP 2		y	-6.17	0	57.51	-0.0014	-0.2713	0
212	SLD 1		z	5.13	0.1	58.27	-0.1055	0.2458	-0.0006
212	SLD 2		x	5.13	0.1	58.27	-0.1055	0.2458	-0.0006
212	SLD 3		y	4.2	-0.25	58.74	0.2437	0.203	0.0014
212	SLD 4		z	4.2	-0.25	58.74	0.2437	0.203	0.0014
212	SLD 5		x	-1.37	0.56	57.02	-0.5622	-0.0513	-0.0031
212	SLD 6		y	-1.37	0.56	57.02	-0.5622	-0.0513	-0.0031
212	SLD 7		z	-4.47	-0.61	58.6	0.6017	-0.1939	0.0034
212	SLD 8		x	-4.47	-0.61	58.6	0.6017	-0.1939	0.0034
212	SLD 9		y	-7.86	0.61	56.43	-0.6045	-0.3488	-0.0034
212	SLD 10		z	-7.86	0.61	56.43	-0.6045	-0.3488	-0.0034
212	SLD 11		x	-10.97	-0.56	58	0.5594	-0.4913	0.0031
212	SLD 12		y	-10.97	-0.56	58	0.5594	-0.4913	0.0031
212	SLD 13		z	-16.53	0.25	56.28	-0.2465	-0.7457	-0.0014
212	SLD 14		x	-16.53	0.25	56.28	-0.2465	-0.7457	-0.0014
212	SLD 15		y	-17.46	-0.1	56.76	0.1027	-0.7885	0.0006
212	SLD 16		z	-17.46	-0.1	56.76	0.1027	-0.7885	0.0006
212	SLV 1		x	20.3	0.26	59.31	-0.2667	0.9405	-0.0014
212	SLV 2		y	20.3	0.26	59.31	-0.2667	0.9405	-0.0014
212	SLV 3		z	18.08	-0.63	60.48	0.6242	0.8386	0.0035
212	SLV 4		x	18.08	-0.63	60.48	0.6242	0.8386	0.0035
212	SLV 5		y	5.14	1.43	56.29	-1.4322	0.2467	-0.0079
212	SLV 6		z	5.14	1.43	56.29	-1.4322	0.2467	-0.0079
212	SLV 7		x	-2.26	-1.54	60.17	1.5375	-0.0928	0.0086
212	SLV 8		y	-2.26	-1.54	60.17	1.5375	-0.0928	0.0086
212	SLV 9		z	-10.08	1.54	54.86	-1.5403	-0.4499	-0.0086
212	SLV 10		x	-10.08	1.54	54.86	-1.5403	-0.4499	-0.0086
212	SLV 11		y	-17.47	-1.43	58.74	1.4295	-0.7894	0.0079
212	SLV 12		z	-17.47	-1.43	58.74	1.4295	-0.7894	0.0079
212	SLV 13		x	-30.42	0.63	54.55	-0.627	-1.3813	-0.0035
212	SLV 14		y	-30.42	0.63	54.55	-0.627	-1.3813	-0.0035
212	SLV 15		z	-32.64	-0.26	55.71	0.264	-1.4832	0.0014
212	SLV 16		x	-32.64	-0.26	55.71	0.264	-1.4832	0.0014
213	SLU 1		y	-6.04	0	52.77	-0.0002	-0.2765	0
213	SLU 2		z	-5.59	-0.01	52.9	0.0138	-0.2572	0.0001
213	SLU 3		x	-6.6	0	54.14	-0.0002	-0.3019	0
213	SLU 4		y	-6.33	-0.01	54.22	0.0082	-0.2903	0
213	SLU 5		z	-6.02	-0.01	53.75	0.0137	-0.2765	0.0001
213	SLU 6		x	-7.03	0	54.99	-0.0003	-0.3211	0
213	SLU 7		y	-6.76	-0.01	55.07	0.0081	-0.3096	0
213	SLU 8		z	-6.89	0	54.47	-0.0003	-0.3151	0
213	SLU 9		x	-6.63	-0.01	54.55	0.0081	-0.3035	0
213	SLU 10		y	-7.6	-0.01	62.14	0.0137	-0.3473	0.0001
213	SLU 11		z	-8.61	0	63.38	-0.0003	-0.392	0
213	SLU 12		x	-8.34	-0.01	63.46	0.0081	-0.3804	0
213	SLU 13		y	-8.03	-0.01	62.99	0.0136	-0.3666	0.0001
213	SLU 14		z	-9.04	0	64.23	-0.0003	-0.4113	0
213	SLU 15		x	-8.77	-0.01	64.31	0.008	-0.3997	0
213	SLU 16		y	-8.91	0	63.7	-0.0004	-0.4052	0
213	SLU 17		z	-8.64	-0.01	63.78	0.008	-0.3936	0
213	SLU 18		x	-8.91	0	65.97	-0.0003	-0.4053	0
213	SLU 19		y	-8.64	-0.01	66.05	0.008	-0.3937	0
213	SLU 20		z	-9.34	0	66.82	-0.0004	-0.4245	0
213	SLU 21		x	-9.07	-0.01	66.89	0.008	-0.413	0
213	SLU 22		y	-7.83	0	61.17	-0.0003	-0.3572	0
213	SLU 23		z	-7.39	-0.01	61.3	0.0136	-0.3379	0.0001
213	SLU 24		x	-8.39	0	62.54	-0.0004	-0.3826	0
213	SLU 25		y	-8.13	-0.01	62.62	0.008	-0.371	0
213	SLU 26		z	-7.82	-0.01	62.15	0.0136	-0.3572	0.0001
213	SLU 27		x	-8.82	0	63.39	-0.0004	-0.4018	0
213	SLU 28		y	-8.56	-0.01	63.47	0.008	-0.3902	0
213	SLU 29		z	-8.69	0	62.87	-0.0004	-0.3957	0
213	SLU 30		x	-8.42	-0.01	62.95	0.008	-0.3842	0
213	SLU 31		y	-9.4	-0.01	70.54	0.0135	-0.428	0.0001
213	SLU 32		z	-10.41	0	71.78	-0.0004	-0.4727	0
213	SLU 33		x	-10.14	-0.01	71.86	0.0079	-0.4611	0
213	SLU 34		y	-9.83	-0.01	71.39	0.0135	-0.4473	0.0001
213	SLU 35		z	-10.84	0	72.63	-0.0005	-0.492	0
213	SLU 36		x	-10.57	-0.01	72.71	0.0079	-0.4804	0
213	SLU 37		y	-10.7	0	72.11	-0.0005	-0.4859	0
213	SLU 38		z	-10.44	-0.01	72.18	0.0079	-0.4743	0
213	SLU 39		x	-10.71	0	74.37	-0.0005	-0.486	0
213	SLU 40		y	-10.44	-0.01	74.45	0.0079	-0.4744	0
213	SLU 41		z	-11.14	0	75.22	-0.0005	-0.5052	0
213	SLU 42		x	-10.87	-0.01	75.3	0.0079	-0.4936	0
213	SLU 43		y	-7.23	0	65.72	-0.0002	-0.3318	0
213	SLU 44		z	-6.78	-0.01	65.85	0.0137	-0.3125	0.0001
213	SLU 45		x	-7.79	0	67.09	-0.0002	-0.3572	0
213	SLU 46		y	-7.52	-0.01	67.17	0.0081	-0.3456	0
213	SLU 47		z	-7.21	-0.01	66.7	0.0137	-0.3318	0.0001
213	SLU 48		x	-8.22	0	67.94	-0.0003	-0.3764	0
213	SLU 49		y	-7.95	-0.01	68.02	0.0081	-0.3649	0
213	SLU 50		z	-8.09	0	67.42	-0.0003	-0.3704	0
213	SLU 51		x	-7.82	-0.01	67.5	0.0081	-0.3588	0
213	SLU 52		y	-8.8	-0.01	75.09	0.0136	-0.4026	0.0001
213	SLU 53		z	-9.8	0	76.33	-0.0003	-0.4473	0
213	SLU 54		x	-9.54	-0.01	76.41	0.008	-0.4357	0
213	SLU 55		y	-9.23	-0.01	75.94	0.0136	-0.4219	0.0001
213	SLU 56		z	-10.23	0	77.18	-0.0004	-0.4666	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
213	SLU 57			-9.97	-0.01	77.26	0.008	-0.455	0
213	SLU 58			-10.1	0	76.66	-0.0004	-0.4605	0
213	SLU 59			-9.83	-0.01	76.73	0.008	-0.4489	0
213	SLU 60			-10.1	0	78.92	-0.0004	-0.4606	0
213	SLU 61			-9.84	-0.01	79	0.008	-0.449	0
213	SLU 62			-10.53	0	79.77	-0.0004	-0.4798	0
213	SLU 63			-10.27	-0.01	79.84	0.008	-0.4683	0
213	SLU 64			-9.03	0	74.12	-0.0004	-0.4125	0
213	SLU 65			-8.58	-0.01	74.25	0.0136	-0.3932	0.0001
213	SLU 66			-9.59	0	75.49	-0.0004	-0.4379	0
213	SLU 67			-9.32	-0.01	75.57	0.008	-0.4263	0
213	SLU 68			-9.01	-0.01	75.1	0.0136	-0.4125	0.0001
213	SLU 69			-10.02	0	76.34	-0.0004	-0.4571	0
213	SLU 70			-9.75	-0.01	76.42	0.008	-0.4455	0
213	SLU 71			-9.89	0	75.82	-0.0004	-0.451	0
213	SLU 72			-9.62	-0.01	75.9	0.008	-0.4394	0
213	SLU 73			-10.59	-0.01	83.49	0.0135	-0.4833	0.0001
213	SLU 74			-11.6	0	84.73	-0.0005	-0.528	0
213	SLU 75			-11.33	-0.01	84.81	0.0079	-0.5164	0
213	SLU 76			-11.02	-0.01	84.34	0.0135	-0.5026	0.0001
213	SLU 77			-12.03	0	85.58	-0.0005	-0.5473	0
213	SLU 78			-11.76	-0.01	85.66	0.0079	-0.5357	0
213	SLU 79			-11.9	0	85.06	-0.0005	-0.5412	0
213	SLU 80			-11.63	-0.01	85.14	0.0079	-0.5296	0
213	SLU 81			-11.9	0	87.32	-0.0005	-0.5413	0
213	SLU 82			-11.63	-0.01	87.4	0.0079	-0.5297	0
213	SLU 83			-12.33	0	88.17	-0.0005	-0.5605	0
213	SLU 84			-12.06	-0.01	88.25	0.0079	-0.5489	0
213	SLE RA 1			-6.55	0	55.17	-0.0002	-0.2996	0
213	SLE RA 2			-6.25	-0.01	55.26	0.0091	-0.2867	0
213	SLE RA 3			-6.92	0	56.09	-0.0003	-0.3165	0
213	SLE RA 4			-6.75	0	56.14	0.0053	-0.3088	0
213	SLE RA 5			-6.54	-0.01	55.82	0.009	-0.2995	0
213	SLE RA 6			-7.21	0	56.65	-0.0003	-0.3293	0
213	SLE RA 7			-7.03	0	56.7	0.0053	-0.3216	0
213	SLE RA 8			-7.12	0	56.3	-0.0003	-0.3253	0
213	SLE RA 9			-6.94	0	56.35	0.0053	-0.3175	0
213	SLE RA 10			-7.59	-0.01	61.42	0.009	-0.3468	0
213	SLE RA 11			-8.27	0	62.24	-0.0003	-0.3766	0
213	SLE RA 12			-8.09	0	62.3	0.0053	-0.3688	0
213	SLE RA 13			-7.88	-0.01	61.98	0.009	-0.3596	0
213	SLE RA 14			-8.55	0	62.81	-0.0003	-0.3894	0
213	SLE RA 15			-8.37	0	62.86	0.0053	-0.3817	0
213	SLE RA 16			-8.46	0	62.46	-0.0003	-0.3854	0
213	SLE RA 17			-8.28	0	62.51	0.0052	-0.3776	0
213	SLE RA 18			-8.47	0	63.97	-0.0003	-0.3854	0
213	SLE RA 19			-8.29	0	64.02	0.0053	-0.3777	0
213	SLE RA 20			-8.75	0	64.53	-0.0004	-0.3983	0
213	SLE RA 21			-8.57	0	64.59	0.0052	-0.3905	0
213	SLE FR 1			-6.55	0	55.17	-0.0002	-0.2996	0
213	SLE FR 2			-6.49	0	55.19	0.0016	-0.297	0
213	SLE FR 3			-6.66	0	55.4	-0.0003	-0.3047	0
213	SLE FR 4			-7.06	0	57.83	0.0016	-0.3227	0
213	SLE FR 5			-7.24	0	58.04	-0.0003	-0.3305	0
213	SLE FR 6			-7.51	0	59.57	-0.0003	-0.3425	0
213	SLE QP 1			-6.55	0	55.17	-0.0002	-0.2996	0
213	SLE QP 2			-7.12	0	57.81	-0.0003	-0.3253	0
213	SLD 1			3.87	0.12	55.69	-0.1157	0.1732	-0.0006
213	SLD 2			3.87	0.12	55.69	-0.1157	0.1732	-0.0006
213	SLD 3			2.96	-0.25	56.14	0.2522	0.1328	0.0014
213	SLD 4			2.96	-0.25	56.14	0.2522	0.1328	0.0014
213	SLD 5			-2.44	0.6	56.49	-0.5929	-0.1144	-0.0033
213	SLD 6			-2.44	0.6	56.49	-0.5929	-0.1144	-0.0033
213	SLD 7			-5.48	-0.64	57.99	0.6335	-0.2493	0.0035
213	SLD 8			-5.48	-0.64	57.99	0.6335	-0.2493	0.0035
213	SLD 9			-8.76	0.64	57.63	-0.634	-0.4014	-0.0035
213	SLD 10			-8.76	0.64	57.63	-0.634	-0.4014	-0.0035
213	SLD 11			-11.81	-0.6	59.13	0.5924	-0.5362	0.0033
213	SLD 12			-11.81	-0.6	59.13	0.5924	-0.5362	0.0033
213	SLD 13			-17.21	0.25	59.49	-0.2527	-0.7834	-0.0014
213	SLD 14			-17.21	0.25	59.49	-0.2527	-0.7834	-0.0014
213	SLD 15			-18.12	-0.12	59.93	0.1152	-0.8239	0.0006
213	SLD 16			-18.12	-0.12	59.93	0.1152	-0.8239	0.0006
213	SLV 1			18.64	0.29	52.81	-0.295	0.8424	-0.0016
213	SLV 2			18.64	0.29	52.81	-0.295	0.8424	-0.0016
213	SLV 3			16.47	-0.65	53.91	0.6442	0.7464	0.0035
213	SLV 4			16.47	-0.65	53.91	0.6442	0.7464	0.0035
213	SLV 5			3.9	1.51	54.65	-1.513	0.1707	-0.0084
213	SLV 6			3.9	1.51	54.65	-1.513	0.1707	-0.0084
213	SLV 7			-3.34	-1.62	58.3	1.6174	-0.1495	0.0089
213	SLV 8			-3.34	-1.62	58.3	1.6174	-0.1495	0.0089
213	SLV 9			-10.91	1.62	57.32	-1.618	-0.5011	-0.0089
213	SLV 10			-10.91	1.62	57.32	-1.618	-0.5011	-0.0089
213	SLV 11			-18.14	-1.51	60.97	1.5125	-0.8214	0.0084
213	SLV 12			-18.14	-1.51	60.97	1.5125	-0.8214	0.0084
213	SLV 13			-30.72	0.65	61.71	-0.6447	-1.397	-0.0035
213	SLV 14			-30.72	0.65	61.71	-0.6447	-1.397	-0.0035
213	SLV 15			-32.89	-0.29	62.81	0.2944	-1.4931	0.0016
213	SLV 16			-32.89	-0.29	62.81	0.2944	-1.4931	0.0016
214	SLU 1			-6.72	0	53.28	0.0007	-0.2996	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
214	SLU 2			-6.32	-0.01	53.5	0.0167	-0.282	0.0001
214	SLU 3			-7.28	0	54.69	0.0007	-0.3248	0
214	SLU 4			-7.04	-0.01	54.82	0.0103	-0.3142	0
214	SLU 5			-6.74	-0.01	54.36	0.0167	-0.301	0.0001
214	SLU 6			-7.71	0	55.55	0.0007	-0.3438	0
214	SLU 7			-7.46	-0.01	55.68	0.0103	-0.3332	0
214	SLU 8			-7.57	0	55.01	0.0006	-0.3376	0
214	SLU 9			-7.33	-0.01	55.14	0.0102	-0.327	0
214	SLU 10			-8.49	-0.01	62.64	0.0167	-0.3778	0.0001
214	SLU 11			-9.46	0	63.83	0.0007	-0.4207	0
214	SLU 12			-9.21	-0.01	63.96	0.0103	-0.4101	0
214	SLU 13			-8.91	-0.01	63.51	0.0167	-0.3968	0.0001
214	SLU 14			-9.88	0	64.69	0.0007	-0.4397	0
214	SLU 15			-9.64	-0.01	64.82	0.0103	-0.4291	0
214	SLU 16			-9.74	0	64.15	0.0007	-0.4334	0
214	SLU 17			-9.5	-0.01	64.28	0.0103	-0.4229	0
214	SLU 18			-9.83	0	66.34	0.0008	-0.4366	0
214	SLU 19			-9.58	-0.01	66.47	0.0104	-0.426	0
214	SLU 20			-10.25	0	67.21	0.0008	-0.4555	0
214	SLU 21			-10.01	-0.01	67.34	0.0103	-0.445	0
214	SLU 22			-8.65	0	61.63	0.0007	-0.385	0
214	SLU 23			-8.25	-0.01	61.85	0.0167	-0.3674	0.0001
214	SLU 24			-9.22	0	63.04	0.0007	-0.4102	0
214	SLU 25			-8.97	-0.01	63.17	0.0103	-0.3997	0
214	SLU 26			-8.67	-0.01	62.71	0.0167	-0.3864	0.0001
214	SLU 27			-9.64	0	63.9	0.0007	-0.4292	0
214	SLU 28			-9.4	-0.01	64.03	0.0103	-0.4186	0
214	SLU 29			-9.5	0	63.36	0.0007	-0.423	0
214	SLU 30			-9.26	-0.01	63.49	0.0103	-0.4124	0
214	SLU 31			-10.42	-0.01	70.99	0.0168	-0.4632	0.0001
214	SLU 32			-11.39	0	72.18	0.0008	-0.5061	0
214	SLU 33			-11.15	-0.01	72.31	0.0104	-0.4955	0
214	SLU 34			-10.85	-0.01	71.86	0.0167	-0.4822	0.0001
214	SLU 35			-11.81	0	73.04	0.0008	-0.5251	0
214	SLU 36			-11.57	-0.01	73.17	0.0104	-0.5145	0
214	SLU 37			-11.68	0	72.5	0.0007	-0.5188	0
214	SLU 38			-11.43	-0.01	72.63	0.0103	-0.5083	0
214	SLU 39			-11.76	0	74.69	0.0008	-0.522	0
214	SLU 40			-11.52	-0.01	74.82	0.0104	-0.5114	0
214	SLU 41			-12.18	0	75.56	0.0008	-0.5409	0
214	SLU 42			-11.94	-0.01	75.69	0.0104	-0.5304	0
214	SLU 43			-8.07	0	66.4	0.0009	-0.3602	0
214	SLU 44			-7.67	-0.01	66.62	0.0169	-0.3426	0.0001
214	SLU 45			-8.63	0	67.81	0.0009	-0.3854	0
214	SLU 46			-8.39	-0.01	67.94	0.0105	-0.3748	0
214	SLU 47			-8.09	-0.01	67.48	0.0169	-0.3615	0.0001
214	SLU 48			-9.06	0	68.67	0.0009	-0.4044	0
214	SLU 49			-8.82	-0.01	68.8	0.0105	-0.3938	0
214	SLU 50			-8.92	0	68.13	0.0008	-0.3982	0
214	SLU 51			-8.68	-0.01	68.26	0.0104	-0.3876	0
214	SLU 52			-9.84	-0.01	75.77	0.0169	-0.4384	0.0001
214	SLU 53			-10.81	0	76.95	0.0009	-0.4813	0
214	SLU 54			-10.57	-0.01	77.08	0.0105	-0.4707	0
214	SLU 55			-10.27	-0.01	76.63	0.0169	-0.4574	0.0001
214	SLU 56			-11.23	0	77.81	0.0009	-0.5003	0
214	SLU 57			-10.99	-0.01	77.94	0.0105	-0.4897	0
214	SLU 58			-11.1	0	77.27	0.0009	-0.494	0
214	SLU 59			-10.85	-0.01	77.4	0.0105	-0.4835	0
214	SLU 60			-11.18	0	79.46	0.001	-0.4971	0
214	SLU 61			-10.94	-0.01	79.6	0.0106	-0.4866	0
214	SLU 62			-11.6	0	80.33	0.0009	-0.5161	0
214	SLU 63			-11.36	-0.01	80.46	0.0105	-0.5056	0
214	SLU 64			-10.01	0	74.75	0.0009	-0.4456	0
214	SLU 65			-9.6	-0.01	74.97	0.0169	-0.428	0.0001
214	SLU 66			-10.57	0	76.16	0.0009	-0.4708	0
214	SLU 67			-10.33	-0.01	76.29	0.0105	-0.4602	0
214	SLU 68			-10.03	-0.01	75.83	0.0169	-0.447	0.0001
214	SLU 69			-10.99	0	77.02	0.0009	-0.4898	0
214	SLU 70			-10.75	-0.01	77.15	0.0105	-0.4792	0
214	SLU 71			-10.85	0	76.48	0.0009	-0.4836	0
214	SLU 72			-10.61	-0.01	76.61	0.0105	-0.473	0
214	SLU 73			-11.78	-0.01	84.11	0.0169	-0.5238	0.0001
214	SLU 74			-12.74	0	85.3	0.001	-0.5667	0
214	SLU 75			-12.5	-0.01	85.43	0.0106	-0.5561	0
214	SLU 76			-12.2	-0.01	84.98	0.0169	-0.5428	0.0001
214	SLU 77			-13.17	0	86.16	0.001	-0.5857	0
214	SLU 78			-12.92	-0.01	86.29	0.0105	-0.5751	0
214	SLU 79			-13.03	0	85.62	0.0009	-0.5794	0
214	SLU 80			-12.79	-0.01	85.75	0.0105	-0.5689	0
214	SLU 81			-13.11	0	87.81	0.001	-0.5826	0
214	SLU 82			-12.87	-0.01	87.95	0.0106	-0.572	0
214	SLU 83			-13.54	0	88.68	0.001	-0.6015	0
214	SLU 84			-13.29	-0.01	88.81	0.0106	-0.591	0
214	SLE RA 1			-7.27	0	55.67	0.0007	-0.324	0
214	SLE RA 2			-7	-0.01	55.81	0.0113	-0.3122	0
214	SLE RA 3			-7.65	0	56.6	0.0007	-0.3408	0
214	SLE RA 4			-7.49	-0.01	56.69	0.0071	-0.3338	0
214	SLE RA 5			-7.29	-0.01	56.39	0.0113	-0.3249	0
214	SLE RA 6			-7.93	0	57.18	0.0007	-0.3535	0
214	SLE RA 7			-7.77	-0.01	57.27	0.0071	-0.3464	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
214	SLE RA 8			-7.84	0	56.82	0.0007	-0.3493	0
214	SLE RA 9			-7.68	-0.01	56.9	0.0071	-0.3423	0
214	SLE RA 10			-8.45	-0.01	61.91	0.0114	-0.3762	0
214	SLE RA 11			-9.1	0	62.7	0.0007	-0.4047	0
214	SLE RA 12			-8.93	-0.01	62.79	0.0071	-0.3977	0
214	SLE RA 13			-8.74	-0.01	62.48	0.0114	-0.3888	0
214	SLE RA 14			-9.38	0	63.27	0.0007	-0.4174	0
214	SLE RA 15			-9.22	-0.01	63.36	0.0071	-0.4103	0
214	SLE RA 16			-9.29	0	62.91	0.0007	-0.4132	0
214	SLE RA 17			-9.13	-0.01	63	0.0071	-0.4062	0
214	SLE RA 18			-9.34	0	64.37	0.0007	-0.4153	0
214	SLE RA 19			-9.18	-0.01	64.46	0.0071	-0.4083	0
214	SLE RA 20			-9.63	0	64.95	0.0007	-0.428	0
214	SLE RA 21			-9.46	-0.01	65.04	0.0071	-0.4209	0
214	SLE FR 1			-7.27	0	55.67	0.0007	-0.324	0
214	SLE FR 2			-7.22	0	55.7	0.0028	-0.3216	0
214	SLE FR 3			-7.38	0	55.9	0.0007	-0.3291	0
214	SLE FR 4			-7.84	0	58.31	0.0028	-0.349	0
214	SLE FR 5			-8.01	0	58.51	0.0007	-0.3565	0
214	SLE FR 6			-8.31	0	60.02	0.0007	-0.3697	0
214	SLE QP 1			-7.27	0	55.67	0.0007	-0.324	0
214	SLE QP 2			-7.89	0	58.28	0.0007	-0.3514	0
214	SLD 1			2.78	0.12	54.3	-0.116	0.1358	-0.0006
214	SLD 2			2.78	0.12	54.3	-0.116	0.1358	-0.0006
214	SLD 3			1.88	-0.24	54.76	0.2432	0.0948	0.0013
214	SLD 4			1.88	-0.24	54.76	0.2432	0.0948	0.0013
214	SLD 5			-3.33	0.58	56.39	-0.579	-0.1432	-0.003
214	SLD 6			-3.33	0.58	56.39	-0.579	-0.1432	-0.003
214	SLD 7			-6.33	-0.61	57.93	0.6181	-0.2796	0.0032
214	SLD 8			-6.33	-0.61	57.93	0.6181	-0.2796	0.0032
214	SLD 9			-9.46	0.61	58.63	-0.6167	-0.4232	-0.0032
214	SLD 10			-9.46	0.61	58.63	-0.6167	-0.4232	-0.0032
214	SLD 11			-12.46	-0.58	60.17	0.5804	-0.5596	0.003
214	SLD 12			-12.46	-0.58	60.17	0.5804	-0.5596	0.003
214	SLD 13			-17.67	0.24	61.79	-0.2418	-0.7976	-0.0012
214	SLD 14			-17.67	0.24	61.79	-0.2418	-0.7976	-0.0012
214	SLD 15			-18.57	-0.12	62.26	0.1174	-0.8385	0.0006
214	SLD 16			-18.57	-0.12	62.26	0.1174	-0.8385	0.0006
214	SLV 1			17.11	0.29	48.95	-0.2972	0.79	-0.0015
214	SLV 2			17.11	0.29	48.95	-0.2972	0.79	-0.0015
214	SLV 3			14.97	-0.61	50.07	0.6196	0.6926	0.0032
214	SLV 4			14.97	-0.61	50.07	0.6196	0.6926	0.0032
214	SLV 5			2.85	1.46	53.78	-1.4792	0.1387	-0.0076
214	SLV 6			2.85	1.46	53.78	-1.4792	0.1387	-0.0076
214	SLV 7			-4.28	-1.56	57.52	1.5769	-0.1858	0.0081
214	SLV 8			-4.28	-1.56	57.52	1.5769	-0.1858	0.0081
214	SLV 9			-11.5	1.56	59.04	-1.5755	-0.5169	-0.0081
214	SLV 10			-11.5	1.56	59.04	-1.5755	-0.5169	-0.0081
214	SLV 11			-18.64	-1.47	62.78	1.4806	-0.8415	0.0076
214	SLV 12			-18.64	-1.47	62.78	1.4806	-0.8415	0.0076
214	SLV 13			-30.75	0.61	66.49	-0.6182	-1.3954	-0.0032
214	SLV 14			-30.75	0.61	66.49	-0.6182	-1.3954	-0.0032
214	SLV 15			-32.89	-0.3	67.61	0.2986	-1.4928	0.0015
214	SLV 16			-32.89	-0.3	67.61	0.2986	-1.4928	0.0015
215	SLU 1			-7.62	0	53.99	0.0016	-0.3469	0
215	SLU 2			-7.25	-0.02	54.27	0.0189	-0.3311	0.0001
215	SLU 3			-8.19	0	55.45	0.0016	-0.3727	0
215	SLU 4			-7.97	-0.01	55.62	0.012	-0.3632	0
215	SLU 5			-7.68	-0.02	55.16	0.0189	-0.3503	0.0001
215	SLU 6			-8.61	0	56.34	0.0016	-0.3918	0
215	SLU 7			-8.39	-0.01	56.51	0.012	-0.3823	0
215	SLU 8			-8.47	0	55.77	0.0016	-0.3852	0
215	SLU 9			-8.25	-0.01	55.94	0.012	-0.3757	0
215	SLU 10			-9.62	-0.02	63.34	0.0192	-0.4367	0.0001
215	SLU 11			-10.55	0	64.51	0.0018	-0.4783	0
215	SLU 12			-10.33	-0.01	64.68	0.0122	-0.4688	0.0001
215	SLU 13			-10.04	-0.02	64.23	0.0192	-0.4559	0.0001
215	SLU 14			-10.98	0	65.41	0.0018	-0.4974	0
215	SLU 15			-10.76	-0.01	65.58	0.0122	-0.4879	0.0001
215	SLU 16			-10.83	0	64.84	0.0018	-0.4908	0
215	SLU 17			-10.61	-0.01	65.01	0.0122	-0.4813	0.0001
215	SLU 18			-11	0	66.94	0.0019	-0.4978	0
215	SLU 19			-10.78	-0.01	67.11	0.0123	-0.4883	0.0001
215	SLU 20			-11.42	0	67.83	0.0019	-0.5169	0
215	SLU 21			-11.2	-0.01	68	0.0123	-0.5074	0.0001
215	SLU 22			-9.72	0	62.31	0.0017	-0.4409	0
215	SLU 23			-9.35	-0.02	62.6	0.0191	-0.4251	0.0001
215	SLU 24			-10.29	0	63.77	0.0018	-0.4667	0
215	SLU 25			-10.07	-0.01	63.94	0.0122	-0.4572	0.0001
215	SLU 26			-9.78	-0.02	63.49	0.0191	-0.4443	0.0001
215	SLU 27			-10.71	0	64.66	0.0018	-0.4858	0
215	SLU 28			-10.49	-0.01	64.83	0.0122	-0.4764	0.0001
215	SLU 29			-10.57	0	64.1	0.0017	-0.4792	0
215	SLU 30			-10.35	-0.01	64.27	0.0122	-0.4697	0.0001
215	SLU 31			-11.72	-0.02	71.66	0.0193	-0.5307	0.0001
215	SLU 32			-12.65	0	72.84	0.002	-0.5723	0
215	SLU 33			-12.44	-0.01	73.01	0.0124	-0.5628	0.0001
215	SLU 34			-12.15	-0.02	72.55	0.0193	-0.5499	0.0001
215	SLU 35			-13.08	0	73.73	0.002	-0.5914	0
215	SLU 36			-12.86	-0.01	73.9	0.0124	-0.582	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
215	SLU 37			-12.93	0	73.16	0.002	-0.5848	0
215	SLU 38			-12.72	-0.01	73.33	0.0124	-0.5753	0.0001
215	SLU 39			-13.1	0	75.27	0.0021	-0.5918	0
215	SLU 40			-12.88	-0.01	75.44	0.0125	-0.5823	0.0001
215	SLU 41			-13.52	0	76.16	0.0021	-0.6109	0
215	SLU 42			-13.3	-0.01	76.33	0.0125	-0.6014	0.0001
215	SLU 43			-9.18	0	67.33	0.002	-0.4187	0
215	SLU 44			-8.82	-0.02	67.61	0.0193	-0.4029	0.0001
215	SLU 45			-9.75	0	68.79	0.002	-0.4445	0
215	SLU 46			-9.53	-0.01	68.96	0.0124	-0.435	0.0001
215	SLU 47			-9.24	-0.02	68.51	0.0193	-0.4221	0.0001
215	SLU 48			-10.18	0	69.68	0.002	-0.4636	0
215	SLU 49			-9.96	-0.01	69.85	0.0124	-0.4542	0.0001
215	SLU 50			-10.03	0	69.11	0.002	-0.457	0
215	SLU 51			-9.81	-0.01	69.28	0.0124	-0.4476	0.0001
215	SLU 52			-11.18	-0.02	76.68	0.0196	-0.5085	0.0001
215	SLU 53			-12.12	0	77.86	0.0022	-0.5501	0
215	SLU 54			-11.9	-0.01	78.03	0.0126	-0.5406	0.0001
215	SLU 55			-11.61	-0.02	77.57	0.0196	-0.5277	0.0001
215	SLU 56			-12.54	0	78.75	0.0022	-0.5692	0
215	SLU 57			-12.32	-0.01	78.92	0.0126	-0.5598	0.0001
215	SLU 58			-12.4	0	78.18	0.0022	-0.5626	0
215	SLU 59			-12.18	-0.01	78.35	0.0126	-0.5532	0.0001
215	SLU 60			-12.56	0	80.29	0.0023	-0.5696	0
215	SLU 61			-12.34	-0.01	80.45	0.0127	-0.5601	0.0001
215	SLU 62			-12.99	0	81.18	0.0023	-0.5887	0
215	SLU 63			-12.77	-0.01	81.35	0.0127	-0.5793	0.0001
215	SLU 64			-11.28	0	75.66	0.0021	-0.5127	0
215	SLU 65			-10.92	-0.02	75.94	0.0195	-0.497	0.0001
215	SLU 66			-11.85	0	77.11	0.0022	-0.5385	0
215	SLU 67			-11.63	-0.01	77.28	0.0126	-0.529	0.0001
215	SLU 68			-11.34	-0.02	76.83	0.0195	-0.5161	0.0001
215	SLU 69			-12.28	0	78	0.0022	-0.5577	0
215	SLU 70			-12.06	-0.01	78.17	0.0126	-0.5482	0.0001
215	SLU 71			-12.13	0	77.44	0.0021	-0.551	0
215	SLU 72			-11.91	-0.01	77.61	0.0126	-0.5416	0.0001
215	SLU 73			-13.28	-0.02	85.01	0.0197	-0.6026	0.0001
215	SLU 74			-14.22	0	86.18	0.0024	-0.6441	0
215	SLU 75			-14	-0.01	86.35	0.0128	-0.6346	0.0001
215	SLU 76			-13.71	-0.02	85.9	0.0197	-0.6217	0.0001
215	SLU 77			-14.64	0	87.07	0.0024	-0.6633	0
215	SLU 78			-14.42	-0.01	87.24	0.0128	-0.6538	0.0001
215	SLU 79			-14.5	0	86.51	0.0024	-0.6566	0
215	SLU 80			-14.28	-0.01	86.68	0.0128	-0.6472	0.0001
215	SLU 81			-14.66	0	88.61	0.0025	-0.6636	0
215	SLU 82			-14.44	-0.01	88.78	0.0129	-0.6541	0.0001
215	SLU 83			-15.09	0	89.5	0.0025	-0.6827	0
215	SLU 84			-14.87	-0.01	89.67	0.0129	-0.6733	0.0001
215	SLE RA 1			-8.22	0	56.37	0.0016	-0.3738	0
215	SLE RA 2			-7.97	-0.01	56.56	0.0132	-0.3632	0.0001
215	SLE RA 3			-8.6	0	57.34	0.0016	-0.3909	0
215	SLE RA 4			-8.45	-0.01	57.45	0.0086	-0.3846	0
215	SLE RA 5			-8.26	-0.01	57.15	0.0132	-0.376	0.0001
215	SLE RA 6			-8.88	0	57.93	0.0016	-0.4037	0
215	SLE RA 7			-8.73	-0.01	58.05	0.0086	-0.3974	0
215	SLE RA 8			-8.78	0	57.56	0.0016	-0.3993	0
215	SLE RA 9			-8.64	-0.01	57.67	0.0086	-0.393	0
215	SLE RA 10			-9.55	-0.01	62.6	0.0133	-0.4336	0.0001
215	SLE RA 11			-10.17	0	63.38	0.0018	-0.4613	0
215	SLE RA 12			-10.03	-0.01	63.5	0.0087	-0.455	0
215	SLE RA 13			-9.84	-0.01	63.2	0.0133	-0.4464	0.0001
215	SLE RA 14			-10.46	0	63.98	0.0018	-0.4741	0
215	SLE RA 15			-10.31	-0.01	64.09	0.0087	-0.4678	0
215	SLE RA 16			-10.36	0	63.6	0.0018	-0.4697	0
215	SLE RA 17			-10.22	-0.01	63.71	0.0087	-0.4634	0
215	SLE RA 18			-10.47	0	65	0.0018	-0.4743	0
215	SLE RA 19			-10.33	-0.01	65.12	0.0088	-0.468	0
215	SLE RA 20			-10.75	0	65.6	0.0018	-0.4871	0
215	SLE RA 21			-10.61	-0.01	65.71	0.0088	-0.4808	0
215	SLE FR 1			-8.22	0	56.37	0.0016	-0.3738	0
215	SLE FR 2			-8.17	0	56.4	0.0039	-0.3716	0
215	SLE FR 3			-8.33	0	56.6	0.0016	-0.3789	0
215	SLE FR 4			-8.84	0	59	0.004	-0.4018	0
215	SLE FR 5			-9.01	0	59.2	0.0017	-0.409	0
215	SLE FR 6			-9.34	0	60.68	0.0017	-0.424	0
215	SLE QP 1			-8.22	0	56.37	0.0016	-0.3738	0
215	SLE QP 2			-8.89	0	58.96	0.0017	-0.4039	0
215	SLD 1			1.39	0.21	52.79	-0.1064	0.0645	-0.0005
215	SLD 2			1.39	0.21	52.79	-0.1064	0.0645	-0.0005
215	SLD 3			0.53	-0.11	53.31	0.2179	0.0262	0.001
215	SLD 4			0.53	-0.11	53.31	0.2179	0.0262	0.001
215	SLD 5			-4.5	0.53	56.32	-0.5226	-0.2053	-0.0024
215	SLD 6			-4.5	0.53	56.32	-0.5226	-0.2053	-0.0024
215	SLD 7			-7.37	-0.51	58.05	0.5584	-0.333	0.0025
215	SLD 8			-7.37	-0.51	58.05	0.5584	-0.333	0.0025
215	SLD 9			-10.41	0.5	59.87	-0.5551	-0.4748	-0.0025
215	SLD 10			-10.41	0.5	59.87	-0.5551	-0.4748	-0.0025
215	SLD 11			-13.28	-0.54	61.6	0.526	-0.6026	0.0024
215	SLD 12			-13.28	-0.54	61.6	0.526	-0.6026	0.0024
215	SLD 13			-18.31	0.1	64.61	-0.2146	-0.834	-0.001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
215	SLD 14			-18.31	0.1	64.61	-0.2146	-0.834	-0.001
215	SLD 15			-19.18	-0.21	65.13	0.1098	-0.8723	0.0005
215	SLD 16			-19.18	-0.21	65.13	0.1098	-0.8723	0.0005
215	SLV 1			15.19	0.53	44.5	-0.2744	0.6931	-0.0012
215	SLV 2			15.19	0.53	44.5	-0.2744	0.6931	-0.0012
215	SLV 3			13.15	-0.27	45.75	0.5535	0.6021	0.0025
215	SLV 4			13.15	-0.27	45.75	0.5535	0.6021	0.0025
215	SLV 5			1.44	1.36	52.73	-1.3367	0.0632	-0.006
215	SLV 6			1.44	1.36	52.73	-1.3367	0.0632	-0.006
215	SLV 7			-5.38	-1.28	56.89	1.4228	-0.2402	0.0064
215	SLV 8			-5.38	-1.28	56.89	1.4228	-0.2402	0.0064
215	SLV 9			-12.4	1.28	61.03	-1.4194	-0.5677	-0.0064
215	SLV 10			-12.4	1.28	61.03	-1.4194	-0.5677	-0.0064
215	SLV 11			-19.22	-1.36	65.19	1.3401	-0.8711	0.006
215	SLV 12			-19.22	-1.36	65.19	1.3401	-0.8711	0.006
215	SLV 13			-30.93	0.26	72.17	-0.5501	-1.41	-0.0025
215	SLV 14			-30.93	0.26	72.17	-0.5501	-1.41	-0.0025
215	SLV 15			-32.98	-0.53	73.42	0.2777	-1.501	0.0012
215	SLV 16			-32.98	-0.53	73.42	0.2777	-1.501	0.0012
216	SLU 1			-8.54	0	54.94	0.0026	-0.3857	0
216	SLU 2			-8.22	-0.02	55.26	0.0205	-0.3713	0.0001
216	SLU 3			-9.12	0	56.47	0.0027	-0.4121	0
216	SLU 4			-8.92	-0.01	56.66	0.0134	-0.4034	0.0001
216	SLU 5			-8.64	-0.02	56.2	0.0205	-0.3907	0.0001
216	SLU 6			-9.55	0	57.41	0.0027	-0.4315	0
216	SLU 7			-9.35	-0.01	57.6	0.0134	-0.4228	0.0001
216	SLU 8			-9.39	0	56.81	0.0026	-0.4245	0
216	SLU 9			-9.2	-0.01	57.01	0.0134	-0.4158	0.0001
216	SLU 10			-10.76	-0.02	64.28	0.0209	-0.4846	0.0001
216	SLU 11			-11.66	0	65.49	0.003	-0.5254	0
216	SLU 12			-11.47	-0.01	65.69	0.0138	-0.5167	0.0001
216	SLU 13			-11.19	-0.02	65.22	0.0209	-0.504	0.0001
216	SLU 14			-12.09	0	66.43	0.0031	-0.5448	0
216	SLU 15			-11.9	-0.01	66.62	0.0138	-0.5361	0.0001
216	SLU 16			-11.94	0	65.83	0.003	-0.5378	0
216	SLU 17			-11.75	-0.01	66.03	0.0138	-0.5292	0.0001
216	SLU 18			-12.18	0	67.83	0.0032	-0.5476	0
216	SLU 19			-11.98	-0.01	68.02	0.0139	-0.5389	0.0001
216	SLU 20			-12.6	0	68.76	0.0032	-0.567	0
216	SLU 21			-12.41	-0.01	68.96	0.0139	-0.5583	0.0001
216	SLU 22			-10.8	0	63.27	0.0029	-0.4866	0
216	SLU 23			-10.47	-0.02	63.6	0.0208	-0.4721	0.0001
216	SLU 24			-11.38	0	64.8	0.003	-0.5129	0
216	SLU 25			-11.18	-0.01	65	0.0137	-0.5042	0.0001
216	SLU 26			-10.9	-0.02	64.53	0.0209	-0.4915	0.0001
216	SLU 27			-11.8	0	65.74	0.003	-0.5323	0
216	SLU 28			-11.61	-0.01	65.93	0.0138	-0.5236	0.0001
216	SLU 29			-11.65	0	65.14	0.003	-0.5254	0
216	SLU 30			-11.46	-0.01	65.34	0.0137	-0.5167	0.0001
216	SLU 31			-13.02	-0.02	72.62	0.0212	-0.5854	0.0001
216	SLU 32			-13.92	0	73.82	0.0034	-0.6262	0
216	SLU 33			-13.73	-0.01	74.02	0.0141	-0.6176	0.0001
216	SLU 34			-13.45	-0.02	73.55	0.0213	-0.6048	0.0001
216	SLU 35			-14.35	0	74.76	0.0034	-0.6456	0
216	SLU 36			-14.16	-0.01	74.96	0.0141	-0.637	0.0001
216	SLU 37			-14.2	0	74.17	0.0034	-0.6387	0
216	SLU 38			-14	-0.01	74.36	0.0141	-0.63	0.0001
216	SLU 39			-14.43	0	76.16	0.0035	-0.6484	0
216	SLU 40			-14.24	-0.01	76.35	0.0142	-0.6398	0.0001
216	SLU 41			-14.86	0	77.1	0.0035	-0.6678	0
216	SLU 42			-14.67	-0.01	77.29	0.0143	-0.6592	0.0001
216	SLU 43			-10.33	0	68.56	0.0033	-0.4669	0
216	SLU 44			-10	-0.02	68.89	0.0212	-0.4524	0.0001
216	SLU 45			-10.91	0	70.09	0.0033	-0.4932	0
216	SLU 46			-10.71	-0.01	70.29	0.0141	-0.4845	0.0001
216	SLU 47			-10.43	-0.02	69.82	0.0212	-0.4718	0.0001
216	SLU 48			-11.33	0	71.03	0.0033	-0.5126	0
216	SLU 49			-11.14	-0.01	71.22	0.0141	-0.5039	0.0001
216	SLU 50			-11.18	0	70.43	0.0033	-0.5057	0
216	SLU 51			-10.99	-0.01	70.63	0.014	-0.497	0.0001
216	SLU 52			-12.55	-0.02	77.91	0.0216	-0.5657	0.0001
216	SLU 53			-13.45	0	79.11	0.0037	-0.6065	0
216	SLU 54			-13.26	-0.01	79.31	0.0145	-0.5979	0.0001
216	SLU 55			-12.98	-0.02	78.84	0.0216	-0.5851	0.0001
216	SLU 56			-13.88	0	80.05	0.0037	-0.6259	0
216	SLU 57			-13.69	-0.01	80.25	0.0145	-0.6173	0.0001
216	SLU 58			-13.73	0	79.46	0.0037	-0.619	0
216	SLU 59			-13.53	-0.01	79.65	0.0144	-0.6103	0.0001
216	SLU 60			-13.96	0	81.45	0.0038	-0.6288	0
216	SLU 61			-13.77	-0.01	81.64	0.0146	-0.6201	0.0001
216	SLU 62			-14.39	0	82.39	0.0038	-0.6482	0
216	SLU 63			-14.2	-0.01	82.58	0.0146	-0.6395	0.0001
216	SLU 64			-12.58	0	76.89	0.0036	-0.5677	0
216	SLU 65			-12.26	-0.02	77.22	0.0215	-0.5532	0.0001
216	SLU 66			-13.16	0	78.43	0.0037	-0.594	0
216	SLU 67			-12.97	-0.01	78.62	0.0144	-0.5854	0.0001
216	SLU 68			-12.69	-0.02	78.16	0.0215	-0.5726	0.0001
216	SLU 69			-13.59	0	79.36	0.0037	-0.6134	0
216	SLU 70			-13.4	-0.01	79.56	0.0144	-0.6048	0.0001
216	SLU 71			-13.44	0	78.77	0.0036	-0.6065	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
216	SLU 72			-13.25	-0.01	78.96	0.0144	-0.5978	0.0001
216	SLU 73			-14.81	-0.02	86.24	0.0219	-0.6666	0.0001
216	SLU 74			-15.71	0	87.45	0.0041	-0.7074	0
216	SLU 75			-15.52	-0.01	87.64	0.0148	-0.6987	0.0001
216	SLU 76			-15.23	-0.02	87.18	0.0219	-0.686	0.0001
216	SLU 77			-16.14	0	88.38	0.0041	-0.7268	0
216	SLU 78			-15.94	-0.01	88.58	0.0148	-0.7181	0.0001
216	SLU 79			-15.99	0	87.79	0.004	-0.7198	0
216	SLU 80			-15.79	-0.01	87.98	0.0148	-0.7112	0.0001
216	SLU 81			-16.22	0	89.78	0.0042	-0.7296	0
216	SLU 82			-16.03	-0.01	89.98	0.0149	-0.7209	0.0001
216	SLU 83			-16.65	0	90.72	0.0042	-0.749	0
216	SLU 84			-16.46	-0.01	90.91	0.0149	-0.7403	0.0001
216	SLE RA 1			-9.18	0	57.32	0.0027	-0.4145	0
216	SLE RA 2			-8.97	-0.01	57.53	0.0146	-0.4049	0.0001
216	SLE RA 3			-9.57	0	58.34	0.0027	-0.4321	0
216	SLE RA 4			-9.44	-0.01	58.47	0.0099	-0.4263	0
216	SLE RA 5			-9.25	-0.01	58.16	0.0146	-0.4178	0.0001
216	SLE RA 6			-9.86	0	58.96	0.0027	-0.445	0
216	SLE RA 7			-9.73	-0.01	59.09	0.0099	-0.4392	0
216	SLE RA 8			-9.75	0	58.57	0.0027	-0.4404	0
216	SLE RA 9			-9.62	-0.01	58.7	0.0099	-0.4346	0
216	SLE RA 10			-10.67	-0.01	63.55	0.0149	-0.4804	0.0001
216	SLE RA 11			-11.27	0	64.35	0.003	-0.5076	0
216	SLE RA 12			-11.14	-0.01	64.48	0.0102	-0.5019	0
216	SLE RA 13			-10.95	-0.01	64.17	0.0149	-0.4934	0.0001
216	SLE RA 14			-11.55	0	64.98	0.003	-0.5206	0
216	SLE RA 15			-11.42	-0.01	65.11	0.0102	-0.5148	0
216	SLE RA 16			-11.45	0	64.58	0.003	-0.5159	0
216	SLE RA 17			-11.32	-0.01	64.71	0.0101	-0.5102	0
216	SLE RA 18			-11.61	0	65.91	0.0031	-0.5225	0
216	SLE RA 19			-11.48	-0.01	66.04	0.0102	-0.5167	0
216	SLE RA 20			-11.89	0	66.53	0.0031	-0.5354	0
216	SLE RA 21			-11.76	-0.01	66.66	0.0102	-0.5296	0
216	SLE FR 1			-9.18	0	57.32	0.0027	-0.4145	0
216	SLE FR 2			-9.14	0	57.36	0.0051	-0.4126	0
216	SLE FR 3			-9.3	0	57.57	0.0027	-0.4197	0
216	SLE FR 4			-9.87	0	59.94	0.0052	-0.445	0
216	SLE FR 5			-10.03	0	60.15	0.0028	-0.4521	0
216	SLE FR 6			-10.4	0	61.61	0.0029	-0.4685	0
216	SLE QP 1			-9.18	0	57.32	0.0027	-0.4145	0
216	SLE QP 2			-9.91	0	59.9	0.0028	-0.4469	0
216	SLD 1			0.04	0.16	51.15	-0.0877	0.0128	-0.0007
216	SLD 2			0.04	0.16	51.15	-0.0877	0.0128	-0.0007
216	SLD 3			-0.78	-0.08	51.78	0.1809	-0.0251	0.0004
216	SLD 4			-0.78	-0.08	51.78	0.1809	-0.0251	0.0004
216	SLD 5			-5.67	0.42	56.3	-0.4317	-0.2515	-0.0017
216	SLD 6			-5.67	0.42	56.3	-0.4317	-0.2515	-0.0017
216	SLD 7			-8.43	-0.4	58.43	0.4636	-0.3779	0.0017
216	SLD 8			-8.43	-0.4	58.43	0.4636	-0.3779	0.0017
216	SLD 9			-11.39	0.39	61.36	-0.4579	-0.516	-0.0016
216	SLD 10			-11.39	0.39	61.36	-0.4579	-0.516	-0.0016
216	SLD 11			-14.16	-0.42	63.49	0.4373	-0.6423	0.0018
216	SLD 12			-14.16	-0.42	63.49	0.4373	-0.6423	0.0018
216	SLD 13			-19.04	0.08	68.01	-0.1753	-0.8687	-0.0003
216	SLD 14			-19.04	0.08	68.01	-0.1753	-0.8687	-0.0003
216	SLD 15			-19.87	-0.16	68.64	0.0933	-0.9066	0.0007
216	SLD 16			-19.87	-0.16	68.64	0.0933	-0.9066	0.0007
216	SLV 1			13.41	0.41	39.4	-0.2284	0.6301	-0.0017
216	SLV 2			13.41	0.41	39.4	-0.2284	0.6301	-0.0017
216	SLV 3			11.44	-0.21	40.92	0.4568	0.5398	0.0009
216	SLV 4			11.44	-0.21	40.92	0.4568	0.5398	0.0009
216	SLV 5			0.08	1.05	51.44	-1.1058	0.0131	-0.0044
216	SLV 6			0.08	1.05	51.44	-1.1058	0.0131	-0.0044
216	SLV 7			-6.5	-1	56.51	1.1782	-0.2878	0.0042
216	SLV 8			-6.5	-1	56.51	1.1782	-0.2878	0.0042
216	SLV 9			-13.32	0.99	63.28	-1.1726	-0.606	-0.0042
216	SLV 10			-13.32	0.99	63.28	-1.1726	-0.606	-0.0042
216	SLV 11			-19.9	-1.06	68.35	1.1114	-0.907	0.0045
216	SLV 12			-19.9	-1.06	68.35	1.1114	-0.907	0.0045
216	SLV 13			-31.26	0.2	78.87	-0.4512	-1.4336	-0.0009
216	SLV 14			-31.26	0.2	78.87	-0.4512	-1.4336	-0.0009
216	SLV 15			-33.23	-0.41	80.39	0.234	-1.5239	0.0017
216	SLV 16			-33.23	-0.41	80.39	0.234	-1.5239	0.0017
217	SLU 1			-9.76	0	56.34	0.0042	-0.4489	0
217	SLU 2			-9.49	-0.02	56.68	0.0215	-0.4369	0.0001
217	SLU 3			-10.36	0	57.98	0.0043	-0.4763	0
217	SLU 4			-10.19	-0.02	58.18	0.0147	-0.4691	0.0001
217	SLU 5			-9.92	-0.02	57.68	0.0216	-0.4569	0.0001
217	SLU 6			-10.79	0	58.98	0.0043	-0.4962	0
217	SLU 7			-10.63	-0.02	59.19	0.0147	-0.4891	0.0001
217	SLU 8			-10.63	0	58.35	0.0043	-0.4887	0
217	SLU 9			-10.47	-0.02	58.55	0.0147	-0.4816	0.0001
217	SLU 10			-12.23	-0.03	65.74	0.0221	-0.5608	0.0001
217	SLU 11			-13.1	0	67.04	0.0049	-0.6002	0
217	SLU 12			-12.94	-0.02	67.25	0.0153	-0.593	0.0001
217	SLU 13			-12.67	-0.03	66.75	0.0222	-0.5807	0.0001
217	SLU 14			-13.54	0	68.05	0.0049	-0.6201	0
217	SLU 15			-13.37	-0.02	68.25	0.0154	-0.613	0.0001
217	SLU 16			-13.37	0	67.41	0.0049	-0.6126	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
217	SLU 17	-13.21	-0.02	67.62	0.0153	-0.6055	0.0001
217	SLU 18	-13.68	0	69.29	0.0051	-0.6259	0
217	SLU 19	-13.52	-0.02	69.49	0.0155	-0.6187	0.0001
217	SLU 20	-14.12	0	70.3	0.0051	-0.6458	0
217	SLU 21	-13.95	-0.02	70.5	0.0155	-0.6386	0.0001
217	SLU 22	-12.2	0	64.77	0.0047	-0.5594	0
217	SLU 23	-11.93	-0.03	65.11	0.0221	-0.5474	0.0001
217	SLU 24	-12.8	0	66.41	0.0048	-0.5868	0
217	SLU 25	-12.63	-0.02	66.62	0.0152	-0.5796	0.0001
217	SLU 26	-12.36	-0.03	66.12	0.0221	-0.5673	0.0001
217	SLU 27	-13.23	0	67.42	0.0049	-0.6067	0
217	SLU 28	-13.07	-0.02	67.62	0.0153	-0.5996	0.0001
217	SLU 29	-13.07	0	66.78	0.0048	-0.5992	0
217	SLU 30	-12.91	-0.02	66.99	0.0152	-0.5921	0.0001
217	SLU 31	-14.67	-0.03	74.18	0.0227	-0.6713	0.0001
217	SLU 32	-15.54	0	75.48	0.0055	-0.7107	0
217	SLU 33	-15.38	-0.02	75.68	0.0159	-0.7035	0.0001
217	SLU 34	-15.11	-0.03	75.18	0.0228	-0.6912	0.0001
217	SLU 35	-15.97	-0.01	76.48	0.0055	-0.7306	0
217	SLU 36	-15.81	-0.02	76.69	0.0159	-0.7235	0.0001
217	SLU 37	-15.81	0	75.85	0.0055	-0.7231	0
217	SLU 38	-15.65	-0.02	76.05	0.0159	-0.7159	0.0001
217	SLU 39	-16.12	-0.01	77.73	0.0056	-0.7364	0
217	SLU 40	-15.96	-0.02	77.93	0.0161	-0.7292	0.0001
217	SLU 41	-16.55	-0.01	78.73	0.0057	-0.7563	0
217	SLU 42	-16.39	-0.02	78.93	0.0161	-0.7491	0.0001
217	SLU 43	-11.85	0	70.35	0.0052	-0.5457	0
217	SLU 44	-11.58	-0.03	70.69	0.0226	-0.5337	0.0001
217	SLU 45	-12.45	0	71.99	0.0053	-0.5731	0
217	SLU 46	-12.29	-0.02	72.19	0.0157	-0.5659	0.0001
217	SLU 47	-12.02	-0.03	71.69	0.0226	-0.5536	0.0001
217	SLU 48	-12.88	0	72.99	0.0054	-0.593	0
217	SLU 49	-12.72	-0.02	73.2	0.0158	-0.5859	0.0001
217	SLU 50	-12.72	0	72.36	0.0053	-0.5855	0
217	SLU 51	-12.56	-0.02	72.56	0.0157	-0.5783	0.0001
217	SLU 52	-14.33	-0.03	79.75	0.0232	-0.6576	0.0001
217	SLU 53	-15.19	-0.01	81.05	0.006	-0.697	0
217	SLU 54	-15.03	-0.02	81.26	0.0164	-0.6898	0.0001
217	SLU 55	-14.76	-0.03	80.76	0.0232	-0.6775	0.0001
217	SLU 56	-15.63	-0.01	82.06	0.006	-0.7169	0
217	SLU 57	-15.46	-0.02	82.26	0.0164	-0.7098	0.0001
217	SLU 58	-15.47	-0.01	81.42	0.0059	-0.7094	0
217	SLU 59	-15.3	-0.02	81.63	0.0163	-0.7022	0.0001
217	SLU 60	-15.77	-0.01	83.3	0.0061	-0.7227	0
217	SLU 61	-15.61	-0.02	83.5	0.0165	-0.7155	0.0001
217	SLU 62	-16.21	-0.01	84.31	0.0062	-0.7426	0
217	SLU 63	-16.04	-0.02	84.51	0.0166	-0.7354	0.0001
217	SLU 64	-14.29	-0.01	78.78	0.0058	-0.6562	0
217	SLU 65	-14.02	-0.03	79.12	0.0231	-0.6442	0.0001
217	SLU 66	-14.89	-0.01	80.42	0.0059	-0.6836	0
217	SLU 67	-14.73	-0.02	80.63	0.0163	-0.6764	0.0001
217	SLU 68	-14.45	-0.03	80.13	0.0232	-0.6641	0.0001
217	SLU 69	-15.32	-0.01	81.43	0.0059	-0.7035	0
217	SLU 70	-15.16	-0.02	81.63	0.0163	-0.6963	0.0001
217	SLU 71	-15.16	-0.01	80.79	0.0059	-0.696	0
217	SLU 72	-15	-0.02	81	0.0163	-0.6888	0.0001
217	SLU 73	-16.76	-0.03	88.19	0.0238	-0.7681	0.0001
217	SLU 74	-17.63	-0.01	89.49	0.0065	-0.8075	0
217	SLU 75	-17.47	-0.02	89.69	0.0169	-0.8003	0.0001
217	SLU 76	-17.2	-0.03	89.19	0.0238	-0.788	0.0001
217	SLU 77	-18.07	-0.01	90.49	0.0066	-0.8274	0
217	SLU 78	-17.9	-0.02	90.7	0.017	-0.8202	0.0001
217	SLU 79	-17.91	-0.01	89.86	0.0065	-0.8199	0
217	SLU 80	-17.74	-0.02	90.06	0.0169	-0.8127	0.0001
217	SLU 81	-18.21	-0.01	91.74	0.0067	-0.8331	0
217	SLU 82	-18.05	-0.02	91.94	0.0171	-0.826	0.0001
217	SLU 83	-18.65	-0.01	92.74	0.0067	-0.8531	0
217	SLU 84	-18.48	-0.02	92.94	0.0171	-0.8459	0.0001
217	SLE RA 1	-10.46	0	58.75	0.0043	-0.4805	0
217	SLE RA 2	-10.28	-0.02	58.97	0.0159	-0.4725	0.0001
217	SLE RA 3	-10.86	0	59.84	0.0044	-0.4987	0
217	SLE RA 4	-10.75	-0.01	59.98	0.0113	-0.494	0.0001
217	SLE RA 5	-10.57	-0.02	59.64	0.0159	-0.4858	0.0001
217	SLE RA 6	-11.15	0	60.51	0.0044	-0.512	0
217	SLE RA 7	-11.04	-0.01	60.65	0.0114	-0.5072	0.0001
217	SLE RA 8	-11.04	0	60.09	0.0044	-0.507	0
217	SLE RA 9	-10.93	-0.01	60.22	0.0113	-0.5022	0.0001
217	SLE RA 10	-12.11	-0.02	65.02	0.0163	-0.5551	0.0001
217	SLE RA 11	-12.69	0	65.89	0.0048	-0.5813	0
217	SLE RA 12	-12.58	-0.01	66.02	0.0118	-0.5766	0.0001
217	SLE RA 13	-12.4	-0.02	65.69	0.0163	-0.5684	0.0001
217	SLE RA 14	-12.97	0	66.56	0.0049	-0.5946	0
217	SLE RA 15	-12.87	-0.01	66.69	0.0118	-0.5898	0.0001
217	SLE RA 16	-12.87	0	66.13	0.0048	-0.5896	0
217	SLE RA 17	-12.76	-0.01	66.27	0.0117	-0.5848	0.0001
217	SLE RA 18	-13.07	0	67.38	0.0049	-0.5984	0
217	SLE RA 19	-12.96	-0.01	67.52	0.0119	-0.5937	0.0001
217	SLE RA 20	-13.36	0	68.05	0.005	-0.6117	0
217	SLE RA 21	-13.25	-0.01	68.19	0.0119	-0.6069	0.0001
217	SLE FR 1	-10.46	0	58.75	0.0043	-0.4805	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
217	SLE FR 2			-10.42	-0.01	58.79	0.0066	-0.4789	0
217	SLE FR 3			-10.57	0	59.02	0.0043	-0.4858	0
217	SLE FR 4			-11.21	-0.01	61.38	0.0068	-0.5143	0
217	SLE FR 5			-11.36	0	61.61	0.0045	-0.5212	0
217	SLE FR 6			-11.77	0	63.07	0.0046	-0.5394	0
217	SLE QP 1			-10.46	0	58.75	0.0043	-0.4805	0
217	SLE QP 2			-11.24	0	61.34	0.0045	-0.5159	0
217	SLD 1			-1.63	0.12	49.45	-0.1312	-0.0685	-0.0004
217	SLD 2			-1.63	0.12	49.45	-0.1312	-0.0685	-0.0004
217	SLD 3			-2.41	-0.04	50.3	0.0694	-0.1041	0.0002
217	SLD 4			-2.41	-0.04	50.3	0.0694	-0.1041	0.0002
217	SLD 5			-7.17	0.28	56.48	-0.3403	-0.3276	-0.0011
217	SLD 6			-7.17	0.28	56.48	-0.3403	-0.3276	-0.0011
217	SLD 7			-9.78	-0.26	59.32	0.3281	-0.4463	0.001
217	SLD 8			-9.78	-0.26	59.32	0.3281	-0.4463	0.001
217	SLD 9			-12.71	0.26	63.36	-0.319	-0.5854	-0.001
217	SLD 10			-12.71	0.26	63.36	-0.319	-0.5854	-0.001
217	SLD 11			-15.31	-0.29	66.2	0.3493	-0.7041	0.0011
217	SLD 12			-15.31	-0.29	66.2	0.3493	-0.7041	0.0011
217	SLD 13			-20.07	0.03	72.38	-0.0603	-0.9276	-0.0002
217	SLD 14			-20.07	0.03	72.38	-0.0603	-0.9276	-0.0002
217	SLD 15			-20.85	-0.13	73.23	0.1402	-0.9632	0.0005
217	SLD 16			-20.85	-0.13	73.23	0.1402	-0.9632	0.0005
217	SLV 1			11.27	0.31	33.49	-0.34	0.532	-0.0011
217	SLV 2			11.27	0.31	33.49	-0.34	0.532	-0.0011
217	SLV 3			9.41	-0.1	35.51	0.1712	0.4473	0.0005
217	SLV 4			9.41	-0.1	35.51	0.1712	0.4473	0.0005
217	SLV 5			-1.67	0.72	49.93	-0.8742	-0.073	-0.0027
217	SLV 6			-1.67	0.72	49.93	-0.8742	-0.073	-0.0027
217	SLV 7			-7.87	-0.66	56.65	0.8298	-0.3554	0.0026
217	SLV 8			-7.87	-0.66	56.65	0.8298	-0.3554	0.0026
217	SLV 9			-14.61	0.65	66.03	-0.8208	-0.6763	-0.0025
217	SLV 10			-14.61	0.65	66.03	-0.8208	-0.6763	-0.0025
217	SLV 11			-20.82	-0.72	72.75	0.8832	-0.9587	0.0028
217	SLV 12			-20.82	-0.72	72.75	0.8832	-0.9587	0.0028
217	SLV 13			-31.89	0.09	87.17	-0.1621	-1.479	-0.0005
217	SLV 14			-31.89	0.09	87.17	-0.1621	-1.479	-0.0005
217	SLV 15			-33.75	-0.32	89.18	0.3491	-1.5637	0.0011
217	SLV 16			-33.75	-0.32	89.18	0.3491	-1.5637	0.0011
218	SLU 1			-11.46	-0.01	58.39	0.0071	-0.5317	0.0001
218	SLU 2			-11.25	-0.03	58.69	0.0224	-0.5211	0.0001
218	SLU 3			-12.09	-0.01	60.18	0.0073	-0.5612	0.0001
218	SLU 4			-11.96	-0.02	60.36	0.0165	-0.5548	0.0001
218	SLU 5			-11.7	-0.03	59.8	0.0225	-0.5422	0.0001
218	SLU 6			-12.54	-0.01	61.29	0.0074	-0.5823	0.0001
218	SLU 7			-12.41	-0.02	61.47	0.0165	-0.5759	0.0001
218	SLU 8			-12.36	-0.01	60.6	0.0073	-0.5739	0.0001
218	SLU 9			-12.23	-0.02	60.78	0.0164	-0.5675	0.0001
218	SLU 10			-14.22	-0.03	67.97	0.0234	-0.6575	0.0002
218	SLU 11			-15.06	-0.01	69.46	0.0083	-0.6976	0.0001
218	SLU 12			-14.93	-0.02	69.64	0.0174	-0.6912	0.0001
218	SLU 13			-14.67	-0.03	69.07	0.0235	-0.6786	0.0002
218	SLU 14			-15.51	-0.01	70.57	0.0083	-0.7187	0.0001
218	SLU 15			-15.38	-0.02	70.75	0.0175	-0.7123	0.0001
218	SLU 16			-15.33	-0.01	69.88	0.0082	-0.7103	0.0001
218	SLU 17			-15.2	-0.02	70.06	0.0174	-0.7039	0.0001
218	SLU 18			-15.7	-0.01	71.64	0.0085	-0.7266	0.0001
218	SLU 19			-15.58	-0.02	71.82	0.0177	-0.7202	0.0001
218	SLU 20			-16.15	-0.01	72.75	0.0086	-0.7477	0.0001
218	SLU 21			-16.03	-0.02	72.93	0.0178	-0.7413	0.0001
218	SLU 22			-14.11	-0.01	67.08	0.008	-0.6539	0.0001
218	SLU 23			-13.9	-0.03	67.38	0.0233	-0.6433	0.0002
218	SLU 24			-14.74	-0.01	68.88	0.0082	-0.6834	0.0001
218	SLU 25			-14.61	-0.02	69.06	0.0174	-0.6771	0.0001
218	SLU 26			-14.35	-0.03	68.49	0.0234	-0.6644	0.0002
218	SLU 27			-15.19	-0.01	69.98	0.0083	-0.7045	0.0001
218	SLU 28			-15.06	-0.02	70.16	0.0175	-0.6982	0.0001
218	SLU 29			-15.01	-0.01	69.3	0.0082	-0.6961	0.0001
218	SLU 30			-14.89	-0.02	69.48	0.0174	-0.6898	0.0001
218	SLU 31			-16.87	-0.03	76.66	0.0243	-0.7797	0.0002
218	SLU 32			-17.71	-0.01	78.16	0.0092	-0.8198	0.0001
218	SLU 33			-17.58	-0.02	78.34	0.0184	-0.8134	0.0001
218	SLU 34			-17.32	-0.03	77.77	0.0244	-0.8008	0.0002
218	SLU 35			-18.16	-0.01	79.26	0.0093	-0.8409	0.0001
218	SLU 36			-18.03	-0.02	79.44	0.0184	-0.8345	0.0001
218	SLU 37			-17.98	-0.01	78.58	0.0092	-0.8325	0.0001
218	SLU 38			-17.86	-0.02	78.76	0.0183	-0.8261	0.0001
218	SLU 39			-18.36	-0.01	80.34	0.0094	-0.8488	0.0001
218	SLU 40			-18.23	-0.02	80.52	0.0186	-0.8424	0.0002
218	SLU 41			-18.81	-0.01	81.45	0.0095	-0.8699	0.0001
218	SLU 42			-18.68	-0.02	81.63	0.0187	-0.8635	0.0002
218	SLU 43			-13.99	-0.01	72.92	0.0089	-0.6493	0.0001
218	SLU 44			-13.78	-0.03	73.22	0.0242	-0.6387	0.0002
218	SLU 45			-14.61	-0.01	74.72	0.0091	-0.6788	0.0001
218	SLU 46			-14.49	-0.02	74.9	0.0183	-0.6725	0.0001
218	SLU 47			-14.23	-0.03	74.33	0.0243	-0.6598	0.0002
218	SLU 48			-15.06	-0.01	75.83	0.0092	-0.6999	0.0001
218	SLU 49			-14.94	-0.02	76.01	0.0184	-0.6936	0.0002
218	SLU 50			-14.89	-0.01	75.14	0.0091	-0.6915	0.0001
218	SLU 51			-14.76	-0.02	75.32	0.0183	-0.6852	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
218	SLU 52	-16.75	-0.03	82.5	0.0252	-0.7751	0.0002
218	SLU 53	-17.59	-0.01	84	0.0101	-0.8152	0.0001
218	SLU 54	-17.46	-0.02	84.18	0.0193	-0.8088	0.0002
218	SLU 55	-17.2	-0.03	83.61	0.0253	-0.7962	0.0002
218	SLU 56	-18.04	-0.01	85.11	0.0102	-0.8363	0.0001
218	SLU 57	-17.91	-0.02	85.29	0.0193	-0.8299	0.0002
218	SLU 58	-17.86	-0.01	84.42	0.0101	-0.8279	0.0001
218	SLU 59	-17.73	-0.02	84.6	0.0192	-0.8216	0.0002
218	SLU 60	-18.23	-0.01	86.18	0.0103	-0.8442	0.0001
218	SLU 61	-18.1	-0.02	86.36	0.0195	-0.8378	0.0002
218	SLU 62	-18.68	-0.01	87.29	0.0104	-0.8653	0.0001
218	SLU 63	-18.55	-0.02	87.47	0.0196	-0.8589	0.0002
218	SLU 64	-16.64	-0.01	81.62	0.0099	-0.7716	0.0001
218	SLU 65	-16.43	-0.03	81.92	0.0252	-0.761	0.0002
218	SLU 66	-17.27	-0.01	83.41	0.01	-0.801	0.0001
218	SLU 67	-17.14	-0.02	83.59	0.0192	-0.7947	0.0002
218	SLU 68	-16.88	-0.03	83.02	0.0252	-0.782	0.0002
218	SLU 69	-17.72	-0.01	84.52	0.0101	-0.8221	0.0001
218	SLU 70	-17.59	-0.02	84.7	0.0193	-0.8158	0.0002
218	SLU 71	-17.54	-0.01	83.83	0.01	-0.8137	0.0001
218	SLU 72	-17.41	-0.02	84.01	0.0192	-0.8074	0.0002
218	SLU 73	-19.4	-0.03	91.2	0.0261	-0.8973	0.0002
218	SLU 74	-20.24	-0.01	92.69	0.0111	-0.9374	0.0001
218	SLU 75	-20.11	-0.02	92.87	0.0202	-0.9311	0.0002
218	SLU 76	-19.85	-0.03	92.3	0.0262	-0.9184	0.0002
218	SLU 77	-20.69	-0.01	93.8	0.0111	-0.9585	0.0001
218	SLU 78	-20.56	-0.02	93.98	0.0203	-0.9522	0.0002
218	SLU 79	-20.51	-0.01	93.11	0.0111	-0.9501	0.0001
218	SLU 80	-20.38	-0.02	93.29	0.0202	-0.9438	0.0002
218	SLU 81	-20.89	-0.01	94.87	0.0113	-0.9664	0.0001
218	SLU 82	-20.76	-0.02	95.05	0.0204	-0.96	0.0002
218	SLU 83	-21.33	-0.01	95.98	0.0113	-0.9875	0.0002
218	SLU 84	-21.21	-0.02	96.16	0.0205	-0.9811	0.0002
218	SLE RA 1	-12.22	-0.01	60.87	0.0074	-0.5666	0.0001
218	SLE RA 2	-12.08	-0.02	61.07	0.0176	-0.5596	0.0001
218	SLE RA 3	-12.64	-0.01	62.07	0.0075	-0.5863	0.0001
218	SLE RA 4	-12.55	-0.02	62.19	0.0136	-0.5821	0.0001
218	SLE RA 5	-12.38	-0.02	61.81	0.0176	-0.5736	0.0001
218	SLE RA 6	-12.94	-0.01	62.81	0.0075	-0.6004	0.0001
218	SLE RA 7	-12.85	-0.02	62.93	0.0137	-0.5961	0.0001
218	SLE RA 8	-12.82	-0.01	62.35	0.0075	-0.5948	0.0001
218	SLE RA 9	-12.73	-0.02	62.47	0.0136	-0.5905	0.0001
218	SLE RA 10	-14.06	-0.02	67.26	0.0182	-0.6505	0.0001
218	SLE RA 11	-14.62	-0.01	68.25	0.0081	-0.6772	0.0001
218	SLE RA 12	-14.53	-0.02	68.38	0.0143	-0.673	0.0001
218	SLE RA 13	-14.36	-0.02	68	0.0183	-0.6646	0.0001
218	SLE RA 14	-14.92	-0.01	68.99	0.0082	-0.6913	0.0001
218	SLE RA 15	-14.83	-0.02	69.11	0.0143	-0.687	0.0001
218	SLE RA 16	-14.8	-0.01	68.53	0.0081	-0.6857	0.0001
218	SLE RA 17	-14.71	-0.02	68.65	0.0143	-0.6815	0.0001
218	SLE RA 18	-15.05	-0.01	69.71	0.0083	-0.6965	0.0001
218	SLE RA 19	-14.96	-0.02	69.83	0.0144	-0.6923	0.0001
218	SLE RA 20	-15.35	-0.01	70.45	0.0084	-0.7106	0.0001
218	SLE RA 21	-15.26	-0.02	70.57	0.0145	-0.7064	0.0001
218	SLE FR 1	-12.22	-0.01	60.87	0.0074	-0.5666	0.0001
218	SLE FR 2	-12.19	-0.01	60.91	0.0094	-0.5652	0.0001
218	SLE FR 3	-12.34	-0.01	61.17	0.0074	-0.5723	0.0001
218	SLE FR 4	-13.04	-0.01	63.56	0.0097	-0.6042	0.0001
218	SLE FR 5	-13.19	-0.01	63.82	0.0077	-0.6112	0.0001
218	SLE FR 6	-13.63	-0.01	65.29	0.0078	-0.6316	0.0001
218	SLE QP 1	-12.22	-0.01	60.87	0.0074	-0.5666	0.0001
218	SLE QP 2	-13.07	-0.01	63.52	0.0077	-0.6056	0.0001
218	SLD 1	-3.66	-0.02	47.64	-0.0895	-0.1536	-0.0002
218	SLD 2	-3.66	-0.02	47.64	-0.0895	-0.1536	-0.0002
218	SLD 3	-4.41	-0.13	48.88	0.0423	-0.1885	0.0002
218	SLD 4	-4.41	-0.13	48.88	0.0423	-0.1885	0.0002
218	SLD 5	-9.1	0.14	56.87	-0.2213	-0.417	-0.0005
218	SLD 6	-9.1	0.14	56.87	-0.2213	-0.417	-0.0005
218	SLD 7	-11.61	-0.2	61.01	0.2178	-0.5335	0.0007
218	SLD 8	-11.61	-0.2	61.01	0.2178	-0.5335	0.0007
218	SLD 9	-14.52	0.19	66.03	-0.2025	-0.6777	-0.0005
218	SLD 10	-14.52	0.19	66.03	-0.2025	-0.6777	-0.0005
218	SLD 11	-17.03	-0.16	70.17	0.2366	-0.7942	0.0007
218	SLD 12	-17.03	-0.16	70.17	0.2366	-0.7942	0.0007
218	SLD 13	-21.73	0.12	78.17	-0.0269	-1.0227	0
218	SLD 14	-21.73	0.12	78.17	-0.0269	-1.0227	0
218	SLD 15	-22.48	0.01	79.41	0.1048	-1.0576	0.0004
218	SLD 16	-22.48	0.01	79.41	0.1048	-1.0576	0.0004
218	SLV 1	8.98	-0.05	26.31	-0.2369	0.4534	-0.0006
218	SLV 2	8.98	-0.05	26.31	-0.2369	0.4534	-0.0006
218	SLV 3	7.19	-0.3	29.23	0.0986	0.3701	0.0003
218	SLV 4	7.19	-0.3	29.23	0.0986	0.3701	0.0003
218	SLV 5	-3.73	0.37	47.94	-0.5744	-0.1616	-0.0015
218	SLV 6	-3.73	0.37	47.94	-0.5744	-0.1616	-0.0015
218	SLV 7	-9.71	-0.48	57.66	0.5437	-0.4393	0.0015
218	SLV 8	-9.71	-0.48	57.66	0.5437	-0.4393	0.0015
218	SLV 9	-16.42	0.47	69.39	-0.5283	-0.772	-0.0013
218	SLV 10	-16.42	0.47	69.39	-0.5283	-0.772	-0.0013
218	SLV 11	-22.4	-0.38	79.11	0.5898	-1.0497	0.0017
218	SLV 12	-22.4	-0.38	79.11	0.5898	-1.0497	0.0017



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
218	SLV 13			-33.32	0.29	97.82	-0.0832	-1.5813	-0.0001
218	SLV 14			-33.32	0.29	97.82	-0.0832	-1.5813	-0.0001
218	SLV 15			-35.11	0.03	100.73	0.2522	-1.6646	0.0008
218	SLV 16			-35.11	0.03	100.73	0.2522	-1.6646	0.0008
219	SLU 1			-13.33	-0.04	64.5	0.0176	-0.6826	0.0001
219	SLU 2			-13.2	-0.07	64.66	0.0279	-0.6768	0
219	SLU 3			-13.97	-0.04	66.67	0.0181	-0.7159	0.0001
219	SLU 4			-13.89	-0.06	66.76	0.0242	-0.7124	0.0001
219	SLU 5			-13.65	-0.07	66.02	0.0281	-0.7	0
219	SLU 6			-14.42	-0.04	68.03	0.0183	-0.7391	0.0001
219	SLU 7			-14.34	-0.06	68.12	0.0245	-0.7356	0.0001
219	SLU 8			-14.22	-0.04	67.22	0.0181	-0.7291	0.0001
219	SLU 9			-14.15	-0.06	67.32	0.0242	-0.7256	0.0001
219	SLU 10			-16.29	-0.08	75.14	0.0302	-0.8334	0.0001
219	SLU 11			-17.06	-0.05	77.15	0.0205	-0.8726	0.0001
219	SLU 12			-16.98	-0.06	77.24	0.0266	-0.8691	0.0001
219	SLU 13			-16.74	-0.08	76.5	0.0305	-0.8567	0.0001
219	SLU 14			-17.51	-0.05	78.51	0.0207	-0.8958	0.0001
219	SLU 15			-17.43	-0.07	78.6	0.0268	-0.8923	0.0001
219	SLU 16			-17.31	-0.05	77.7	0.0205	-0.8857	0.0001
219	SLU 17			-17.24	-0.06	77.8	0.0266	-0.8822	0.0001
219	SLU 18			-17.74	-0.05	79.47	0.021	-0.9064	0.0001
219	SLU 19			-17.66	-0.07	79.57	0.0271	-0.9029	0.0001
219	SLU 20			-18.19	-0.05	80.83	0.0213	-0.9296	0.0002
219	SLU 21			-18.11	-0.07	80.93	0.0274	-0.9261	0.0001
219	SLU 22			-16.11	-0.04	74.35	0.0199	-0.8244	0.0001
219	SLU 23			-15.98	-0.08	74.5	0.0301	-0.8185	0.0001
219	SLU 24			-16.75	-0.05	76.51	0.0204	-0.8577	0.0001
219	SLU 25			-16.68	-0.06	76.61	0.0265	-0.8542	0.0001
219	SLU 26			-16.43	-0.08	75.87	0.0304	-0.8418	0.0001
219	SLU 27			-17.2	-0.05	77.88	0.0206	-0.8809	0.0001
219	SLU 28			-17.13	-0.07	77.97	0.0268	-0.8774	0.0001
219	SLU 29			-17.01	-0.05	77.07	0.0204	-0.8708	0.0001
219	SLU 30			-16.93	-0.06	77.16	0.0265	-0.8673	0.0001
219	SLU 31			-19.07	-0.08	84.99	0.0325	-0.9752	0.0001
219	SLU 32			-19.84	-0.05	87	0.0228	-1.0144	0.0002
219	SLU 33			-19.77	-0.07	87.09	0.0289	-1.0109	0.0001
219	SLU 34			-19.52	-0.08	86.35	0.0328	-0.9984	0.0001
219	SLU 35			-20.29	-0.05	88.36	0.023	-1.0376	0.0002
219	SLU 36			-20.22	-0.07	88.45	0.0291	-1.0341	0.0001
219	SLU 37			-20.1	-0.05	87.55	0.0228	-1.0275	0.0002
219	SLU 38			-20.02	-0.07	87.65	0.0289	-1.024	0.0001
219	SLU 39			-20.52	-0.05	89.32	0.0233	-1.0482	0.0002
219	SLU 40			-20.45	-0.07	89.42	0.0294	-1.0447	0.0001
219	SLU 41			-20.97	-0.05	90.68	0.0236	-1.0714	0.0002
219	SLU 42			-20.9	-0.07	90.78	0.0297	-1.0679	0.0001
219	SLU 43			-16.37	-0.05	80.47	0.0221	-0.8388	0.0001
219	SLU 44			-16.24	-0.08	80.63	0.0324	-0.8329	0.0001
219	SLU 45			-17.01	-0.05	82.64	0.0226	-0.8721	0.0001
219	SLU 46			-16.93	-0.07	82.73	0.0287	-0.8686	0.0001
219	SLU 47			-16.69	-0.08	81.99	0.0326	-0.8562	0.0001
219	SLU 48			-17.46	-0.05	84	0.0229	-0.8953	0.0001
219	SLU 49			-17.38	-0.07	84.09	0.029	-0.8918	0.0001
219	SLU 50			-17.27	-0.05	83.19	0.0226	-0.8852	0.0001
219	SLU 51			-17.19	-0.07	83.29	0.0288	-0.8817	0.0001
219	SLU 52			-19.33	-0.09	91.11	0.0347	-0.9896	0.0001
219	SLU 53			-20.1	-0.06	93.12	0.025	-1.0287	0.0002
219	SLU 54			-20.02	-0.08	93.22	0.0311	-1.0252	0.0001
219	SLU 55			-19.78	-0.09	92.47	0.035	-1.0128	0.0001
219	SLU 56			-20.55	-0.06	94.48	0.0252	-1.052	0.0002
219	SLU 57			-20.47	-0.08	94.58	0.0313	-1.0485	0.0001
219	SLU 58			-20.36	-0.06	93.67	0.025	-1.0419	0.0002
219	SLU 59			-20.28	-0.08	93.77	0.0311	-1.0384	0.0001
219	SLU 60			-20.78	-0.06	95.44	0.0255	-1.0626	0.0002
219	SLU 61			-20.7	-0.08	95.54	0.0317	-1.0591	0.0001
219	SLU 62			-21.23	-0.06	96.81	0.0258	-1.0858	0.0002
219	SLU 63			-21.15	-0.08	96.9	0.0319	-1.0823	0.0001
219	SLU 64			-19.15	-0.05	90.32	0.0244	-0.9805	0.0002
219	SLU 65			-19.03	-0.09	90.48	0.0346	-0.9747	0.0001
219	SLU 66			-19.8	-0.06	92.49	0.0249	-1.0139	0.0002
219	SLU 67			-19.72	-0.08	92.58	0.031	-1.0104	0.0001
219	SLU 68			-19.48	-0.09	91.84	0.0349	-0.9979	0.0001
219	SLU 69			-20.25	-0.06	93.85	0.0251	-1.0371	0.0002
219	SLU 70			-20.17	-0.08	93.94	0.0313	-1.0336	0.0001
219	SLU 71			-20.05	-0.06	93.04	0.0249	-1.027	0.0002
219	SLU 72			-19.98	-0.08	93.14	0.031	-1.0235	0.0001
219	SLU 73			-22.11	-0.09	100.96	0.037	-1.1314	0.0001
219	SLU 74			-22.89	-0.06	102.97	0.0273	-1.1705	0.0002
219	SLU 75			-22.81	-0.08	103.06	0.0334	-1.167	0.0002
219	SLU 76			-22.56	-0.09	102.32	0.0373	-1.1546	0.0001
219	SLU 77			-23.34	-0.06	104.33	0.0275	-1.1938	0.0002
219	SLU 78			-23.26	-0.08	104.43	0.0336	-1.1903	0.0002
219	SLU 79			-23.14	-0.06	103.52	0.0273	-1.1837	0.0002
219	SLU 80			-23.07	-0.08	103.62	0.0334	-1.1802	0.0002
219	SLU 81			-23.57	-0.06	105.29	0.0278	-1.2043	0.0002
219	SLU 82			-23.49	-0.08	105.39	0.0339	-1.2008	0.0002
219	SLU 83			-24.02	-0.06	106.65	0.0281	-1.2276	0.0002
219	SLU 84			-23.94	-0.08	106.75	0.0342	-1.2241	0.0002
219	SLE RA 1			-14.12	-0.04	67.31	0.0183	-0.7231	0.0001
219	SLE RA 2			-14.04	-0.06	67.42	0.0251	-0.7192	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
219	SLE RA 3			-14.55	-0.04	68.76	0.0186	-0.7453	0.0001
219	SLE RA 4			-14.5	-0.05	68.82	0.0227	-0.743	0.0001
219	SLE RA 5			-14.34	-0.06	68.32	0.0253	-0.7347	0.0001
219	SLE RA 6			-14.85	-0.04	69.66	0.0188	-0.7608	0.0001
219	SLE RA 7			-14.8	-0.05	69.73	0.0229	-0.7585	0.0001
219	SLE RA 8			-14.72	-0.04	69.13	0.0186	-0.7541	0.0001
219	SLE RA 9			-14.67	-0.05	69.19	0.0227	-0.7517	0.0001
219	SLE RA 10			-16.1	-0.07	74.4	0.0267	-0.8237	0.0001
219	SLE RA 11			-16.61	-0.04	75.74	0.0202	-0.8498	0.0001
219	SLE RA 12			-16.56	-0.06	75.81	0.0243	-0.8474	0.0001
219	SLE RA 13			-16.39	-0.07	75.31	0.0268	-0.8391	0.0001
219	SLE RA 14			-16.91	-0.04	76.65	0.0203	-0.8652	0.0001
219	SLE RA 15			-16.86	-0.06	76.72	0.0244	-0.8629	0.0001
219	SLE RA 16			-16.78	-0.04	76.11	0.0202	-0.8585	0.0001
219	SLE RA 17			-16.73	-0.06	76.18	0.0243	-0.8562	0.0001
219	SLE RA 18			-17.06	-0.05	77.29	0.0205	-0.8723	0.0001
219	SLE RA 19			-17.01	-0.06	77.36	0.0246	-0.87	0.0001
219	SLE RA 20			-17.36	-0.05	78.2	0.0207	-0.8878	0.0001
219	SLE RA 21			-17.31	-0.06	78.26	0.0248	-0.8855	0.0001
219	SLE FR 1			-14.12	-0.04	67.31	0.0183	-0.7231	0.0001
219	SLE FR 2			-14.1	-0.05	67.33	0.0197	-0.7223	0.0001
219	SLE FR 3			-14.24	-0.04	67.67	0.0184	-0.7293	0.0001
219	SLE FR 4			-14.99	-0.05	70.33	0.0203	-0.7671	0.0001
219	SLE FR 5			-15.12	-0.04	70.67	0.019	-0.7741	0.0001
219	SLE FR 6			-15.59	-0.04	72.3	0.0194	-0.7977	0.0001
219	SLE QP 1			-14.12	-0.04	67.31	0.0183	-0.7231	0.0001
219	SLE QP 2			-15	-0.04	70.31	0.019	-0.7679	0.0001
219	SLD 1			-6.17	-0.09	47.23	-0.0397	-0.2997	0.0001
219	SLD 2			-6.17	-0.09	47.23	-0.0397	-0.2997	0.0001
219	SLD 3			-6.83	-0.2	49.22	0.0298	-0.3347	-0.0004
219	SLD 4			-6.83	-0.2	49.22	0.0298	-0.3347	-0.0004
219	SLD 5			-11.35	0.11	60.37	-0.104	-0.5744	0.0009
219	SLD 6			-11.35	0.11	60.37	-0.104	-0.5744	0.0009
219	SLD 7			-13.56	-0.25	67	0.1276	-0.691	-0.0008
219	SLD 8			-13.56	-0.25	67	0.1276	-0.691	-0.0008
219	SLD 9			-16.45	0.17	73.62	-0.0897	-0.8448	0.001
219	SLD 10			-16.45	0.17	73.62	-0.0897	-0.8448	0.001
219	SLD 11			-18.66	-0.19	80.24	0.142	-0.9614	-0.0006
219	SLD 12			-18.66	-0.19	80.24	0.142	-0.9614	-0.0006
219	SLD 13			-23.18	0.12	91.39	0.0081	-1.201	0.0006
219	SLD 14			-23.18	0.12	91.39	0.0081	-1.201	0.0006
219	SLD 15			-23.84	0.01	93.38	0.0776	-1.236	0.0001
219	SLD 16			-23.84	0.01	93.38	0.0776	-1.236	0.0001
219	SLV 1			5.69	-0.16	16.26	-0.1273	0.329	0.0001
219	SLV 2			5.69	-0.16	16.26	-0.1273	0.329	0.0001
219	SLV 3			4.11	-0.43	20.92	0.0493	0.2454	-0.0011
219	SLV 4			4.11	-0.43	20.92	0.0493	0.2454	-0.0011
219	SLV 5			-6.4	0.34	47.02	-0.2927	-0.3121	0.002
219	SLV 6			-6.4	0.34	47.02	-0.2927	-0.3121	0.002
219	SLV 7			-11.66	-0.57	62.56	0.2958	-0.5906	-0.0021
219	SLV 8			-11.66	-0.57	62.56	0.2958	-0.5906	-0.0021
219	SLV 9			-18.35	0.49	78.05	-0.2579	-0.9451	0.0024
219	SLV 10			-18.35	0.49	78.05	-0.2579	-0.9451	0.0024
219	SLV 11			-23.6	-0.42	93.59	0.3306	-1.2236	-0.0018
219	SLV 12			-23.6	-0.42	93.59	0.3306	-1.2236	-0.0018
219	SLV 13			-34.12	0.34	119.69	-0.0113	-1.7812	0.0014
219	SLV 14			-34.12	0.34	119.69	-0.0113	-1.7812	0.0014
219	SLV 15			-35.7	0.07	124.35	0.1652	-1.8647	0.0001
219	SLV 16			-35.7	0.07	124.35	0.1652	-1.8647	0.0001
220	SLU 1			-13.82	-10.8	82.18	9.488	-0.4338	0.0221
220	SLU 2			-13.81	-10.7	81.94	9.4325	-0.4335	0.0346
220	SLU 3			-14.39	-11.13	85	9.7862	-0.4537	0.0231
220	SLU 4			-14.39	-11.07	84.85	9.753	-0.4535	0.0306
220	SLU 5			-14.19	-10.89	83.69	9.6092	-0.4471	0.0353
220	SLU 6			-14.78	-11.32	86.75	9.9629	-0.4673	0.0238
220	SLU 7			-14.77	-11.26	86.6	9.9297	-0.4671	0.0313
220	SLU 8			-14.59	-11.18	85.68	9.8414	-0.4611	0.0235
220	SLU 9			-14.58	-11.12	85.54	9.8081	-0.4608	0.031
220	SLU 10			-16.52	-12.21	95.07	10.8169	-0.5263	0.0395
220	SLU 11			-17.11	-12.63	98.13	11.1706	-0.5466	0.028
220	SLU 12			-17.1	-12.58	97.98	11.1374	-0.5463	0.0355
220	SLU 13			-16.91	-12.4	96.82	10.9936	-0.54	0.0402
220	SLU 14			-17.5	-12.82	99.88	11.3473	-0.5602	0.0287
220	SLU 15			-17.49	-12.76	99.73	11.3141	-0.56	0.0362
220	SLU 16			-17.31	-12.69	98.81	11.2258	-0.5539	0.0283
220	SLU 17			-17.3	-12.63	98.67	11.1925	-0.5537	0.0359
220	SLU 18			-17.7	-12.95	100.94	11.4657	-0.5665	0.029
220	SLU 19			-17.69	-12.89	100.79	11.4324	-0.5663	0.0365
220	SLU 20			-18.09	-13.14	102.69	11.6424	-0.5801	0.0297
220	SLU 21			-18.08	-13.08	102.54	11.6091	-0.5799	0.0372
220	SLU 22			-16.32	-12.26	94.6	10.8168	-0.5185	0.0265
220	SLU 23			-16.31	-12.16	94.36	10.7613	-0.5182	0.039
220	SLU 24			-16.89	-12.59	97.42	11.115	-0.5384	0.0275
220	SLU 25			-16.89	-12.53	97.28	11.0818	-0.5382	0.035
220	SLU 26			-16.69	-12.35	96.11	10.938	-0.5318	0.0397
220	SLU 27			-17.28	-12.78	99.17	11.2917	-0.552	0.0282
220	SLU 28			-17.27	-12.72	99.02	11.2585	-0.5518	0.0357
220	SLU 29			-17.09	-12.64	98.1	11.1702	-0.5458	0.0279
220	SLU 30			-17.08	-12.58	97.96	11.1369	-0.5455	0.0354
220	SLU 31			-19.03	-13.67	107.49	12.1457	-0.6111	0.0439



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
220	SLU 32	-19.61	-14.1	110.55	12.4994	-0.6313	0.0323
220	SLU 33	-19.61	-14.04	110.4	12.4662	-0.6311	0.0399
220	SLU 34	-19.41	-13.86	109.24	12.3224	-0.6247	0.0446
220	SLU 35	-20	-14.29	112.3	12.6761	-0.6449	0.033
220	SLU 36	-19.99	-14.23	112.15	12.6429	-0.6447	0.0406
220	SLU 37	-19.81	-14.15	111.23	12.5546	-0.6387	0.0327
220	SLU 38	-19.8	-14.09	111.09	12.5213	-0.6384	0.0403
220	SLU 39	-20.2	-14.42	113.36	12.7945	-0.6512	0.0334
220	SLU 40	-20.19	-14.36	113.21	12.7612	-0.651	0.0409
220	SLU 41	-20.59	-14.61	115.11	12.9712	-0.6648	0.0341
220	SLU 42	-20.58	-14.55	114.96	12.9379	-0.6646	0.0416
220	SLU 43	-17.1	-13.54	102.58	11.8788	-0.5349	0.0272
220	SLU 44	-17.09	-13.44	102.34	11.8233	-0.5346	0.0398
220	SLU 45	-17.68	-13.86	105.4	12.177	-0.5548	0.0282
220	SLU 46	-17.67	-13.8	105.25	12.1438	-0.5546	0.0358
220	SLU 47	-17.48	-13.63	104.09	12	-0.5482	0.0405
220	SLU 48	-18.07	-14.05	107.15	12.3537	-0.5684	0.0289
220	SLU 49	-18.06	-13.99	107	12.3205	-0.5682	0.0365
220	SLU 50	-17.88	-13.92	106.08	12.2322	-0.5622	0.0286
220	SLU 51	-17.87	-13.86	105.93	12.1989	-0.5619	0.0361
220	SLU 52	-19.81	-14.95	115.46	13.2077	-0.6274	0.0446
220	SLU 53	-20.4	-15.37	118.53	13.5614	-0.6477	0.0331
220	SLU 54	-20.39	-15.31	118.38	13.5282	-0.6474	0.0406
220	SLU 55	-20.2	-15.14	117.21	13.3844	-0.6411	0.0453
220	SLU 56	-20.78	-15.56	120.28	13.7381	-0.6613	0.0338
220	SLU 57	-20.78	-15.5	120.13	13.7049	-0.6611	0.0413
220	SLU 58	-20.59	-15.42	119.21	13.6166	-0.655	0.0335
220	SLU 59	-20.59	-15.37	119.06	13.5833	-0.6548	0.041
220	SLU 60	-20.99	-15.69	121.34	13.8565	-0.6676	0.0341
220	SLU 61	-20.98	-15.63	121.19	13.8232	-0.6674	0.0417
220	SLU 62	-21.37	-15.88	123.09	14.0332	-0.6812	0.0348
220	SLU 63	-21.37	-15.82	122.94	13.9999	-0.681	0.0424
220	SLU 64	-19.6	-15	115	13.2076	-0.6196	0.0316
220	SLU 65	-19.59	-14.9	114.76	13.1521	-0.6193	0.0441
220	SLU 66	-20.18	-15.33	117.82	13.5058	-0.6395	0.0326
220	SLU 67	-20.17	-15.27	117.67	13.4726	-0.6393	0.0401
220	SLU 68	-19.98	-15.09	116.51	13.3288	-0.6329	0.0448
220	SLU 69	-20.57	-15.52	119.57	13.6825	-0.6531	0.0333
220	SLU 70	-20.56	-15.46	119.42	13.6493	-0.6529	0.0408
220	SLU 71	-20.38	-15.38	118.5	13.561	-0.6469	0.033
220	SLU 72	-20.37	-15.32	118.35	13.5277	-0.6466	0.0405
220	SLU 73	-22.31	-16.41	127.89	14.5365	-0.7122	0.049
220	SLU 74	-22.9	-16.83	130.95	14.8902	-0.7324	0.0375
220	SLU 75	-22.89	-16.78	130.8	14.857	-0.7322	0.045
220	SLU 76	-22.7	-16.6	129.64	14.7132	-0.7258	0.0497
220	SLU 77	-23.29	-17.02	132.7	15.0669	-0.746	0.0382
220	SLU 78	-23.28	-16.97	132.55	15.0337	-0.7458	0.0457
220	SLU 79	-23.09	-16.89	131.63	14.9454	-0.7398	0.0379
220	SLU 80	-23.09	-16.83	131.48	14.9121	-0.7395	0.0454
220	SLU 81	-23.49	-17.15	133.76	15.1853	-0.7523	0.0385
220	SLU 82	-23.48	-17.1	133.61	15.152	-0.7521	0.046
220	SLU 83	-23.87	-17.34	135.51	15.362	-0.7659	0.0392
220	SLU 84	-23.87	-17.29	135.36	15.3287	-0.7657	0.0468
220	SLE RA 1	-14.53	-11.22	85.73	9.8676	-0.458	0.0233
220	SLE RA 2	-14.52	-11.15	85.57	9.8307	-0.4578	0.0317
220	SLE RA 3	-14.92	-11.43	87.61	10.0665	-0.4713	0.024
220	SLE RA 4	-14.91	-11.4	87.51	10.0443	-0.4711	0.029
220	SLE RA 5	-14.78	-11.28	86.74	9.9485	-0.4669	0.0322
220	SLE RA 6	-15.17	-11.56	88.78	10.1843	-0.4803	0.0245
220	SLE RA 7	-15.17	-11.52	88.68	10.1621	-0.4802	0.0295
220	SLE RA 8	-15.05	-11.47	88.07	10.1032	-0.4762	0.0243
220	SLE RA 9	-15.04	-11.43	87.97	10.081	-0.476	0.0293
220	SLE RA 10	-16.34	-12.16	94.32	10.7536	-0.5197	0.0349
220	SLE RA 11	-16.73	-12.44	96.36	10.9894	-0.5332	0.0273
220	SLE RA 12	-16.72	-12.4	96.27	10.9672	-0.533	0.0323
220	SLE RA 13	-16.59	-12.28	95.49	10.8714	-0.5288	0.0354
220	SLE RA 14	-16.98	-12.57	97.53	11.1072	-0.5423	0.0277
220	SLE RA 15	-16.98	-12.53	97.43	11.085	-0.5421	0.0327
220	SLE RA 16	-16.86	-12.48	96.82	11.0261	-0.5381	0.0275
220	SLE RA 17	-16.85	-12.44	96.72	11.004	-0.538	0.0325
220	SLE RA 18	-17.12	-12.65	98.24	11.1861	-0.5465	0.028
220	SLE RA 19	-17.12	-12.61	98.14	11.1639	-0.5463	0.033
220	SLE RA 20	-17.38	-12.78	99.4	11.3039	-0.5556	0.0284
220	SLE RA 21	-17.37	-12.74	99.31	11.2817	-0.5554	0.0334
220	SLE FR 1	-14.53	-11.22	85.73	9.8676	-0.458	0.0233
220	SLE FR 2	-14.53	-11.2	85.7	9.8602	-0.458	0.025
220	SLE FR 3	-14.63	-11.27	86.2	9.9147	-0.4617	0.0235
220	SLE FR 4	-15.31	-11.63	89.45	10.2558	-0.4845	0.0264
220	SLE FR 5	-15.41	-11.7	89.95	10.3103	-0.4882	0.0249
220	SLE FR 6	-15.83	-11.94	91.98	10.5269	-0.5023	0.0257
220	SLE QP 1	-14.53	-11.22	85.73	9.8676	-0.458	0.0233
220	SLE QP 2	-15.31	-11.65	89.48	10.2632	-0.4846	0.0247
220	SLD 1	-8.06	-6.96	54.69	6.3276	-0.2155	-0.0415
220	SLD 2	-8.06	-6.96	54.69	6.3276	-0.2155	-0.0415
220	SLD 3	-8.64	-9.06	61.27	7.5969	-0.2409	0.0237
220	SLD 4	-8.64	-9.06	61.27	7.5969	-0.2409	0.0237
220	SLD 5	-12.26	-7.06	69.07	7.1574	-0.3653	-0.0942
220	SLD 6	-12.26	-7.06	69.07	7.1574	-0.3653	-0.0942
220	SLD 7	-14.18	-14.05	91	11.3884	-0.45	0.1234
220	SLD 8	-14.18	-14.05	91	11.3884	-0.45	0.1234



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
220	SLD 9			-16.44	-9.25	87.97	9.1379	-0.5191	-0.074
220	SLD 10			-16.44	-9.25	87.97	9.1379	-0.5191	-0.074
220	SLD 11			-18.35	-16.23	109.9	13.3689	-0.6038	0.1436
220	SLD 12			-18.35	-16.23	109.9	13.3689	-0.6038	0.1436
220	SLD 13			-21.98	-14.24	117.7	12.9295	-0.7282	0.0257
220	SLD 14			-21.98	-14.24	117.7	12.9295	-0.7282	0.0257
220	SLD 15			-22.55	-16.33	124.28	14.1988	-0.7536	0.091
220	SLD 16			-22.55	-16.33	124.28	14.1988	-0.7536	0.091
220	SLV 1			1.68	-0.69	8.03	1.0536	0.1468	-0.1393
220	SLV 2			1.68	-0.69	8.03	1.0536	0.1468	-0.1393
220	SLV 3			0.29	-5.56	23.36	4.0086	0.0845	0.0271
220	SLV 4			0.29	-5.56	23.36	4.0086	0.0845	0.0271
220	SLV 5			-8.11	-0.97	41.8	3.0185	-0.2006	-0.2769
220	SLV 6			-8.11	-0.97	41.8	3.0185	-0.2006	-0.2769
220	SLV 7			-12.73	-17.21	92.9	12.8685	-0.4084	0.2779
220	SLV 8			-12.73	-17.21	92.9	12.8685	-0.4084	0.2779
220	SLV 9			-17.88	-6.09	86.07	7.6578	-0.5607	-0.2284
220	SLV 10			-17.88	-6.09	86.07	7.6578	-0.5607	-0.2284
220	SLV 11			-22.51	-22.32	137.17	17.5078	-0.7685	0.3264
220	SLV 12			-22.51	-22.32	137.17	17.5078	-0.7685	0.3264
220	SLV 13			-30.91	-17.74	155.61	16.5177	-1.0536	0.0223
220	SLV 14			-30.91	-17.74	155.61	16.5177	-1.0536	0.0223
220	SLV 15			-32.3	-22.61	170.94	19.4727	-1.116	0.1888
220	SLV 16			-32.3	-22.61	170.94	19.4727	-1.116	0.1888
221	SLU 1			14.39	-10.15	80.48	-9.047	0.4847	3.1868
221	SLU 2			14.32	-10.11	80.3	-9.0246	0.4818	3.1577
221	SLU 3			14.96	-10.45	83.18	-9.3749	0.5047	3.3119
221	SLU 4			14.91	-10.42	83.07	-9.3614	0.503	3.2944
221	SLU 5			14.68	-10.28	81.95	-9.232	0.4945	3.2371
221	SLU 6			15.32	-10.62	84.84	-9.5823	0.5174	3.3912
221	SLU 7			15.27	-10.6	84.73	-9.5688	0.5157	3.3737
221	SLU 8			15.11	-10.5	83.8	-9.4618	0.5101	3.3454
221	SLU 9			15.06	-10.47	83.69	-9.4483	0.5083	3.328
221	SLU 10			17.2	-11.55	93.51	-10.6412	0.5858	3.7967
221	SLU 11			17.84	-11.89	96.4	-10.9915	0.6087	3.9509
221	SLU 12			17.79	-11.87	96.29	-10.978	0.607	3.9334
221	SLU 13			17.55	-11.73	95.17	-10.8486	0.5985	3.8761
221	SLU 14			18.2	-12.07	98.06	-11.1988	0.6214	4.0302
221	SLU 15			18.15	-12.04	97.94	-11.1854	0.6197	4.0127
221	SLU 16			17.99	-11.94	97.02	-11.0783	0.614	3.9845
221	SLU 17			17.94	-11.92	96.9	-11.0649	0.6123	3.967
221	SLU 18			18.51	-12.22	99.36	-11.3564	0.6332	4.0997
221	SLU 19			18.46	-12.19	99.25	-11.343	0.6315	4.0822
221	SLU 20			18.87	-12.39	101.02	-11.5638	0.6459	4.179
221	SLU 21			18.82	-12.36	100.91	-11.5503	0.6442	4.1615
221	SLU 22			17.03	-11.54	92.93	-10.5512	0.5789	3.7714
221	SLU 23			16.95	-11.5	92.74	-10.5288	0.5761	3.7423
221	SLU 24			17.59	-11.84	95.62	-10.8791	0.5989	3.8965
221	SLU 25			17.55	-11.82	95.51	-10.8656	0.5972	3.879
221	SLU 26			17.31	-11.67	94.4	-10.7362	0.5888	3.8216
221	SLU 27			17.95	-12.01	97.28	-11.0864	0.6116	3.9758
221	SLU 28			17.91	-11.99	97.17	-11.073	0.6099	3.9583
221	SLU 29			17.75	-11.89	96.24	-10.966	0.6043	3.93
221	SLU 30			17.7	-11.86	96.13	-10.9525	0.6026	3.9126
221	SLU 31			19.83	-12.95	105.96	-12.1454	0.68	4.3813
221	SLU 32			20.47	-13.29	108.84	-12.4956	0.7029	4.5355
221	SLU 33			20.43	-13.26	108.73	-12.4822	0.7012	4.518
221	SLU 34			20.19	-13.12	107.61	-12.3527	0.6927	4.4606
221	SLU 35			20.83	-13.46	110.5	-12.703	0.7156	4.6148
221	SLU 36			20.79	-13.43	110.39	-12.6896	0.7139	4.5973
221	SLU 37			20.63	-13.33	109.46	-12.5825	0.7083	4.569
221	SLU 38			20.58	-13.31	109.35	-12.5691	0.7066	4.5516
221	SLU 39			21.14	-13.61	111.81	-12.8606	0.7275	4.6843
221	SLU 40			21.1	-13.58	111.7	-12.8471	0.7258	4.6668
221	SLU 41			21.5	-13.78	113.47	-13.068	0.7402	4.7636
221	SLU 42			21.46	-13.75	113.35	-13.0545	0.7385	4.7461
221	SLU 43			17.81	-12.72	100.36	-11.2454	0.5978	3.9424
221	SLU 44			17.73	-12.68	100.17	-11.223	0.5949	3.9134
221	SLU 45			18.37	-13.02	103.06	-11.5732	0.6178	4.0675
221	SLU 46			18.33	-12.99	102.95	-11.5598	0.6161	4.05
221	SLU 47			18.09	-12.85	101.83	-11.4304	0.6076	3.9927
221	SLU 48			18.73	-13.19	104.72	-11.7806	0.6305	4.1468
221	SLU 49			18.69	-13.17	104.61	-11.7672	0.6288	4.1294
221	SLU 50			18.53	-13.07	103.68	-11.6601	0.6231	4.1011
221	SLU 51			18.48	-13.04	103.56	-11.6467	0.6214	4.0836
221	SLU 52			20.61	-14.12	113.39	-12.8395	0.6989	4.5524
221	SLU 53			21.25	-14.46	116.28	-13.1898	0.7218	4.7065
221	SLU 54			21.21	-14.44	116.16	-13.1764	0.72	4.689
221	SLU 55			20.97	-14.3	115.05	-13.0469	0.7116	4.6317
221	SLU 56			21.61	-14.64	117.93	-13.3972	0.7345	4.7858
221	SLU 57			21.57	-14.61	117.82	-13.3838	0.7327	4.7684
221	SLU 58			21.41	-14.51	116.89	-13.2767	0.7271	4.7401
221	SLU 59			21.36	-14.48	116.78	-13.2633	0.7254	4.7226
221	SLU 60			21.92	-14.78	119.24	-13.5548	0.7463	4.8553
221	SLU 61			21.88	-14.76	119.13	-13.5413	0.7446	4.8378
221	SLU 62			22.28	-14.96	120.9	-13.7622	0.759	4.9346
221	SLU 63			22.23	-14.93	120.79	-13.7487	0.7573	4.9172
221	SLU 64			20.44	-14.11	112.8	-12.7496	0.692	4.527
221	SLU 65			20.37	-14.07	112.62	-12.7272	0.6891	4.4979
221	SLU 66			21.01	-14.41	115.5	-13.0774	0.712	4.6521



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
221	SLU 67		20.96	-14.38	115.39	-13.064	0.7103	4.6346
221	SLU 68		20.73	-14.24	114.28	-12.9345	0.7018	4.5773
221	SLU 69		21.37	-14.58	117.16	-13.2848	0.7247	4.7314
221	SLU 70		21.32	-14.56	117.05	-13.2714	0.723	4.7139
221	SLU 71		21.16	-14.46	116.12	-13.1643	0.7174	4.6856
221	SLU 72		21.11	-14.43	116.01	-13.1509	0.7157	4.6682
221	SLU 73		23.25	-15.51	125.83	-14.3437	0.7931	5.1369
221	SLU 74		23.89	-15.85	128.72	-14.694	0.816	5.2911
221	SLU 75		23.84	-15.83	128.61	-14.6806	0.8143	5.2736
221	SLU 76		23.61	-15.69	127.49	-14.5511	0.8058	5.2163
221	SLU 77		24.25	-16.03	130.38	-14.9014	0.8287	5.3704
221	SLU 78		24.2	-16	130.27	-14.888	0.827	5.3529
221	SLU 79		24.04	-15.9	129.34	-14.7809	0.8214	5.3246
221	SLU 80		23.99	-15.88	129.23	-14.7675	0.8197	5.3072
221	SLU 81		24.56	-16.18	131.69	-15.059	0.8406	5.4399
221	SLU 82		24.51	-16.15	131.57	-15.0455	0.8388	5.4224
221	SLU 83		24.92	-16.35	133.34	-15.2663	0.8533	5.5192
221	SLU 84		24.87	-16.32	133.23	-15.2529	0.8515	5.5017
221	SLE RA 1		15.15	-10.55	84.04	-9.4768	0.5116	3.3538
221	SLE RA 2		15.1	-10.52	83.91	-9.4618	0.5097	3.3345
221	SLE RA 3		15.52	-10.75	85.84	-9.6953	0.5249	3.4372
221	SLE RA 4		15.49	-10.73	85.76	-9.6864	0.5238	3.4256
221	SLE RA 5		15.33	-10.64	85.02	-9.6001	0.5182	3.3873
221	SLE RA 6		15.76	-10.86	86.94	-9.8336	0.5334	3.4901
221	SLE RA 7		15.73	-10.85	86.87	-9.8246	0.5323	3.4785
221	SLE RA 8		15.62	-10.78	86.25	-9.7533	0.5285	3.4596
221	SLE RA 9		15.59	-10.76	86.17	-9.7443	0.5274	3.448
221	SLE RA 10		17.02	-11.48	92.72	-10.5395	0.579	3.7605
221	SLE RA 11		17.44	-11.71	94.65	-10.7731	0.5943	3.8632
221	SLE RA 12		17.41	-11.69	94.57	-10.7641	0.5931	3.8516
221	SLE RA 13		17.25	-11.6	93.83	-10.6778	0.5875	3.8133
221	SLE RA 14		17.68	-11.83	95.75	-10.9113	0.6027	3.9161
221	SLE RA 15		17.65	-11.81	95.68	-10.9024	0.6016	3.9045
221	SLE RA 16		17.54	-11.74	95.06	-10.831	0.5979	3.8856
221	SLE RA 17		17.51	-11.73	94.99	-10.822	0.5967	3.874
221	SLE RA 18		17.89	-11.92	96.63	-11.0164	0.6106	3.9624
221	SLE RA 19		17.86	-11.91	96.55	-11.0074	0.6095	3.9508
221	SLE RA 20		18.13	-12.04	97.73	-11.1546	0.6191	4.0153
221	SLE RA 21		18.1	-12.02	97.66	-11.1457	0.618	4.0037
221	SLE FR 1		15.15	-10.55	84.04	-9.4768	0.5116	3.3538
221	SLE FR 2		15.14	-10.54	84.01	-9.4738	0.5112	3.35
221	SLE FR 3		15.24	-10.6	84.48	-9.5321	0.515	3.375
221	SLE FR 4		15.96	-10.96	87.79	-9.9357	0.5409	3.5325
221	SLE FR 5		16.07	-11.01	88.26	-9.9939	0.5447	3.5576
221	SLE FR 6		16.52	-11.24	90.33	-10.2466	0.5611	3.6581
221	SLE QP 1		15.15	-10.55	84.04	-9.4768	0.5116	3.3538
221	SLE QP 2		15.97	-10.96	87.81	-9.9386	0.5413	3.5364
221	SLD 1		23.19	-13.82	118.06	-13.8432	0.8141	5.1675
221	SLD 2		23.19	-13.82	118.06	-13.8432	0.8141	5.1675
221	SLD 3		23.76	-15.94	124.51	-14.1007	0.8411	5.2721
221	SLD 4		23.76	-15.94	124.51	-14.1007	0.8411	5.2721
221	SLD 5		17.28	-8.59	87.1	-10.7195	0.5821	3.8671
221	SLD 6		17.28	-8.59	87.1	-10.7195	0.5821	3.8671
221	SLD 7		19.17	-15.68	108.6	-11.5777	0.6723	4.2158
221	SLD 8		19.17	-15.68	108.6	-11.5777	0.6723	4.2158
221	SLD 9		12.77	-6.24	67.02	-8.2995	0.4103	2.8571
221	SLD 10		12.77	-6.24	67.02	-8.2995	0.4103	2.8571
221	SLD 11		14.66	-13.33	88.52	-9.1578	0.5005	3.2058
221	SLD 12		14.66	-13.33	88.52	-9.1578	0.5005	3.2058
221	SLD 13		8.18	-5.98	51.12	-5.7766	0.2415	1.8007
221	SLD 14		8.18	-5.98	51.12	-5.7766	0.2415	1.8007
221	SLD 15		8.75	-8.11	57.57	-6.0341	0.2685	1.9054
221	SLD 16		8.75	-8.11	57.57	-6.0341	0.2685	1.9054
221	SLV 1		32.85	-17.66	158.57	-19.0711	1.1784	7.3532
221	SLV 2		32.85	-17.66	158.57	-19.0711	1.1784	7.3532
221	SLV 3		34.22	-22.61	173.64	-19.6817	1.2446	7.6021
221	SLV 4		34.22	-22.61	173.64	-19.6817	1.2446	7.6021
221	SLV 5		18.95	-5.46	86.19	-11.7522	0.632	4.304
221	SLV 6		18.95	-5.46	86.19	-11.7522	0.632	4.304
221	SLV 7		23.53	-21.97	136.42	-13.7877	0.8528	5.1335
221	SLV 8		23.53	-21.97	136.42	-13.7877	0.8528	5.1335
221	SLV 9		8.41	0.04	39.21	-6.0896	0.2299	1.9393
221	SLV 10		8.41	0.04	39.21	-6.0896	0.2299	1.9393
221	SLV 11		12.99	-16.47	89.44	-8.125	0.4506	2.7688
221	SLV 12		12.99	-16.47	89.44	-8.125	0.4506	2.7688
221	SLV 13		-2.28	0.68	1.99	-0.1956	-0.162	-0.5292
221	SLV 14		-2.28	0.68	1.99	-0.1956	-0.162	-0.5292
221	SLV 15		-0.91	-4.27	17.05	-0.8062	-0.0958	-0.2804
221	SLV 16		-0.91	-4.27	17.05	-0.8062	-0.0958	-0.2804
223	SLU 1		0	7.55	28.74	-0.1861	0.0003	-0.0001
223	SLU 2		0	7.55	28.62	-0.1869	0	0
223	SLU 3		0	7.92	30.14	-0.1956	0.0004	-0.0001
223	SLU 4		0	7.92	30.06	-0.196	0.0002	0
223	SLU 5		0	7.88	29.85	-0.1959	0.0001	0
223	SLU 6		0	8.25	31.37	-0.2046	0.0004	-0.0001
223	SLU 7		0	8.25	31.29	-0.205	0.0002	0
223	SLU 8		0	8.22	31.2	-0.2041	0.0004	-0.0001
223	SLU 9		0	8.22	31.13	-0.2046	0.0002	0
223	SLU 10		0	8.76	33.42	-0.2154	0.0002	0
223	SLU 11		0	9.14	34.94	-0.224	0.0005	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		Ind.	N.br.	x	y	z	x	y
223	SLU 12		0	9.14	34.86	-0.2245	0.0003	-0.0001
223	SLU 13		0	9.1	34.65	-0.2244	0.0002	0
223	SLU 14		0	9.47	36.17	-0.233	0.0005	-0.0001
223	SLU 15		0	9.47	36.09	-0.2335	0.0004	-0.0001
223	SLU 16		0	9.44	36	-0.2326	0.0005	-0.0001
223	SLU 17		0	9.43	35.93	-0.233	0.0003	-0.0001
223	SLU 18		0	9.29	35.6	-0.2268	0.0005	-0.0001
223	SLU 19		0	9.29	35.52	-0.2272	0.0003	-0.0001
223	SLU 20		0	9.63	36.83	-0.2358	0.0005	-0.0001
223	SLU 21		0	9.62	36.75	-0.2362	0.0004	-0.0001
223	SLU 22		0	8.78	33.52	-0.2155	0.0004	-0.0001
223	SLU 23		0	8.77	33.39	-0.2163	0.0001	0
223	SLU 24		0	9.15	34.91	-0.225	0.0005	-0.0001
223	SLU 25		0	9.15	34.84	-0.2254	0.0003	-0.0001
223	SLU 26		0	9.11	34.62	-0.2253	0.0002	0
223	SLU 27		0	9.48	36.14	-0.234	0.0005	-0.0001
223	SLU 28		0	9.48	36.07	-0.2344	0.0003	-0.0001
223	SLU 29		0	9.45	35.97	-0.2335	0.0005	-0.0001
223	SLU 30		0	9.44	35.9	-0.234	0.0003	-0.0001
223	SLU 31		0	9.99	38.19	-0.2448	0.0003	0
223	SLU 32		0	10.37	39.71	-0.2534	0.0006	-0.0001
223	SLU 33		0	10.36	39.64	-0.2539	0.0004	-0.0001
223	SLU 34		0	10.33	39.42	-0.2538	0.0003	-0.0001
223	SLU 35		0	10.7	40.94	-0.2624	0.0006	-0.0001
223	SLU 36		0	10.7	40.87	-0.2629	0.0005	-0.0001
223	SLU 37		0	10.67	40.77	-0.262	0.0006	-0.0001
223	SLU 38		0	10.66	40.7	-0.2624	0.0005	-0.0001
223	SLU 39		0	10.52	40.37	-0.2562	0.0006	-0.0001
223	SLU 40		0	10.52	40.3	-0.2567	0.0004	-0.0001
223	SLU 41		0	10.85	41.6	-0.2652	0.0006	-0.0001
223	SLU 42		0	10.85	41.53	-0.2656	0.0005	-0.0001
223	SLU 43		0	9.4	35.73	-0.2319	0.0004	-0.0001
223	SLU 44		0	9.39	35.6	-0.2327	0.0001	0
223	SLU 45		0	9.77	37.12	-0.2413	0.0004	-0.0001
223	SLU 46		0	9.76	37.05	-0.2418	0.0003	0
223	SLU 47		0	9.72	36.83	-0.2416	0.0001	0
223	SLU 48		0	10.1	38.35	-0.2503	0.0005	-0.0001
223	SLU 49		0	10.1	38.28	-0.2508	0.0003	0
223	SLU 50		0	10.06	38.19	-0.2499	0.0005	-0.0001
223	SLU 51		0	10.06	38.11	-0.2503	0.0003	0
223	SLU 52		0	10.61	40.4	-0.2611	0.0002	0
223	SLU 53		0	10.98	41.92	-0.2698	0.0005	-0.0001
223	SLU 54		0	10.98	41.85	-0.2702	0.0004	-0.0001
223	SLU 55		0	10.94	41.63	-0.2701	0.0003	0
223	SLU 56		0	11.32	43.15	-0.2788	0.0006	-0.0001
223	SLU 57		0	11.31	43.08	-0.2792	0.0004	-0.0001
223	SLU 58		0	11.28	42.99	-0.2783	0.0006	-0.0001
223	SLU 59		0	11.28	42.91	-0.2788	0.0004	-0.0001
223	SLU 60		0	11.14	42.58	-0.2725	0.0005	-0.0001
223	SLU 61		0	11.13	42.51	-0.273	0.0004	-0.0001
223	SLU 62		0	11.47	43.81	-0.2815	0.0006	-0.0001
223	SLU 63		0	11.47	43.74	-0.282	0.0004	-0.0001
223	SLU 64		0	10.62	40.5	-0.2613	0.0005	-0.0001
223	SLU 65		0	10.62	40.38	-0.2621	0.0002	0
223	SLU 66		0	10.99	41.9	-0.2707	0.0005	-0.0001
223	SLU 67		0	10.99	41.82	-0.2712	0.0004	-0.0001
223	SLU 68		0	10.95	41.61	-0.271	0.0002	0
223	SLU 69		0	11.33	43.13	-0.2797	0.0006	-0.0001
223	SLU 70		0	11.32	43.05	-0.2802	0.0004	-0.0001
223	SLU 71		0	11.29	42.96	-0.2793	0.0006	-0.0001
223	SLU 72		0	11.29	42.89	-0.2797	0.0004	-0.0001
223	SLU 73		0	11.84	45.18	-0.2905	0.0003	-0.0001
223	SLU 74		0	12.21	46.7	-0.2992	0.0006	-0.0001
223	SLU 75		0	12.21	46.62	-0.2996	0.0005	-0.0001
223	SLU 76		0	12.17	46.41	-0.2995	0.0004	-0.0001
223	SLU 77		0	12.55	47.93	-0.3082	0.0007	-0.0001
223	SLU 78		0	12.54	47.85	-0.3086	0.0005	-0.0001
223	SLU 79		0	12.51	47.76	-0.3077	0.0007	-0.0001
223	SLU 80		0	12.51	47.69	-0.3082	0.0005	-0.0001
223	SLU 81		0	12.37	47.36	-0.3019	0.0006	-0.0001
223	SLU 82		0	12.36	47.28	-0.3024	0.0005	-0.0001
223	SLU 83		0	12.7	48.59	-0.3109	0.0007	-0.0001
223	SLU 84		0	12.7	48.51	-0.3114	0.0005	-0.0001
223	SLE RA 1		0	7.9	30.11	-0.1945	0.0003	-0.0001
223	SLE RA 2		0	7.9	30.02	-0.195	0.0002	0
223	SLE RA 3		0	8.15	31.04	-0.2008	0.0004	-0.0001
223	SLE RA 4		0	8.15	30.99	-0.2011	0.0003	0
223	SLE RA 5		0	8.12	30.84	-0.201	0.0002	0
223	SLE RA 6		0	8.37	31.86	-0.2068	0.0004	-0.0001
223	SLE RA 7		0	8.37	31.81	-0.2071	0.0003	0
223	SLE RA 8		0	8.35	31.75	-0.2065	0.0004	-0.0001
223	SLE RA 9		0	8.35	31.7	-0.2068	0.0003	0
223	SLE RA 10		0	8.71	33.22	-0.214	0.0002	0
223	SLE RA 11		0	8.96	34.24	-0.2198	0.0005	-0.0001
223	SLE RA 12		0	8.96	34.19	-0.2201	0.0003	-0.0001
223	SLE RA 13		0	8.93	34.04	-0.22	0.0003	0
223	SLE RA 14		0	9.18	35.06	-0.2258	0.0005	-0.0001
223	SLE RA 15		0	9.18	35.01	-0.2261	0.0004	-0.0001
223	SLE RA 16		0	9.16	34.94	-0.2255	0.0005	-0.0001
223	SLE RA 17		0	9.16	34.9	-0.2258	0.0004	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
223	SLE RA 18		0	9.06	34.68	-0.2216	0.0005	-0.0001
223	SLE RA 19		0	9.06	34.63	-0.2219	0.0003	-0.0001
223	SLE RA 20		0	9.29	35.5	-0.2276	0.0005	-0.0001
223	SLE RA 21		0	9.28	35.45	-0.2279	0.0004	-0.0001
223	SLE FR 1		0	7.9	30.11	-0.1945	0.0003	-0.0001
223	SLE FR 2		0	7.9	30.09	-0.1946	0.0003	-0.0001
223	SLE FR 3		0	7.99	30.43	-0.1969	0.0004	-0.0001
223	SLE FR 4		0	8.25	31.46	-0.2028	0.0003	-0.0001
223	SLE FR 5		0	8.34	31.81	-0.2051	0.0004	-0.0001
223	SLE FR 6		0	8.48	32.39	-0.2081	0.0004	-0.0001
223	SLE QP 1		0	7.9	30.11	-0.1945	0.0003	-0.0001
223	SLE QP 2		0	8.25	31.48	-0.2027	0.0004	-0.0001
223	SLD 1		-0.29	8.47	32.52	-0.2065	0.0509	-0.0067
223	SLD 2		-0.29	8.47	32.52	-0.2065	0.0509	-0.0067
223	SLD 3		-0.34	5.56	24.22	-0.1031	0.0364	-0.0043
223	SLD 4		-0.34	5.56	24.22	-0.1031	0.0364	-0.0043
223	SLD 5		0	12.74	44.36	-0.3606	0.0376	-0.0057
223	SLD 6		0	12.74	44.36	-0.3606	0.0376	-0.0057
223	SLD 7		-0.19	3.02	16.73	-0.016	-0.0109	0.0024
223	SLD 8		-0.19	3.02	16.73	-0.016	-0.0109	0.0024
223	SLD 9		0.19	13.48	46.23	-0.3894	0.0117	-0.0025
223	SLD 10		0.19	13.48	46.23	-0.3894	0.0117	-0.0025
223	SLD 11		0	3.77	18.59	-0.0447	-0.0369	0.0056
223	SLD 12		0	3.77	18.59	-0.0447	-0.0369	0.0056
223	SLD 13		0.34	10.94	38.73	-0.3022	-0.0356	0.0042
223	SLD 14		0.34	10.94	38.73	-0.3022	-0.0356	0.0042
223	SLD 15		0.29	8.03	30.44	-0.1988	-0.0502	0.0066
223	SLD 16		0.29	8.03	30.44	-0.1988	-0.0502	0.0066
223	SLV 1		-0.73	8.73	33.78	-0.2107	0.1248	-0.0161
223	SLV 2		-0.73	8.73	33.78	-0.2107	0.1248	-0.0161
223	SLV 3		-0.88	1.86	14.21	0.0332	0.088	-0.0099
223	SLV 4		-0.88	1.86	14.21	0.0332	0.088	-0.0099
223	SLV 5		0	18.82	61.84	-0.575	0.0935	-0.0142
223	SLV 6		0	18.82	61.84	-0.575	0.0935	-0.0142
223	SLV 7		-0.48	-3.37	0.238	0.238	-0.0291	0.0063
223	SLV 8		-0.48	-4.09	-3.37	0.238	-0.0291	0.0063
223	SLV 9		0.48	20.59	66.33	-0.6433	0.0299	-0.0064
223	SLV 10		0.48	20.59	66.33	-0.6433	0.0299	-0.0064
223	SLV 11		0	-2.31	1.12	0.1697	-0.0928	0.0141
223	SLV 12		0	-2.31	1.12	0.1697	-0.0928	0.0141
223	SLV 13		0.88	14.64	48.74	-0.4386	-0.0873	0.0098
223	SLV 14		0.88	14.64	48.74	-0.4386	-0.0873	0.0098
223	SLV 15		0.73	29.18	29.18	-0.1946	-0.1241	0.016
223	SLV 16		0.73	29.18	29.18	-0.1946	-0.1241	0.016
224	SLU 1		0	7.1	25.59	-0.2128	-0.001	0.0002
224	SLU 2		0	7.06	25.33	-0.2124	-0.0007	0.0001
224	SLU 3		0	7.37	26.56	-0.2205	-0.0011	0.0002
224	SLU 4		0	7.34	26.41	-0.2203	-0.0009	0.0001
224	SLU 5		0	7.27	26.11	-0.2187	-0.0007	0.0001
224	SLU 6		0	7.58	27.33	-0.2268	-0.0012	0.0002
224	SLU 7		0	7.56	27.18	-0.2266	-0.001	0.0001
224	SLU 8		0	7.53	27.14	-0.2254	-0.0012	0.0002
224	SLU 9		0	7.51	26.98	-0.2252	-0.001	0.0001
224	SLU 10		0	8.26	29.81	-0.2475	-0.0009	0.0001
224	SLU 11		0	8.57	31.03	-0.2555	-0.0014	0.0002
224	SLU 12		0	8.55	30.88	-0.2553	-0.0012	0.0002
224	SLU 13		0	8.48	30.58	-0.2538	-0.001	0.0001
224	SLU 14		0	8.79	31.81	-0.2618	-0.0015	0.0002
224	SLU 15		0	8.76	31.65	-0.2616	-0.0012	0.0002
224	SLU 16		0	8.74	31.61	-0.2604	-0.0014	0.0002
224	SLU 17		0	8.71	31.46	-0.2602	-0.0012	0.0002
224	SLU 18		0	8.82	31.98	-0.2628	-0.0014	0.0002
224	SLU 19		0	8.8	31.83	-0.2626	-0.0012	0.0002
224	SLU 20		0	9.04	32.75	-0.2691	-0.0015	0.0002
224	SLU 21		0	9.01	32.6	-0.2689	-0.0012	0.0002
224	SLU 22		0	8.26	29.88	-0.2466	-0.0013	0.0002
224	SLU 23		0	8.22	29.63	-0.2463	-0.0009	0.0001
224	SLU 24		0	8.53	30.85	-0.2544	-0.0014	0.0002
224	SLU 25		0	8.5	30.7	-0.2542	-0.0011	0.0002
224	SLU 26		0	8.44	30.4	-0.2526	-0.001	0.0001
224	SLU 27		0	8.75	31.63	-0.2607	-0.0014	0.0002
224	SLU 28		0	8.72	31.47	-0.2605	-0.0012	0.0002
224	SLU 29		0	8.7	31.43	-0.2593	-0.0014	0.0002
224	SLU 30		0	8.67	31.28	-0.2591	-0.0012	0.0002
224	SLU 31		0	9.43	34.1	-0.2814	-0.0012	0.0002
224	SLU 32		0	9.74	35.33	-0.2894	-0.0016	0.0002
224	SLU 33		0	9.71	35.17	-0.2892	-0.0014	0.0002
224	SLU 34		0	9.64	34.87	-0.2877	-0.0012	0.0002
224	SLU 35		0	9.95	36.1	-0.2957	-0.0017	0.0003
224	SLU 36		0	9.93	35.95	-0.2955	-0.0015	0.0002
224	SLU 37		0	9.9	35.9	-0.2943	-0.0017	0.0003
224	SLU 38		0	9.88	35.75	-0.2941	-0.0014	0.0002
224	SLU 39		0	9.99	36.27	-0.2967	-0.0016	0.0002
224	SLU 40		0	9.96	36.12	-0.2965	-0.0014	0.0002
224	SLU 41		0	10.2	37.05	-0.303	-0.0017	0.0003
224	SLU 42		0	10.18	36.89	-0.3028	-0.0015	0.0002
224	SLU 43		0	8.83	31.79	-0.265	-0.0013	0.0002
224	SLU 44		0	8.79	31.54	-0.2646	-0.0009	0.0001
224	SLU 45		0	9.1	32.77	-0.2727	-0.0014	0.0002
224	SLU 46		0	9.07	32.61	-0.2725	-0.0011	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
224	SLU 47		0	9.01	32.31	-0.271	-0.001	0.0001
224	SLU 48		0	9.32	33.54	-0.279	-0.0014	0.0002
224	SLU 49		0	9.29	33.38	-0.2788	-0.0012	0.0002
224	SLU 50		0	9.27	33.34	-0.2776	-0.0014	0.0002
224	SLU 51		0	9.24	33.19	-0.2774	-0.0012	0.0002
224	SLU 52		0	10	36.01	-0.2997	-0.0011	0.0002
224	SLU 53		0	10.31	37.24	-0.3077	-0.0016	0.0002
224	SLU 54		0	10.28	37.08	-0.3075	-0.0014	0.0002
224	SLU 55		0	10.21	36.78	-0.306	-0.0012	0.0002
224	SLU 56		0	10.52	38.01	-0.314	-0.0017	0.0003
224	SLU 57		0	10.5	37.86	-0.3138	-0.0015	0.0002
224	SLU 58		0	10.47	37.81	-0.3126	-0.0017	0.0003
224	SLU 59		0	10.45	37.66	-0.3124	-0.0014	0.0002
224	SLU 60		0	10.56	38.18	-0.315	-0.0016	0.0002
224	SLU 61		0	10.53	38.03	-0.3148	-0.0014	0.0002
224	SLU 62		0	10.77	38.96	-0.3213	-0.0017	0.0003
224	SLU 63		0	10.75	38.8	-0.3211	-0.0015	0.0002
224	SLU 64		0	9.99	36.09	-0.2988	-0.0015	0.0002
224	SLU 65		0	9.95	35.83	-0.2985	-0.0011	0.0002
224	SLU 66		0	10.26	37.06	-0.3066	-0.0016	0.0002
224	SLU 67		0	10.24	36.9	-0.3064	-0.0014	0.0002
224	SLU 68		0	10.17	36.6	-0.3048	-0.0012	0.0002
224	SLU 69		0	10.48	37.83	-0.3129	-0.0017	0.0003
224	SLU 70		0	10.45	37.68	-0.3127	-0.0014	0.0002
224	SLU 71		0	10.43	37.63	-0.3115	-0.0017	0.0003
224	SLU 72		0	10.4	37.48	-0.3113	-0.0014	0.0002
224	SLU 73		0	11.16	40.3	-0.3336	-0.0014	0.0002
224	SLU 74		0	11.47	41.53	-0.3416	-0.0019	0.0003
224	SLU 75		0	11.44	41.38	-0.3414	-0.0016	0.0002
224	SLU 76		0	11.37	41.08	-0.3399	-0.0015	0.0002
224	SLU 77		0	11.68	42.31	-0.3479	-0.0019	0.0003
224	SLU 78		0	11.66	42.15	-0.3477	-0.0017	0.0003
224	SLU 79		0	11.63	42.11	-0.3465	-0.0019	0.0003
224	SLU 80		0	11.61	41.95	-0.3463	-0.0017	0.0003
224	SLU 81		0	11.72	42.48	-0.3489	-0.0019	0.0003
224	SLU 82		0	11.69	42.32	-0.3487	-0.0016	0.0002
224	SLU 83		0	11.93	43.25	-0.3552	-0.0019	0.0003
224	SLU 84		0	11.91	43.1	-0.355	-0.0017	0.0003
224	SLE RA 1		0	7.43	26.82	-0.2224	-0.0011	0.0002
224	SLE RA 2		0	7.4	26.64	-0.2222	-0.0009	0.0001
224	SLE RA 3		0	7.61	27.46	-0.2276	-0.0012	0.0002
224	SLE RA 4		0	7.59	27.36	-0.2275	-0.001	0.0002
224	SLE RA 5		0	7.55	27.16	-0.2264	-0.0009	0.0001
224	SLE RA 6		0	7.75	27.98	-0.2318	-0.0012	0.0002
224	SLE RA 7		0	7.74	27.88	-0.2317	-0.0011	0.0002
224	SLE RA 8		0	7.72	27.85	-0.2309	-0.0012	0.0002
224	SLE RA 9		0	7.7	27.74	-0.2307	-0.0011	0.0002
224	SLE RA 10		0	8.21	29.63	-0.2456	-0.001	0.0002
224	SLE RA 11		0	8.41	30.45	-0.2509	-0.0013	0.0002
224	SLE RA 12		0	8.4	30.34	-0.2508	-0.0012	0.0002
224	SLE RA 13		0	8.35	30.14	-0.2498	-0.0011	0.0002
224	SLE RA 14		0	8.56	30.96	-0.2552	-0.0014	0.0002
224	SLE RA 15		0	8.54	30.86	-0.255	-0.0012	0.0002
224	SLE RA 16		0	8.52	30.83	-0.2542	-0.0014	0.0002
224	SLE RA 17		0	8.51	30.73	-0.2541	-0.0012	0.0002
224	SLE RA 18		0	8.58	31.08	-0.2558	-0.0014	0.0002
224	SLE RA 19		0	8.56	30.97	-0.2557	-0.0012	0.0002
224	SLE RA 20		0	8.73	31.59	-0.26	-0.0014	0.0002
224	SLE RA 21		0	8.71	31.49	-0.2599	-0.0012	0.0002
224	SLE FR 1		0	7.43	26.82	-0.2224	-0.0011	0.0002
224	SLE FR 2		0	7.43	26.78	-0.2224	-0.0011	0.0002
224	SLE FR 3		0	7.49	27.02	-0.2241	-0.0011	0.0002
224	SLE FR 4		0	7.77	28.06	-0.2324	-0.0011	0.0002
224	SLE FR 5		0	7.84	28.3	-0.2341	-0.0012	0.0002
224	SLE FR 6		0	8.01	28.95	-0.2391	-0.0012	0.0002
224	SLE QP 1		0	7.43	26.82	-0.2224	-0.0011	0.0002
224	SLE QP 2		0	7.78	28.09	-0.2324	-0.0012	0.0002
224	SLD 1		-0.34	9.83	33.54	-0.3144	0.0331	-0.0036
224	SLD 2		-0.34	9.83	33.54	-0.3144	0.0331	-0.0036
224	SLD 3		-0.26	7.49	27.45	-0.2193	0.0492	-0.0061
224	SLD 4		-0.26	7.49	27.45	-0.2193	0.0492	-0.0061
224	SLD 5		-0.22	11.94	38.95	-0.4012	-0.0154	0.0029
224	SLD 6		-0.22	11.94	38.95	-0.4012	-0.0154	0.0029
224	SLD 7		0.04	4.14	18.68	-0.0844	0.0384	-0.0055
224	SLD 8		0.04	4.14	18.68	-0.0844	0.0384	-0.0055
224	SLD 9		-0.04	11.41	37.51	-0.3805	-0.0408	0.0059
224	SLD 10		-0.04	11.41	37.51	-0.3805	-0.0408	0.0059
224	SLD 11		0.22	3.61	17.24	-0.0637	0.013	-0.0025
224	SLD 12		0.22	3.61	17.24	-0.0637	0.013	-0.0025
224	SLD 13		0.26	8.06	28.73	-0.2455	-0.0516	0.0065
224	SLD 14		0.26	8.06	28.73	-0.2455	-0.0516	0.0065
224	SLD 15		0.34	5.72	22.65	-0.1505	-0.0355	0.004
224	SLD 16		0.34	5.72	22.65	-0.1505	-0.0355	0.004
224	SLV 1		-0.88	12.66	41.04	-0.4269	0.0835	-0.0089
224	SLV 2		-0.88	12.66	41.04	-0.4269	0.0835	-0.0089
224	SLV 3		-0.68	7.16	26.73	-0.2033	0.1244	-0.0153
224	SLV 4		-0.68	7.16	26.73	-0.2033	0.1244	-0.0153
224	SLV 5		-0.57	17.59	53.69	-0.6298	-0.0379	0.0072
224	SLV 6		-0.57	17.59	53.69	-0.6298	-0.0379	0.0072
224	SLV 7		0.11	-0.75	5.97	0.1153	0.0986	-0.0142



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
224	SLV 8		0.11	-0.75	5.97	0.1153	0.0986	-0.0142
224	SLV 9		-0.1	16.31	50.22	-0.5802	-0.101	0.0145
224	SLV 10		-0.1	16.31	50.22	-0.5802	-0.101	0.0145
224	SLV 11		0.57	-2.03	2.5	0.1649	0.0355	-0.0068
224	SLV 12		0.57	-2.03	2.5	0.1649	0.0355	-0.0068
224	SLV 13		0.68	8.4	29.46	-0.2616	-0.1268	0.0157
224	SLV 14		0.68	8.4	29.46	-0.2616	-0.1268	0.0157
224	SLV 15		0.88	2.89	15.14	-0.038	-0.0859	0.0092
224	SLV 16		0.88	2.89	15.14	-0.038	-0.0859	0.0092
225	SLU 1		0	5.78	19.75	-0.1492	-0.0002	0
225	SLU 2		0	5.79	19.8	-0.1495	-0.0001	0
225	SLU 3		0	5.43	18.47	-0.1386	-0.0001	0
225	SLU 4		0	5.43	18.5	-0.1388	-0.0001	0
225	SLU 5		0	5.26	17.88	-0.134	0	0
225	SLU 6		0	4.89	16.55	-0.123	0	0
225	SLU 7		0	4.9	16.58	-0.1232	0	0
225	SLU 8		0	4.71	15.91	-0.118	0	0
225	SLU 9		0	4.72	15.95	-0.1182	0.0001	0
225	SLU 10		0	6.87	23.46	-0.1779	0.0002	0
225	SLU 11		0	6.51	22.13	-0.1669	0.0001	0
225	SLU 12		0	6.51	22.16	-0.1671	0.0002	0
225	SLU 13		0	6.34	21.55	-0.1623	0.0003	0
225	SLU 14		0	5.97	20.21	-0.1513	0.0003	0
225	SLU 15		0	5.98	20.24	-0.1515	0.0003	0
225	SLU 16		0	5.79	19.58	-0.1464	0.0003	0
225	SLU 17		0	5.8	19.61	-0.1466	0.0004	-0.0001
225	SLU 18		0	7.32	24.98	-0.1897	0.0002	0
225	SLU 19		0	7.33	25.01	-0.1899	0.0003	0
225	SLU 20		0	6.79	23.06	-0.1741	0.0003	0
225	SLU 21		0	6.8	23.09	-0.1743	0.0004	-0.0001
225	SLU 22		0	6.52	22.23	-0.1679	0	0
225	SLU 23		0	6.53	22.28	-0.1683	0.0001	0
225	SLU 24		0	6.17	20.95	-0.1573	0	0
225	SLU 25		0	6.18	20.98	-0.1575	0.0001	0
225	SLU 26		0	6	20.37	-0.1527	0.0002	0
225	SLU 27		0	5.63	19.03	-0.1417	0.0002	0
225	SLU 28		0	5.64	19.06	-0.142	0.0002	0
225	SLU 29		0	5.45	18.4	-0.1368	0.0002	0
225	SLU 30		0	5.46	18.43	-0.137	0.0003	0
225	SLU 31		0	7.62	25.95	-0.1966	0.0003	0
225	SLU 32		0	7.25	24.61	-0.1856	0.0003	0
225	SLU 33		0	7.26	24.64	-0.1859	0.0004	-0.0001
225	SLU 34		0	7.08	24.03	-0.1811	0.0005	-0.0001
225	SLU 35		0	6.71	22.7	-0.1701	0.0004	-0.0001
225	SLU 36		0	6.72	22.73	-0.1703	0.0005	-0.0001
225	SLU 37		0	6.53	22.06	-0.1651	0.0005	-0.0001
225	SLU 38		0	6.54	22.09	-0.1653	0.0005	-0.0001
225	SLU 39		0	8.07	27.46	-0.2084	0.0004	-0.0001
225	SLU 40		0	8.07	27.5	-0.2086	0.0004	-0.0001
225	SLU 41		0	7.53	25.55	-0.1928	0.0005	-0.0001
225	SLU 42		0	7.54	25.58	-0.1931	0.0005	-0.0001
225	SLU 43		0	7.26	24.82	-0.1875	-0.0003	0.0001
225	SLU 44		0	7.27	24.87	-0.1879	-0.0002	0
225	SLU 45		0	6.9	23.54	-0.1769	-0.0003	0.0001
225	SLU 46		0	6.91	23.57	-0.1771	-0.0002	0
225	SLU 47		0	6.74	22.96	-0.1723	-0.0001	0
225	SLU 48		0	6.37	21.62	-0.1613	-0.0001	0
225	SLU 49		0	6.38	21.65	-0.1615	-0.0001	0
225	SLU 50		0	6.19	20.99	-0.1564	-0.0001	0
225	SLU 51		0	6.2	21.02	-0.1566	0	0
225	SLU 52		0	8.35	28.54	-0.2162	0	0
225	SLU 53		0	7.99	27.2	-0.2052	0	0
225	SLU 54		0	7.99	27.23	-0.2054	0.0001	0
225	SLU 55		0	7.82	26.62	-0.2006	0.0002	0
225	SLU 56		0	7.45	25.28	-0.1896	0.0001	0
225	SLU 57		0	7.46	25.32	-0.1898	0.0002	0
225	SLU 58		0	7.27	24.65	-0.1847	0.0002	0
225	SLU 59		0	7.28	24.68	-0.1849	0.0002	0
225	SLU 60		0	8.8	30.05	-0.228	0.0001	0
225	SLU 61		0	8.81	30.08	-0.2282	0.0001	0
225	SLU 62		0	8.27	28.14	-0.2124	0.0002	0
225	SLU 63		0	8.28	28.17	-0.2126	0.0002	0
225	SLU 64		0	8	27.3	-0.2063	-0.0001	0
225	SLU 65		0	8.01	27.36	-0.2066	-0.0001	0
225	SLU 66		0	7.65	26.02	-0.1956	-0.0001	0
225	SLU 67		0	7.65	26.06	-0.1959	0	0
225	SLU 68		0	7.48	25.44	-0.191	0.0001	0
225	SLU 69		0	7.11	24.11	-0.1801	0	0
225	SLU 70		0	7.12	24.14	-0.1803	0.0001	0
225	SLU 71		0	6.93	23.47	-0.1751	0.0001	0
225	SLU 72		0	6.94	23.5	-0.1753	0.0001	0
225	SLU 73		0	9.09	31.02	-0.235	0.0002	0
225	SLU 74		0	8.73	29.69	-0.224	0.0002	0
225	SLU 75		0	8.74	29.72	-0.2242	0.0003	0
225	SLU 76		0	8.56	29.1	-0.2194	0.0003	0
225	SLU 77		0	8.19	27.77	-0.2084	0.0003	0
225	SLU 78		0	8.2	27.8	-0.2086	0.0004	0
225	SLU 79		0	8.01	27.13	-0.2034	0.0004	0
225	SLU 80		0	8.02	27.16	-0.2037	0.0004	-0.0001
225	SLU 81		0	9.54	32.54	-0.2467	0.0003	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
225	SLU 82		0	9.55	32.57	-0.247	0.0003	0
225	SLU 83		0	9.01	30.62	-0.2312	0.0004	0
225	SLU 84		0	9.02	30.65	-0.2314	0.0004	-0.0001
225	SLE RA 1		0	5.99	20.46	-0.1545	-0.0002	0
225	SLE RA 2		0	6	20.49	-0.1548	-0.0001	0
225	SLE RA 3		0	5.76	19.6	-0.1475	-0.0001	0
225	SLE RA 4		0	5.76	19.62	-0.1476	-0.0001	0
225	SLE RA 5		0	5.64	19.21	-0.1444	0	0
225	SLE RA 6		0	5.4	18.33	-0.1371	0	0
225	SLE RA 7		0	5.4	18.35	-0.1372	0	0
225	SLE RA 8		0	5.28	17.9	-0.1338	0	0
225	SLE RA 9		0	5.28	17.92	-0.1339	0	0
225	SLE RA 10		0	6.72	22.93	-0.1737	0.0001	0
225	SLE RA 11		0	6.48	22.05	-0.1663	0.0001	0
225	SLE RA 12		0	6.48	22.07	-0.1665	0.0001	0
225	SLE RA 13		0	6.36	21.66	-0.1633	0.0002	0
225	SLE RA 14		0	6.12	20.77	-0.156	0.0002	0
225	SLE RA 15		0	6.12	20.79	-0.1561	0.0002	0
225	SLE RA 16		0	6	20.34	-0.1527	0.0002	0
225	SLE RA 17		0	6	20.36	-0.1528	0.0002	0
225	SLE RA 18		0	7.02	23.95	-0.1815	0.0001	0
225	SLE RA 19		0	7.03	23.97	-0.1817	0.0002	0
225	SLE RA 20		0	6.66	22.67	-0.1711	0.0002	0
225	SLE RA 21		0	6.67	22.69	-0.1713	0.0002	0
225	SLE FR 1		0	5.99	20.46	-0.1545	-0.0002	0
225	SLE FR 2		0	5.99	20.46	-0.1546	-0.0001	0
225	SLE FR 3		0	5.85	19.95	-0.1504	-0.0001	0
225	SLE FR 4		0	6.3	21.51	-0.1627	-0.0001	0
225	SLE FR 5		0	6.16	20.99	-0.1585	0	0
225	SLE FR 6		0	6.51	22.2	-0.168	0	0
225	SLE QP 1		0	5.99	20.46	-0.1545	-0.0002	0
225	SLE QP 2		0	6.3	21.5	-0.1626	-0.0001	0
225	SLD 1		-0.1	9.01	30.3	-0.2502	-0.0317	0.0061
225	SLD 2		-0.1	9.01	30.3	-0.2502	-0.0317	0.0061
225	SLD 3		-0.15	5.92	20.64	-0.1469	-0.0496	0.0095
225	SLD 4		-0.15	5.92	20.64	-0.1469	-0.0496	0.0095
225	SLD 5		0.04	11.8	38.8	-0.3456	0.0175	-0.0032
225	SLD 6		0.04	11.8	38.8	-0.3456	0.0175	-0.0032
225	SLD 7		-0.12	1.5	6.59	-0.0012	-0.0419	0.0079
225	SLD 8		-0.12	1.5	6.59	-0.0012	-0.0419	0.0079
225	SLD 9		0.11	11.1	36.42	-0.3241	0.0418	-0.0079
225	SLD 10		0.11	11.1	36.42	-0.3241	0.0418	-0.0079
225	SLD 11		-0.04	0.8	4.21	0.0203	-0.0176	0.0033
225	SLD 12		-0.04	0.8	4.21	0.0203	-0.0176	0.0033
225	SLD 13		0.15	6.68	22.37	-0.1784	0.0494	-0.0094
225	SLD 14		0.15	6.68	22.37	-0.1784	0.0494	-0.0094
225	SLD 15		0.1	3.59	12.71	-0.0751	0.0316	-0.0061
225	SLD 16		0.1	3.59	12.71	-0.0751	0.0316	-0.0061
225	SLV 1		-0.24	12.74	42.39	-0.3698	-0.0741	0.0143
225	SLV 2		-0.24	12.74	42.39	-0.3698	-0.0741	0.0143
225	SLV 3		-0.36	5.39	19.34	-0.1247	-0.1191	0.0227
225	SLV 4		-0.36	5.39	19.34	-0.1247	-0.1191	0.0227
225	SLV 5		0.11	19.38	62.72	-0.5965	0.0459	-0.0085
225	SLV 6		0.11	19.38	62.72	-0.5965	0.0459	-0.0085
225	SLV 7		-0.29	-5.12	-14.1	0.2205	-0.1039	0.0196
225	SLV 8		-0.29	-5.12	-14.1	0.2205	-0.1039	0.0196
225	SLV 9		0.29	17.72	57.11	-0.5458	0.1038	-0.0196
225	SLV 10		0.29	17.72	57.11	-0.5458	0.1038	-0.0196
225	SLV 11		-0.11	-6.78	-19.71	0.2713	-0.046	0.0085
225	SLV 12		-0.11	-6.78	-19.71	0.2713	-0.046	0.0085
225	SLV 13		0.35	7.21	23.67	-0.2006	0.1189	-0.0227
225	SLV 14		0.35	7.21	23.67	-0.2006	0.1189	-0.0227
225	SLV 15		0.23	-0.14	0.62	0.0446	0.074	-0.0142
225	SLV 16		0.23	-0.14	0.62	0.0446	0.074	-0.0142
226	SLU 1		0	4.44	15.18	-0.098	0.0005	-0.0001
226	SLU 2		0	4.47	15.28	-0.0988	0.0004	-0.0001
226	SLU 3		0	3.96	13.39	-0.0829	0.0005	-0.0001
226	SLU 4		0	3.97	13.45	-0.0834	0.0004	-0.0001
226	SLU 5		0	3.8	12.83	-0.0788	0.0004	-0.0001
226	SLU 6		0	3.29	10.94	-0.0629	0.0005	-0.0001
226	SLU 7		0	3.3	11	-0.0633	0.0004	-0.0001
226	SLU 8		0	3.1	10.28	-0.0579	0.0004	-0.0001
226	SLU 9		0	3.12	10.34	-0.0584	0.0004	-0.0001
226	SLU 10		0	5.34	18.29	-0.1188	0.0004	-0.0001
226	SLU 11		0	4.83	16.41	-0.1029	0.0005	-0.0001
226	SLU 12		0	4.85	16.47	-0.1033	0.0005	-0.0001
226	SLU 13		0	4.67	15.84	-0.0987	0.0004	-0.0001
226	SLU 14		0	4.16	13.96	-0.0828	0.0005	-0.0001
226	SLU 15		0	4.18	14.02	-0.0833	0.0005	-0.0001
226	SLU 16		0	3.97	13.29	-0.0778	0.0005	-0.0001
226	SLU 17		0	3.99	13.35	-0.0783	0.0004	-0.0001
226	SLU 18		0	5.69	19.49	-0.1265	0.0005	-0.0001
226	SLU 19		0	5.71	19.55	-0.127	0.0005	-0.0001
226	SLU 20		0	5.02	17.04	-0.1064	0.0005	-0.0001
226	SLU 21		0	5.04	17.1	-0.1069	0.0005	-0.0001
226	SLU 22		0	4.82	16.36	-0.1042	0.0005	-0.0001
226	SLU 23		0	4.84	16.46	-0.105	0.0005	-0.0001
226	SLU 24		0	4.33	14.58	-0.0891	0.0005	-0.0001
226	SLU 25		0	4.35	14.64	-0.0896	0.0005	-0.0001
226	SLU 26		0	4.17	14.01	-0.0849	0.0004	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
226	SLU 27		0	3.66	12.13	-0.0691	0.0005	-0.0001
226	SLU 28		0	3.68	12.19	-0.0695	0.0005	-0.0001
226	SLU 29		0	3.47	11.46	-0.0641	0.0005	-0.0001
226	SLU 30		0	3.49	11.52	-0.0646	0.0005	-0.0001
226	SLU 31		0	5.72	19.48	-0.125	0.0005	-0.0001
226	SLU 32		0	5.21	17.6	-0.1091	0.0006	-0.0001
226	SLU 33		0	5.22	17.66	-0.1095	0.0005	-0.0001
226	SLU 34		0	5.05	17.03	-0.1049	0.0005	-0.0001
226	SLU 35		0	4.53	15.15	-0.089	0.0006	-0.0001
226	SLU 36		0	4.55	15.21	-0.0895	0.0005	-0.0001
226	SLU 37		0	4.35	14.48	-0.084	0.0006	-0.0001
226	SLU 38		0	4.36	14.54	-0.0845	0.0005	-0.0001
226	SLU 39		0	6.07	20.67	-0.1327	0.0006	-0.0001
226	SLU 40		0	6.08	20.73	-0.1332	0.0006	-0.0001
226	SLU 41		0	5.39	18.22	-0.1126	0.0006	-0.0001
226	SLU 42		0	5.41	18.28	-0.1131	0.0005	-0.0001
226	SLU 43		0	5.65	19.32	-0.1253	0.0006	-0.0001
226	SLU 44		0	5.68	19.42	-0.1261	0.0005	-0.0001
226	SLU 45		0	5.16	17.54	-0.1102	0.0006	-0.0001
226	SLU 46		0	5.18	17.6	-0.1107	0.0005	-0.0001
226	SLU 47		0	5	16.97	-0.106	0.0005	-0.0001
226	SLU 48		0	4.49	15.09	-0.0902	0.0006	-0.0001
226	SLU 49		0	4.51	15.15	-0.0906	0.0005	-0.0001
226	SLU 50		0	4.3	14.42	-0.0852	0.0006	-0.0001
226	SLU 51		0	4.32	14.48	-0.0857	0.0005	-0.0001
226	SLU 52		0	6.55	22.44	-0.146	0.0006	-0.0001
226	SLU 53		0	6.04	20.56	-0.1302	0.0006	-0.0001
226	SLU 54		0	6.05	20.62	-0.1306	0.0006	-0.0001
226	SLU 55		0	5.88	19.99	-0.126	0.0006	-0.0001
226	SLU 56		0	5.37	18.11	-0.1101	0.0006	-0.0001
226	SLU 57		0	5.38	18.17	-0.1106	0.0006	-0.0001
226	SLU 58		0	5.18	17.44	-0.1051	0.0006	-0.0001
226	SLU 59		0	5.19	17.5	-0.1056	0.0006	-0.0001
226	SLU 60		0	6.9	23.63	-0.1538	0.0007	-0.0001
226	SLU 61		0	6.91	23.69	-0.1543	0.0006	-0.0001
226	SLU 62		0	6.23	21.18	-0.1337	0.0006	-0.0001
226	SLU 63		0	6.24	21.24	-0.1342	0.0006	-0.0001
226	SLU 64		0	6.02	20.51	-0.1315	0.0007	-0.0001
226	SLU 65		0	6.05	20.61	-0.1323	0.0006	-0.0001
226	SLU 66		0	5.54	18.72	-0.1164	0.0007	-0.0001
226	SLU 67		0	5.55	18.79	-0.1169	0.0006	-0.0001
226	SLU 68		0	5.38	18.16	-0.1122	0.0006	-0.0001
226	SLU 69		0	4.87	16.28	-0.0963	0.0006	-0.0001
226	SLU 70		0	4.88	16.34	-0.0968	0.0006	-0.0001
226	SLU 71		0	4.68	15.61	-0.0914	0.0006	-0.0001
226	SLU 72		0	4.69	15.67	-0.0919	0.0006	-0.0001
226	SLU 73		0	6.92	23.63	-0.1522	0.0006	-0.0001
226	SLU 74		0	6.41	21.74	-0.1364	0.0007	-0.0002
226	SLU 75		0	6.43	21.8	-0.1368	0.0007	-0.0001
226	SLU 76		0	6.25	21.18	-0.1322	0.0006	-0.0001
226	SLU 77		0	5.74	19.29	-0.1163	0.0007	-0.0002
226	SLU 78		0	5.76	19.35	-0.1168	0.0006	-0.0001
226	SLU 79		0	5.55	18.63	-0.1113	0.0007	-0.0002
226	SLU 80		0	5.57	18.69	-0.1118	0.0006	-0.0001
226	SLU 81		0	7.27	24.82	-0.16	0.0007	-0.0002
226	SLU 82		0	7.29	24.88	-0.1605	0.0007	-0.0002
226	SLU 83		0	6.6	22.37	-0.1399	0.0007	-0.0002
226	SLU 84		0	6.61	22.43	-0.1404	0.0007	-0.0002
226	SLE RA 1		0	4.55	15.51	-0.0998	0.0005	-0.0001
226	SLE RA 2		0	4.57	15.58	-0.1003	0.0004	-0.0001
226	SLE RA 3		0	4.23	14.33	-0.0897	0.0005	-0.0001
226	SLE RA 4		0	4.24	14.37	-0.0901	0.0005	-0.0001
226	SLE RA 5		0	4.12	13.95	-0.0869	0.0004	-0.0001
226	SLE RA 6		0	3.78	12.69	-0.0764	0.0005	-0.0001
226	SLE RA 7		0	3.79	12.73	-0.0767	0.0005	-0.0001
226	SLE RA 8		0	3.65	12.25	-0.073	0.0005	-0.0001
226	SLE RA 9		0	3.66	12.29	-0.0734	0.0004	-0.0001
226	SLE RA 10		0	5.15	17.59	-0.1136	0.0005	-0.0001
226	SLE RA 11		0	4.81	16.34	-0.103	0.0005	-0.0001
226	SLE RA 12		0	4.82	16.38	-0.1033	0.0005	-0.0001
226	SLE RA 13		0	4.7	15.96	-0.1002	0.0005	-0.0001
226	SLE RA 14		0	4.36	14.7	-0.0897	0.0005	-0.0001
226	SLE RA 15		0	4.37	14.74	-0.09	0.0005	-0.0001
226	SLE RA 16		0	4.24	14.26	-0.0863	0.0005	-0.0001
226	SLE RA 17		0	4.25	14.3	-0.0867	0.0005	-0.0001
226	SLE RA 18		0	5.38	18.39	-0.1188	0.0005	-0.0001
226	SLE RA 19		0	5.39	18.43	-0.1191	0.0005	-0.0001
226	SLE RA 20		0	4.94	16.76	-0.1054	0.0005	-0.0001
226	SLE RA 21		0	4.95	16.8	-0.1057	0.0005	-0.0001
226	SLE FR 1		0	4.55	15.51	-0.0998	0.0005	-0.0001
226	SLE FR 2		0	4.55	15.53	-0.0999	0.0005	-0.0001
226	SLE FR 3		0	4.37	14.86	-0.0945	0.0005	-0.0001
226	SLE FR 4		0	4.8	16.39	-0.1056	0.0005	-0.0001
226	SLE FR 5		0	4.62	15.72	-0.1001	0.0005	-0.0001
226	SLE FR 6		0	4.97	16.95	-0.1093	0.0005	-0.0001
226	SLE QP 1		0	4.55	15.51	-0.0998	0.0005	-0.0001
226	SLE QP 2		0	4.8	16.38	-0.1055	0.0005	-0.0001
226	SLD 1		-0.15	5.33	18.01	-0.1251	-0.0491	0.0092
226	SLD 2		-0.15	5.33	18.01	-0.1251	-0.0491	0.0092
226	SLD 3		-0.08	2.59	9.54	-0.0315	-0.0256	0.0048



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
226	SLD 4			-0.08	2.59	9.54	-0.0315	-0.0256	0.0048
226	SLD 5			-0.14	9.11	29.7	-0.2533	-0.0502	0.0093
226	SLD 6			-0.14	9.11	29.7	-0.2533	-0.0502	0.0093
226	SLD 7			0.08	-0.01	1.49	0.0586	0.0284	-0.0053
226	SLD 8			0.08	-0.01	1.49	0.0586	0.0284	-0.0053
226	SLD 9			-0.07	9.62	31.26	-0.2696	-0.0274	0.005
226	SLD 10			-0.07	9.62	31.26	-0.2696	-0.0274	0.005
226	SLD 11			0.15	0.49	3.05	0.0423	0.0512	-0.0096
226	SLD 12			0.15	0.49	3.05	0.0423	0.0512	-0.0096
226	SLD 13			0.09	7.01	23.21	-0.1795	0.0266	-0.0051
226	SLD 14			0.09	7.01	23.21	-0.1795	0.0266	-0.0051
226	SLD 15			0.15	4.27	14.75	-0.0859	0.0501	-0.0095
226	SLD 16			0.15	4.27	14.75	-0.0859	0.0501	-0.0095
226	SLV 1			-0.35	6.06	20.25	-0.1518	-0.12	0.0225
226	SLV 2			-0.35	6.06	20.25	-0.1518	-0.12	0.0225
226	SLV 3			-0.19	-0.44	0.11	0.0697	-0.0609	0.0116
226	SLV 4			-0.19	-0.44	0.11	0.0697	-0.0609	0.0116
226	SLV 5			-0.35	15.03	48.07	-0.4554	-0.1253	0.0233
226	SLV 6			-0.35	15.03	48.07	-0.4554	-0.1253	0.0233
226	SLV 7			0.19	-6.62	-19.04	0.283	0.0718	-0.0133
226	SLV 8			0.19	-6.62	-19.04	0.283	0.0718	-0.0133
226	SLV 9			-0.18	16.22	51.79	-0.494	-0.0708	0.013
226	SLV 10			-0.18	16.22	51.79	-0.494	-0.0708	0.013
226	SLV 11			0.36	-5.43	-15.32	0.2444	0.1263	-0.0236
226	SLV 12			0.36	-5.43	-15.32	0.2444	0.1263	-0.0236
226	SLV 13			0.2	10.04	32.64	-0.2807	0.0619	-0.0118
226	SLV 14			0.2	10.04	32.64	-0.2807	0.0619	-0.0118
226	SLV 15			0.36	3.54	12.51	-0.0592	0.121	-0.0228
226	SLV 16			0.36	3.54	12.51	-0.0592	0.121	-0.0228
227	SLU 1			-0.14	6.98	28.94	-0.1218	-0.1155	0.0184
227	SLU 2			-0.14	7.35	29.92	-0.1394	-0.106	0.017
227	SLU 3			-0.15	7.21	29.85	-0.1269	-0.1191	0.019
227	SLU 4			-0.15	7.43	30.44	-0.1374	-0.1134	0.0181
227	SLU 5			-0.15	7.52	30.58	-0.1441	-0.1082	0.0173
227	SLU 6			-0.15	7.39	30.52	-0.1316	-0.1214	0.0194
227	SLU 7			-0.15	7.61	31.11	-0.1421	-0.1157	0.0185
227	SLU 8			-0.15	7.33	30.27	-0.1312	-0.1199	0.0191
227	SLU 9			-0.15	7.55	30.86	-0.1417	-0.1142	0.0183
227	SLU 10			-0.16	8.04	32.86	-0.1494	-0.1204	0.0192
227	SLU 11			-0.17	7.9	32.8	-0.1368	-0.1335	0.0213
227	SLU 12			-0.17	8.12	33.39	-0.1474	-0.1278	0.0204
227	SLU 13			-0.16	8.21	33.53	-0.154	-0.1226	0.0196
227	SLU 14			-0.17	8.07	33.47	-0.1415	-0.1358	0.0217
227	SLU 15			-0.17	8.29	34.05	-0.1521	-0.1301	0.0208
227	SLU 16			-0.17	8.02	33.22	-0.1411	-0.1344	0.0214
227	SLU 17			-0.17	8.24	33.81	-0.1517	-0.1286	0.0206
227	SLU 18			-0.17	7.96	33.15	-0.136	-0.1361	0.0217
227	SLU 19			-0.17	8.18	33.74	-0.1466	-0.1304	0.0208
227	SLU 20			-0.17	8.14	33.82	-0.1407	-0.1383	0.022
227	SLU 21			-0.17	8.36	34.4	-0.1513	-0.1326	0.0212
227	SLU 22			-0.16	7.7	32	-0.1332	-0.1301	0.0208
227	SLU 23			-0.16	8.07	32.98	-0.1508	-0.1206	0.0193
227	SLU 24			-0.17	7.93	32.92	-0.1383	-0.1338	0.0213
227	SLU 25			-0.17	8.15	33.5	-0.1488	-0.1281	0.0205
227	SLU 26			-0.17	8.25	33.65	-0.1555	-0.1229	0.0197
227	SLU 27			-0.17	8.11	33.58	-0.143	-0.136	0.0217
227	SLU 28			-0.17	8.33	34.17	-0.1535	-0.1303	0.0208
227	SLU 29			-0.17	8.06	33.34	-0.1426	-0.1346	0.0215
227	SLU 30			-0.17	8.28	33.92	-0.1531	-0.1289	0.0206
227	SLU 31			-0.18	8.76	35.93	-0.1608	-0.135	0.0216
227	SLU 32			-0.18	8.62	35.86	-0.1482	-0.1482	0.0236
227	SLU 33			-0.18	8.84	36.45	-0.1588	-0.1425	0.0228
227	SLU 34			-0.18	8.93	36.59	-0.1655	-0.1373	0.0219
227	SLU 35			-0.19	8.8	36.53	-0.1529	-0.1504	0.024
227	SLU 36			-0.19	9.02	37.12	-0.1635	-0.1447	0.0231
227	SLU 37			-0.19	8.74	36.28	-0.1525	-0.149	0.0238
227	SLU 38			-0.19	8.96	36.87	-0.1631	-0.1433	0.0229
227	SLU 39			-0.19	8.69	36.21	-0.1474	-0.1507	0.024
227	SLU 40			-0.19	8.91	36.8	-0.158	-0.145	0.0231
227	SLU 41			-0.19	8.86	36.88	-0.1521	-0.153	0.0244
227	SLU 42			-0.19	9.08	37.47	-0.1627	-0.1473	0.0235
227	SLU 43			-0.18	8.83	36.57	-0.1544	-0.1451	0.0231
227	SLU 44			-0.18	9.2	37.55	-0.172	-0.1356	0.0217
227	SLU 45			-0.19	9.06	37.48	-0.1595	-0.1488	0.0237
227	SLU 46			-0.19	9.28	38.07	-0.1701	-0.143	0.0228
227	SLU 47			-0.18	9.37	38.22	-0.1767	-0.1378	0.022
227	SLU 48			-0.19	9.23	38.15	-0.1642	-0.151	0.0241
227	SLU 49			-0.19	9.45	38.74	-0.1747	-0.1453	0.0232
227	SLU 50			-0.19	9.18	37.9	-0.1638	-0.1496	0.0239
227	SLU 51			-0.19	9.4	38.49	-0.1743	-0.1439	0.023
227	SLU 52			-0.2	9.88	40.5	-0.182	-0.15	0.024
227	SLU 53			-0.2	9.75	40.43	-0.1694	-0.1632	0.026
227	SLU 54			-0.2	9.96	41.02	-0.18	-0.1575	0.0251
227	SLU 55			-0.2	10.06	41.16	-0.1867	-0.1522	0.0243
227	SLU 56			-0.21	9.92	41.1	-0.1741	-0.1654	0.0264
227	SLU 57			-0.21	10.14	41.68	-0.1847	-0.1597	0.0255
227	SLU 58			-0.2	9.87	40.85	-0.1737	-0.164	0.0262
227	SLU 59			-0.2	10.09	41.44	-0.1843	-0.1583	0.0253
227	SLU 60			-0.2	9.81	40.78	-0.1686	-0.1657	0.0264
227	SLU 61			-0.2	10.03	41.37	-0.1792	-0.16	0.0255



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
227	SLU 62	-0.21	9.99	41.45	-0.1733	-0.1679	0.0268
227	SLU 63	-0.21	10.21	42.03	-0.1839	-0.1622	0.0259
227	SLU 64	-0.2	9.55	39.63	-0.1658	-0.1598	0.0255
227	SLU 65	-0.2	9.92	40.61	-0.1834	-0.1502	0.024
227	SLU 66	-0.2	9.78	40.55	-0.1709	-0.1634	0.0261
227	SLU 67	-0.2	10	41.13	-0.1815	-0.1577	0.0252
227	SLU 68	-0.2	10.09	41.28	-0.1881	-0.1525	0.0244
227	SLU 69	-0.21	9.96	41.21	-0.1756	-0.1656	0.0264
227	SLU 70	-0.21	10.18	41.8	-0.1862	-0.1599	0.0255
227	SLU 71	-0.21	9.9	40.97	-0.1752	-0.1642	0.0262
227	SLU 72	-0.21	10.12	41.55	-0.1858	-0.1585	0.0253
227	SLU 73	-0.22	10.6	43.56	-0.1934	-0.1647	0.0263
227	SLU 74	-0.22	10.47	43.49	-0.1809	-0.1778	0.0284
227	SLU 75	-0.22	10.69	44.08	-0.1914	-0.1721	0.0275
227	SLU 76	-0.22	10.78	44.23	-0.1981	-0.1669	0.0267
227	SLU 77	-0.22	10.64	44.16	-0.1855	-0.1801	0.0287
227	SLU 78	-0.22	10.86	44.75	-0.1961	-0.1743	0.0278
227	SLU 79	-0.22	10.59	43.91	-0.1852	-0.1786	0.0285
227	SLU 80	-0.22	10.81	44.5	-0.1957	-0.1729	0.0276
227	SLU 81	-0.22	10.53	43.84	-0.1801	-0.1803	0.0287
227	SLU 82	-0.22	10.75	44.43	-0.1906	-0.1746	0.0279
227	SLU 83	-0.23	10.71	44.51	-0.1847	-0.1826	0.0291
227	SLU 84	-0.23	10.93	45.1	-0.1953	-0.1769	0.0282
227	SLE RA 1	-0.15	7.19	29.81	-0.125	-0.1197	0.0191
227	SLE RA 2	-0.15	7.43	30.47	-0.1368	-0.1133	0.0181
227	SLE RA 3	-0.15	7.34	30.42	-0.1284	-0.1221	0.0195
227	SLE RA 4	-0.15	7.49	30.81	-0.1355	-0.1183	0.0189
227	SLE RA 5	-0.15	7.55	30.91	-0.1399	-0.1148	0.0183
227	SLE RA 6	-0.15	7.46	30.87	-0.1316	-0.1236	0.0197
227	SLE RA 7	-0.16	7.6	31.26	-0.1386	-0.1198	0.0191
227	SLE RA 8	-0.15	7.42	30.7	-0.1313	-0.1226	0.0196
227	SLE RA 9	-0.15	7.57	31.1	-0.1383	-0.1188	0.019
227	SLE RA 10	-0.16	7.89	32.43	-0.1434	-0.1229	0.0196
227	SLE RA 11	-0.16	7.8	32.39	-0.1351	-0.1317	0.021
227	SLE RA 12	-0.16	7.95	32.78	-0.1421	-0.1279	0.0204
227	SLE RA 13	-0.16	8.01	32.88	-0.1466	-0.1244	0.0199
227	SLE RA 14	-0.17	7.92	32.83	-0.1382	-0.1332	0.0212
227	SLE RA 15	-0.17	8.06	33.22	-0.1452	-0.1294	0.0207
227	SLE RA 16	-0.16	7.88	32.67	-0.1379	-0.1323	0.0211
227	SLE RA 17	-0.16	8.03	33.06	-0.145	-0.1284	0.0205
227	SLE RA 18	-0.16	7.84	32.62	-0.1345	-0.1334	0.0213
227	SLE RA 19	-0.17	7.99	33.01	-0.1416	-0.1296	0.0207
227	SLE RA 20	-0.17	7.96	33.07	-0.1377	-0.1349	0.0215
227	SLE RA 21	-0.17	8.11	33.46	-0.1447	-0.1311	0.0209
227	SLE FR 1	-0.15	7.19	29.81	-0.125	-0.1197	0.0191
227	SLE FR 2	-0.15	7.24	29.95	-0.1274	-0.1184	0.0189
227	SLE FR 3	-0.15	7.24	29.99	-0.1263	-0.1203	0.0192
227	SLE FR 4	-0.15	7.43	30.79	-0.1302	-0.1225	0.0195
227	SLE FR 5	-0.15	7.43	30.83	-0.1291	-0.1244	0.0198
227	SLE FR 6	-0.16	7.52	31.22	-0.1298	-0.1265	0.0202
227	SLE QP 1	-0.15	7.19	29.81	-0.125	-0.1197	0.0191
227	SLE QP 2	-0.15	7.39	30.66	-0.1279	-0.1238	0.0197
227	SLD 1	-0.46	10.44	41.52	-0.2083	-0.2066	0.0399
227	SLD 2	-0.46	10.44	41.52	-0.2083	-0.2066	0.0399
227	SLD 3	-0.37	8.37	35.9	-0.1282	-0.2551	0.0323
227	SLD 4	-0.37	8.37	35.9	-0.1282	-0.2551	0.0323
227	SLD 5	-0.39	11.45	42.43	-0.2734	-0.0751	0.0374
227	SLD 6	-0.39	11.45	42.43	-0.2734	-0.0751	0.0374
227	SLD 7	-0.07	4.54	23.72	-0.0066	-0.2367	0.0119
227	SLD 8	-0.07	4.54	23.72	-0.0066	-0.2367	0.0119
227	SLD 9	-0.23	10.23	37.6	-0.2492	-0.0109	0.0276
227	SLD 10	-0.23	10.23	37.6	-0.2492	-0.0109	0.0276
227	SLD 11	0.08	3.32	18.89	0.0176	-0.1725	0.0021
227	SLD 12	0.08	3.32	18.89	0.0176	-0.1725	0.0021
227	SLD 13	0.06	6.4	25.41	-0.1275	0.0075	0.0072
227	SLD 14	0.06	6.4	25.41	-0.1275	0.0075	0.0072
227	SLD 15	0.15	4.33	19.8	-0.0475	-0.041	-0.0005
227	SLD 16	0.15	4.33	19.8	-0.0475	-0.041	-0.0005
227	SLV 1	-0.92	14.53	56.02	-0.3165	-0.3154	0.0678
227	SLV 2	-0.92	14.53	56.02	-0.3165	-0.3154	0.0678
227	SLV 3	-0.68	9.71	42.98	-0.1296	-0.4356	0.0487
227	SLV 4	-0.68	9.71	42.98	-0.1296	-0.4356	0.0487
227	SLV 5	-0.74	16.85	58.05	-0.468	0.0011	0.0631
227	SLV 6	-0.74	16.85	58.05	-0.468	0.0011	0.0631
227	SLV 7	0.05	0.77	14.57	0.1551	-0.3997	-0.0005
227	SLV 8	0.05	0.77	14.57	0.1551	-0.3997	-0.0005
227	SLV 9	-0.36	14	46.74	-0.4109	0.1521	0.0399
227	SLV 10	-0.36	14	46.74	-0.4109	0.1521	0.0399
227	SLV 11	0.44	-2.08	3.26	0.2122	-0.2487	-0.0236
227	SLV 12	0.44	-2.08	3.26	0.2122	-0.2487	-0.0236
227	SLV 13	0.37	5.06	18.34	-0.1262	0.1881	-0.0092
227	SLV 14	0.37	5.06	18.34	-0.1262	0.1881	-0.0092
227	SLV 15	0.61	0.24	5.29	0.0607	0.0678	-0.0283
227	SLV 16	0.61	0.24	5.29	0.0607	0.0678	-0.0283
228	SLU 1	-0.04	7.72	30.72	-0.2022	-0.0037	0.0008
228	SLU 2	-0.03	8.04	31.55	-0.2146	-0.0104	0.0018
228	SLU 3	-0.04	7.88	31.41	-0.2057	-0.0039	0.0008
228	SLU 4	-0.03	8.06	31.91	-0.2132	-0.008	0.0014
228	SLU 5	-0.03	8.1	31.88	-0.216	-0.0106	0.0018
228	SLU 6	-0.04	7.94	31.74	-0.2071	-0.0041	0.0009



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
228	SLU 7		-0.03	8.13	32.23	-0.2145	-0.0081	0.0014
228	SLU 8		-0.04	7.86	31.38	-0.2049	-0.004	0.0008
228	SLU 9		-0.03	8.04	31.88	-0.2123	-0.008	0.0014
228	SLU 10		-0.03	8.84	34.9	-0.2345	-0.0112	0.0019
228	SLU 11		-0.04	8.68	34.76	-0.2256	-0.0047	0.001
228	SLU 12		-0.04	8.87	35.25	-0.233	-0.0087	0.0016
228	SLU 13		-0.04	8.91	35.23	-0.2358	-0.0113	0.0019
228	SLU 14		-0.04	8.75	35.09	-0.2269	-0.0049	0.001
228	SLU 15		-0.04	8.94	35.58	-0.2344	-0.0089	0.0016
228	SLU 16		-0.04	8.66	34.73	-0.2248	-0.0048	0.001
228	SLU 17		-0.04	8.85	35.23	-0.2322	-0.0088	0.0016
228	SLU 18		-0.04	8.88	35.5	-0.2306	-0.0048	0.001
228	SLU 19		-0.04	9.06	36	-0.2381	-0.0088	0.0016
228	SLU 20		-0.04	8.94	35.83	-0.232	-0.005	0.001
228	SLU 21		-0.04	9.13	36.33	-0.2394	-0.009	0.0016
228	SLU 22		-0.04	8.51	34	-0.2215	-0.0044	0.0009
228	SLU 23		-0.03	8.82	34.83	-0.2339	-0.0111	0.0019
228	SLU 24		-0.04	8.66	34.69	-0.225	-0.0047	0.001
228	SLU 25		-0.04	8.85	35.19	-0.2324	-0.0087	0.0016
228	SLU 26		-0.04	8.89	35.16	-0.2352	-0.0113	0.0019
228	SLU 27		-0.04	8.73	35.02	-0.2263	-0.0048	0.001
228	SLU 28		-0.04	8.92	35.51	-0.2337	-0.0088	0.0016
228	SLU 29		-0.04	8.64	34.66	-0.2241	-0.0048	0.001
228	SLU 30		-0.04	8.83	35.16	-0.2316	-0.0088	0.0016
228	SLU 31		-0.04	9.63	38.18	-0.2538	-0.0119	0.0021
228	SLU 32		-0.05	9.47	38.04	-0.2449	-0.0054	0.0011
228	SLU 33		-0.04	9.66	38.53	-0.2523	-0.0094	0.0017
228	SLU 34		-0.04	9.69	38.51	-0.2551	-0.012	0.0021
228	SLU 35		-0.05	9.53	38.37	-0.2462	-0.0056	0.0011
228	SLU 36		-0.04	9.72	38.86	-0.2536	-0.0096	0.0017
228	SLU 37		-0.05	9.45	38.01	-0.244	-0.0055	0.0011
228	SLU 38		-0.04	9.64	38.51	-0.2515	-0.0095	0.0017
228	SLU 39		-0.05	9.66	38.78	-0.2499	-0.0055	0.0011
228	SLU 40		-0.04	9.85	39.28	-0.2573	-0.0095	0.0017
228	SLU 41		-0.05	9.73	39.11	-0.2512	-0.0057	0.0012
228	SLU 42		-0.05	9.91	39.61	-0.2587	-0.0097	0.0018
228	SLU 43		-0.04	9.77	38.82	-0.2563	-0.0046	0.001
228	SLU 44		-0.04	10.09	39.64	-0.2687	-0.0113	0.002
228	SLU 45		-0.05	9.93	39.5	-0.2598	-0.0048	0.001
228	SLU 46		-0.04	10.11	40	-0.2672	-0.0088	0.0016
228	SLU 47		-0.04	10.15	39.97	-0.27	-0.0114	0.002
228	SLU 48		-0.05	9.99	39.83	-0.2611	-0.005	0.001
228	SLU 49		-0.04	10.18	40.33	-0.2686	-0.009	0.0016
228	SLU 50		-0.05	9.9	39.48	-0.259	-0.0049	0.001
228	SLU 51		-0.04	10.09	39.97	-0.2664	-0.0089	0.0016
228	SLU 52		-0.04	10.89	42.99	-0.2886	-0.012	0.0021
228	SLU 53		-0.05	10.73	42.85	-0.2797	-0.0056	0.0012
228	SLU 54		-0.05	10.92	43.34	-0.2871	-0.0096	0.0018
228	SLU 55		-0.04	10.96	43.32	-0.2899	-0.0122	0.0021
228	SLU 56		-0.05	10.8	43.18	-0.281	-0.0057	0.0012
228	SLU 57		-0.05	10.98	43.67	-0.2884	-0.0097	0.0018
228	SLU 58		-0.05	10.71	42.82	-0.2788	-0.0057	0.0012
228	SLU 59		-0.05	10.9	43.32	-0.2863	-0.0097	0.0018
228	SLU 60		-0.05	10.92	43.6	-0.2847	-0.0057	0.0012
228	SLU 61		-0.05	11.11	44.09	-0.2921	-0.0097	0.0018
228	SLU 62		-0.05	10.99	43.93	-0.286	-0.0058	0.0012
228	SLU 63		-0.05	11.18	44.42	-0.2935	-0.0099	0.0018
228	SLU 64		-0.05	10.56	42.1	-0.2756	-0.0053	0.0011
228	SLU 65		-0.04	10.87	42.92	-0.288	-0.012	0.0021
228	SLU 66		-0.05	10.71	42.78	-0.2791	-0.0055	0.0011
228	SLU 67		-0.05	10.9	43.28	-0.2865	-0.0095	0.0017
228	SLU 68		-0.04	10.94	43.25	-0.2893	-0.0122	0.0021
228	SLU 69		-0.05	10.78	43.11	-0.2804	-0.0057	0.0012
228	SLU 70		-0.05	10.96	43.61	-0.2878	-0.0097	0.0018
228	SLU 71		-0.05	10.69	42.76	-0.2782	-0.0056	0.0012
228	SLU 72		-0.05	10.88	43.25	-0.2857	-0.0096	0.0018
228	SLU 73		-0.05	11.68	46.27	-0.3078	-0.0128	0.0022
228	SLU 74		-0.06	11.52	46.13	-0.2989	-0.0063	0.0013
228	SLU 75		-0.05	11.7	46.62	-0.3064	-0.0103	0.0019
228	SLU 76		-0.05	11.74	46.6	-0.3092	-0.0129	0.0023
228	SLU 77		-0.06	11.58	46.46	-0.3003	-0.0064	0.0013
228	SLU 78		-0.05	11.77	46.95	-0.3077	-0.0104	0.0019
228	SLU 79		-0.06	11.5	46.1	-0.2981	-0.0064	0.0013
228	SLU 80		-0.05	11.68	46.6	-0.3055	-0.0104	0.0019
228	SLU 81		-0.06	11.71	46.88	-0.304	-0.0064	0.0013
228	SLU 82		-0.05	11.9	47.37	-0.3114	-0.0104	0.0019
228	SLU 83		-0.06	11.78	47.21	-0.3053	-0.0066	0.0013
228	SLU 84		-0.05	11.96	47.7	-0.3127	-0.0106	0.0019
228	SLE RA 1		-0.04	7.95	31.66	-0.2077	-0.0039	0.0008
228	SLE RA 2		-0.03	8.16	32.21	-0.216	-0.0084	0.0015
228	SLE RA 3		-0.04	8.05	32.12	-0.2101	-0.0041	0.0008
228	SLE RA 4		-0.04	8.18	32.45	-0.215	-0.0068	0.0012
228	SLE RA 5		-0.03	8.2	32.43	-0.2169	-0.0085	0.0015
228	SLE RA 6		-0.04	8.09	32.34	-0.211	-0.0042	0.0009
228	SLE RA 7		-0.04	8.22	32.67	-0.2159	-0.0069	0.0013
228	SLE RA 8		-0.04	8.04	32.1	-0.2095	-0.0041	0.0009
228	SLE RA 9		-0.04	8.16	32.43	-0.2145	-0.0068	0.0013
228	SLE RA 10		-0.04	8.69	34.44	-0.2293	-0.0089	0.0016
228	SLE RA 11		-0.04	8.59	34.35	-0.2233	-0.0046	0.0009
228	SLE RA 12		-0.04	8.71	34.68	-0.2283	-0.0073	0.0013



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
228	SLE RA 13		-0.04	8.74	34.66	-0.2301	-0.009	0.0016
228	SLE RA 14		-0.04	8.63	34.57	-0.2242	-0.0047	0.001
228	SLE RA 15		-0.04	8.76	34.9	-0.2292	-0.0074	0.0014
228	SLE RA 16		-0.04	8.57	34.33	-0.2228	-0.0046	0.001
228	SLE RA 17		-0.04	8.7	34.66	-0.2277	-0.0073	0.0014
228	SLE RA 18		-0.04	8.72	34.85	-0.2267	-0.0047	0.001
228	SLE RA 19		-0.04	8.84	35.18	-0.2316	-0.0073	0.0014
228	SLE RA 20		-0.04	8.76	35.07	-0.2276	-0.0048	0.001
228	SLE RA 21		-0.04	8.89	35.4	-0.2325	-0.0074	0.0014
228	SLE FR 1		-0.04	7.95	31.66	-0.2077	-0.0039	0.0008
228	SLE FR 2		-0.04	7.99	31.77	-0.2094	-0.0048	0.001
228	SLE FR 3		-0.04	7.97	31.75	-0.2081	-0.004	0.0008
228	SLE FR 4		-0.04	8.22	32.73	-0.2151	-0.005	0.001
228	SLE FR 5		-0.04	8.2	32.71	-0.2138	-0.0042	0.0009
228	SLE FR 6		-0.04	8.33	33.25	-0.2172	-0.0043	0.0009
228	SLE QP 1		-0.04	7.95	31.66	-0.2077	-0.0039	0.0008
228	SLE QP 2		-0.04	8.18	32.62	-0.2134	-0.0042	0.0009
228	SLD 1		-0.24	7.03	26.91	-0.1934	0.0913	-0.0123
228	SLD 2		-0.24	7.03	26.91	-0.1934	0.0913	-0.0123
228	SLD 3		-0.34	5.02	21.86	-0.1158	0.0417	-0.0049
228	SLD 4		-0.34	5.02	21.86	-0.1158	0.0417	-0.0049
228	SLD 5		0.04	10.88	38.56	-0.3252	0.0997	-0.0144
228	SLD 6		0.04	10.88	38.56	-0.3252	0.0997	-0.0144
228	SLD 7		-0.27	4.18	21.74	-0.0664	-0.0656	0.0105
228	SLD 8		-0.27	4.18	21.74	-0.0664	-0.0656	0.0105
228	SLD 9		0.19	12.17	43.5	-0.3604	0.0573	-0.0088
228	SLD 10		0.19	12.17	43.5	-0.3604	0.0573	-0.0088
228	SLD 11		-0.12	5.47	26.68	-0.1017	-0.108	0.0162
228	SLD 12		-0.12	5.47	26.68	-0.1017	-0.108	0.0162
228	SLD 13		0.26	11.34	43.37	-0.311	-0.05	0.0066
228	SLD 14		0.26	11.34	43.37	-0.311	-0.05	0.0066
228	SLD 15		0.17	9.33	38.33	-0.2334	-0.0996	0.0141
228	SLD 16		0.17	9.33	38.33	-0.2334	-0.0996	0.0141
228	SLV 1		-0.55	5.47	19.2	-0.1659	0.2263	-0.031
228	SLV 2		-0.55	5.47	19.2	-0.1659	0.2263	-0.031
228	SLV 3		-0.78	0.8	7.48	0.0145	0.1005	-0.012
228	SLV 4		-0.78	0.8	7.48	0.0145	0.1005	-0.012
228	SLV 5		0.17	14.45	46.38	-0.4728	0.2557	-0.0375
228	SLV 6		0.17	14.45	46.38	-0.4728	0.2557	-0.0375
228	SLV 7		-0.62	-1.12	7.29	0.1286	-0.1635	0.0258
228	SLV 8		-0.62	-1.12	7.29	0.1286	-0.1635	0.0258
228	SLV 9		0.54	17.47	57.94	-0.5554	0.1552	-0.0241
228	SLV 10		0.54	17.47	57.94	-0.5554	0.1552	-0.0241
228	SLV 11		-0.24	1.91	18.86	0.046	-0.264	0.0392
228	SLV 12		-0.24	1.91	18.86	0.046	-0.264	0.0392
228	SLV 13		0.7	15.55	57.75	-0.4413	-0.1088	0.0137
228	SLV 14		0.7	15.55	57.75	-0.4413	-0.1088	0.0137
228	SLV 15		0.47	10.88	46.03	-0.2609	-0.2346	0.0327
228	SLV 16		0.47	10.88	46.03	-0.2609	-0.2346	0.0327
229	SLU 1		0	5.17	43.69	-0.2508	-0.0024	0
229	SLU 2		0	5.18	43.16	-0.2517	-0.0016	0
229	SLU 3		0	5.37	45.43	-0.2588	-0.0026	0
229	SLU 4		0	5.38	45.12	-0.2593	-0.0021	0
229	SLU 5		0	5.35	44.56	-0.2584	-0.0017	0
229	SLU 6		0	5.54	46.83	-0.2655	-0.0027	0
229	SLU 7		0	5.55	46.52	-0.266	-0.0022	0
229	SLU 8		0	5.51	46.48	-0.2642	-0.0026	0
229	SLU 9		0	5.52	46.17	-0.2648	-0.0022	0
229	SLU 10		0	5.98	50.84	-0.2908	-0.0021	0
229	SLU 11		0	6.17	53.11	-0.2979	-0.0031	0
229	SLU 12		0	6.18	52.8	-0.2984	-0.0026	0
229	SLU 13		0	6.15	52.24	-0.2975	-0.0022	0
229	SLU 14		0	6.34	54.51	-0.3046	-0.0032	0
229	SLU 15		0	6.35	54.2	-0.3051	-0.0027	0
229	SLU 16		0	6.32	54.16	-0.3034	-0.0031	0
229	SLU 17		0	6.32	53.85	-0.3039	-0.0027	0
229	SLU 18		0	6.32	54.65	-0.3067	-0.0031	0
229	SLU 19		0	6.32	54.34	-0.3072	-0.0027	0
229	SLU 20		0	6.49	56.05	-0.3134	-0.0032	0
229	SLU 21		0	6.49	55.74	-0.3139	-0.0028	0
229	SLU 22		0	5.96	51.09	-0.2881	-0.0029	0
229	SLU 23		0	5.97	50.56	-0.289	-0.0021	0
229	SLU 24		0	6.16	52.84	-0.296	-0.0031	0
229	SLU 25		0	6.16	52.52	-0.2966	-0.0026	0
229	SLU 26		0	6.14	51.96	-0.2957	-0.0022	0
229	SLU 27		0	6.33	54.23	-0.3028	-0.0032	0
229	SLU 28		0	6.33	53.92	-0.3033	-0.0027	0
229	SLU 29		0	6.3	53.89	-0.3015	-0.0031	0
229	SLU 30		0	6.3	53.57	-0.302	-0.0027	0
229	SLU 31		0	6.77	58.24	-0.3281	-0.0026	0
229	SLU 32		0	6.96	60.51	-0.3352	-0.0036	0.0001
229	SLU 33		0	6.96	60.2	-0.3357	-0.0031	0
229	SLU 34		0	6.94	59.64	-0.3348	-0.0027	0
229	SLU 35		0	7.13	61.91	-0.3419	-0.0037	0.0001
229	SLU 36		0	7.13	61.6	-0.3424	-0.0032	0
229	SLU 37		0	7.1	61.56	-0.3406	-0.0036	0.0001
229	SLU 38		0	7.1	61.25	-0.3412	-0.0032	0
229	SLU 39		0	7.1	62.05	-0.344	-0.0036	0.0001
229	SLU 40		0	7.11	61.74	-0.3445	-0.0031	0
229	SLU 41		0	7.27	63.45	-0.3507	-0.0037	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
229	SLU 42		0	7.28	63.14	-0.3512	-0.0033	0
229	SLU 43		0	6.46	54.25	-0.3133	-0.0029	0
229	SLU 44		0	6.46	53.73	-0.3141	-0.0022	0
229	SLU 45		0	6.66	56	-0.3212	-0.0031	0
229	SLU 46		0	6.66	55.69	-0.3217	-0.0026	0
229	SLU 47		0	6.64	55.13	-0.3208	-0.0023	0
229	SLU 48		0	6.83	57.4	-0.3279	-0.0032	0
229	SLU 49		0	6.83	57.09	-0.3285	-0.0028	0
229	SLU 50		0	6.8	57.05	-0.3267	-0.0032	0
229	SLU 51		0	6.8	56.74	-0.3272	-0.0027	0
229	SLU 52		0	7.27	61.41	-0.3532	-0.0027	0
229	SLU 53		0	7.46	63.68	-0.3603	-0.0036	0.0001
229	SLU 54		0	7.46	63.36	-0.3608	-0.0031	0
229	SLU 55		0	7.44	62.81	-0.36	-0.0028	0
229	SLU 56		0	7.63	65.08	-0.367	-0.0037	0.0001
229	SLU 57		0	7.63	64.76	-0.3676	-0.0033	0
229	SLU 58		0	7.6	64.73	-0.3658	-0.0037	0.0001
229	SLU 59		0	7.6	64.41	-0.3663	-0.0032	0
229	SLU 60		0	7.6	65.22	-0.3691	-0.0037	0.0001
229	SLU 61		0	7.61	64.9	-0.3697	-0.0032	0
229	SLU 62		0	7.77	66.62	-0.3759	-0.0038	0.0001
229	SLU 63		0	7.78	66.3	-0.3764	-0.0033	0
229	SLU 64		0	7.24	61.65	-0.3505	-0.0034	0
229	SLU 65		0	7.25	61.13	-0.3514	-0.0026	0
229	SLU 66		0	7.44	63.4	-0.3585	-0.0036	0.0001
229	SLU 67		0	7.45	63.09	-0.359	-0.0031	0
229	SLU 68		0	7.42	62.53	-0.3581	-0.0028	0
229	SLU 69		0	7.61	64.8	-0.3652	-0.0037	0.0001
229	SLU 70		0	7.62	64.49	-0.3657	-0.0032	0
229	SLU 71		0	7.58	64.45	-0.364	-0.0037	0.0001
229	SLU 72		0	7.59	64.14	-0.3645	-0.0032	0
229	SLU 73		0	8.05	68.81	-0.3905	-0.0032	0
229	SLU 74		0	8.24	71.08	-0.3976	-0.0041	0.0001
229	SLU 75		0	8.25	70.77	-0.3981	-0.0036	0.0001
229	SLU 76		0	8.22	70.21	-0.3972	-0.0033	0
229	SLU 77		0	8.41	72.48	-0.4043	-0.0042	0.0001
229	SLU 78		0	8.42	72.17	-0.4049	-0.0038	0.0001
229	SLU 79		0	8.38	72.13	-0.4031	-0.0042	0.0001
229	SLU 80		0	8.39	71.82	-0.4036	-0.0037	0.0001
229	SLU 81		0	8.38	72.62	-0.4064	-0.0042	0.0001
229	SLU 82		0	8.39	72.3	-0.4069	-0.0037	0.0001
229	SLU 83		0	8.56	74.02	-0.4131	-0.0043	0.0001
229	SLU 84		0	8.56	73.7	-0.4137	-0.0038	0.0001
229	SLE RA 1		0	5.4	45.8	-0.2615	-0.0025	0
229	SLE RA 2		0	5.4	45.45	-0.262	-0.002	0
229	SLE RA 3		0	5.53	46.97	-0.2668	-0.0026	0
229	SLE RA 4		0	5.53	46.76	-0.2671	-0.0023	0
229	SLE RA 5		0	5.52	46.39	-0.2665	-0.0021	0
229	SLE RA 6		0	5.64	47.9	-0.2712	-0.0027	0
229	SLE RA 7		0	5.65	47.69	-0.2716	-0.0024	0
229	SLE RA 8		0	5.62	47.67	-0.2704	-0.0027	0
229	SLE RA 9		0	5.63	47.46	-0.2708	-0.0024	0
229	SLE RA 10		0	5.94	50.57	-0.2881	-0.0024	0
229	SLE RA 11		0	6.06	52.08	-0.2928	-0.003	0
229	SLE RA 12		0	6.07	51.87	-0.2932	-0.0027	0
229	SLE RA 13		0	6.05	51.5	-0.2926	-0.0024	0
229	SLE RA 14		0	6.18	53.02	-0.2973	-0.0031	0
229	SLE RA 15		0	6.18	52.81	-0.2977	-0.0028	0
229	SLE RA 16		0	6.16	52.78	-0.2965	-0.003	0
229	SLE RA 17		0	6.16	52.57	-0.2968	-0.0027	0
229	SLE RA 18		0	6.16	53.11	-0.2987	-0.003	0
229	SLE RA 19		0	6.16	52.9	-0.2991	-0.0027	0
229	SLE RA 20		0	6.27	54.04	-0.3032	-0.0031	0
229	SLE RA 21		0	6.28	53.83	-0.3035	-0.0028	0
229	SLE FR 1		0	5.4	45.8	-0.2615	-0.0025	0
229	SLE FR 2		0	5.4	45.73	-0.2616	-0.0024	0
229	SLE FR 3		0	5.44	46.17	-0.2632	-0.0026	0
229	SLE FR 4		0	5.63	47.92	-0.2727	-0.0026	0
229	SLE FR 5		0	5.67	48.37	-0.2744	-0.0027	0
229	SLE FR 6		0	5.78	49.45	-0.2801	-0.0028	0
229	SLE QP 1		0	5.4	45.8	-0.2615	-0.0025	0
229	SLE QP 2		0	5.63	47.99	-0.2726	-0.0027	0
229	SLD 1		0.14	7.6	54.22	-0.4056	0.1367	-0.0009
229	SLD 2		0.14	7.6	54.22	-0.4056	0.1367	-0.0009
229	SLD 3		0.18	5.41	47.48	-0.2583	0.1755	-0.0015
229	SLD 4		0.18	5.41	47.48	-0.2583	0.1755	-0.0015
229	SLD 5		-0.03	9.54	60.08	-0.5359	-0.0198	0.0006
229	SLD 6		-0.03	9.54	60.08	-0.5359	-0.0198	0.0006
229	SLD 7		0.12	2.24	37.62	-0.045	0.1097	-0.0013
229	SLD 8		0.12	2.24	37.62	-0.045	0.1097	-0.0013
229	SLD 9		-0.12	9.02	58.36	-0.5003	-0.115	0.0013
229	SLD 10		-0.12	9.02	58.36	-0.5003	-0.115	0.0013
229	SLD 11		0.02	1.71	35.91	-0.0094	0.0144	-0.0005
229	SLD 12		0.02	1.71	35.91	-0.0094	0.0144	-0.0005
229	SLD 13		-0.19	5.85	48.5	-0.2869	-0.1809	0.0015
229	SLD 14		-0.19	5.85	48.5	-0.2869	-0.1809	0.0015
229	SLD 15		-0.14	3.66	41.77	-0.1396	-0.142	0.001
229	SLD 16		-0.14	3.66	41.77	-0.1396	-0.142	0.001
229	SLV 1		0.35	10.3	62.83	-0.588	0.3515	-0.0023
229	SLV 2		0.35	10.3	62.83	-0.588	0.3515	-0.0023



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
229	SLV 3			0.46	5.15	46.98	-0.2419	0.4505	-0.0037
229	SLV 4			0.46	5.15	46.98	-0.2419	0.4505	-0.0037
229	SLV 5			-0.07	14.83	76.49	-0.8922	-0.0467	0.0015
229	SLV 6			-0.07	14.83	76.49	-0.8922	-0.0467	0.0015
229	SLV 7			0.3	-2.32	23.64	0.2616	0.2835	-0.0032
229	SLV 8			0.3	-2.32	23.64	0.2616	0.2835	-0.0032
229	SLV 9			-0.31	13.57	72.35	-0.8068	-0.2889	0.0033
229	SLV 10			-0.31	13.57	72.35	-0.8068	-0.2889	0.0033
229	SLV 11			0.06	-3.58	19.49	0.347	0.0413	-0.0014
229	SLV 12			0.06	-3.58	19.49	0.347	0.0413	-0.0014
229	SLV 13			-0.47	6.1	49.01	-0.3034	-0.4559	0.0038
229	SLV 14			-0.47	6.1	49.01	-0.3034	-0.4559	0.0038
229	SLV 15			-0.36	0.96	33.15	0.0428	-0.3568	0.0023
229	SLV 16			-0.36	0.96	33.15	0.0428	-0.3568	0.0023
230	SLU 1			0	5.41	48.15	-0.2602	0.0006	0
230	SLU 2			0	5.47	47.82	-0.2628	0	0
230	SLU 3			0	5.68	50.37	-0.2737	0.0007	0
230	SLU 4			0	5.71	50.17	-0.2753	0.0003	0
230	SLU 5			0	5.73	49.69	-0.2762	0.0001	0
230	SLU 6			0	5.94	52.24	-0.2871	0.0008	0
230	SLU 7			0	5.97	52.04	-0.2887	0.0004	0
230	SLU 8			0	5.93	51.89	-0.2871	0.0008	0
230	SLU 9			0	5.96	51.69	-0.2886	0.0004	0
230	SLU 10			0	6.24	56.01	-0.3005	0.0002	0
230	SLU 11			0	6.45	58.56	-0.3114	0.0009	0
230	SLU 12			0	6.49	58.36	-0.313	0.0005	0
230	SLU 13			0	6.5	57.88	-0.3139	0.0003	0
230	SLU 14			0	6.71	60.43	-0.3248	0.001	0
230	SLU 15			0	6.74	60.23	-0.3264	0.0006	0
230	SLU 16			0	6.71	60.08	-0.3247	0.001	0
230	SLU 17			0	6.74	59.88	-0.3263	0.0006	0
230	SLU 18			0	6.52	59.85	-0.314	0.0008	0
230	SLU 19			0	6.55	59.65	-0.3156	0.0005	0
230	SLU 20			0	6.78	61.72	-0.3274	0.0009	0
230	SLU 21			0	6.81	61.52	-0.329	0.0006	0
230	SLU 22			0	6.23	56.18	-0.3001	0.0008	0
230	SLU 23			0	6.28	55.85	-0.3028	0.0002	0
230	SLU 24			0	6.49	58.4	-0.3137	0.0009	0
230	SLU 25			0	6.53	58.2	-0.3152	0.0005	0
230	SLU 26			0	6.54	57.72	-0.3162	0.0003	0
230	SLU 27			0	6.75	60.27	-0.3271	0.001	0
230	SLU 28			0	6.78	60.07	-0.3287	0.0006	0
230	SLU 29			0	6.75	59.92	-0.327	0.001	0
230	SLU 30			0	6.78	59.72	-0.3286	0.0006	0
230	SLU 31			0	7.06	64.04	-0.3404	0.0003	0
230	SLU 32			0	7.27	66.59	-0.3513	0.0011	0
230	SLU 33			0	7.3	66.39	-0.3529	0.0007	0
230	SLU 34			0	7.31	65.91	-0.3539	0.0004	0
230	SLU 35			0	7.53	68.46	-0.3648	0.0012	0
230	SLU 36			0	7.56	68.26	-0.3663	0.0008	0
230	SLU 37			0	7.52	68.11	-0.3647	0.0012	0
230	SLU 38			0	7.55	67.91	-0.3663	0.0008	0
230	SLU 39			0	7.34	67.88	-0.354	0.001	0
230	SLU 40			0	7.37	67.68	-0.3555	0.0007	0
230	SLU 41			0	7.59	69.75	-0.3674	0.0011	0
230	SLU 42			0	7.63	69.55	-0.369	0.0008	0
230	SLU 43			0	6.76	59.84	-0.3246	0.0007	0
230	SLU 44			0	6.81	59.51	-0.3272	0.0001	0
230	SLU 45			0	7.02	62.06	-0.3381	0.0008	0
230	SLU 46			0	7.06	61.87	-0.3396	0.0005	0
230	SLU 47			0	7.07	61.38	-0.3406	0.0002	0
230	SLU 48			0	7.28	63.93	-0.3515	0.0009	0
230	SLU 49			0	7.31	63.73	-0.3531	0.0006	0
230	SLU 50			0	7.28	63.58	-0.3514	0.0009	0
230	SLU 51			0	7.31	63.38	-0.353	0.0006	0
230	SLU 52			0	7.59	67.7	-0.3648	0.0003	0
230	SLU 53			0	7.8	70.25	-0.3757	0.001	0
230	SLU 54			0	7.83	70.05	-0.3773	0.0006	0
230	SLU 55			0	7.84	69.57	-0.3783	0.0004	0
230	SLU 56			0	8.06	72.12	-0.3892	0.0011	0
230	SLU 57			0	8.09	71.92	-0.3907	0.0007	0
230	SLU 58			0	8.05	71.77	-0.3891	0.0011	0
230	SLU 59			0	8.08	71.57	-0.3907	0.0007	0
230	SLU 60			0	7.87	71.54	-0.3784	0.0009	0
230	SLU 61			0	7.9	71.34	-0.3799	0.0006	0
230	SLU 62			0	8.12	73.41	-0.3918	0.0011	0
230	SLU 63			0	8.16	73.21	-0.3934	0.0007	0
230	SLU 64			0	7.58	67.87	-0.3645	0.0009	0
230	SLU 65			0	7.63	67.54	-0.3671	0.0003	0
230	SLU 66			0	7.84	70.09	-0.378	0.001	0
230	SLU 67			0	7.87	69.89	-0.3796	0.0006	0
230	SLU 68			0	7.89	69.41	-0.3805	0.0004	0
230	SLU 69			0	8.1	71.96	-0.3915	0.0011	0
230	SLU 70			0	8.13	71.76	-0.393	0.0007	0
230	SLU 71			0	8.09	71.61	-0.3914	0.0011	0
230	SLU 72			0	8.12	71.41	-0.3929	0.0007	0
230	SLU 73			0	8.4	75.73	-0.4048	0.0005	0
230	SLU 74			0	8.61	78.28	-0.4157	0.0012	0
230	SLU 75			0	8.65	78.08	-0.4173	0.0008	0
230	SLU 76			0	8.66	77.6	-0.4182	0.0006	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
230	SLU 77		0	8.87	80.15	-0.4291	0.0013	0
230	SLU 78		0	8.9	79.95	-0.4307	0.0009	0
230	SLU 79		0	8.87	79.8	-0.429	0.0013	0
230	SLU 80		0	8.9	79.6	-0.4306	0.0009	0
230	SLU 81		0	8.68	79.57	-0.4183	0.0011	0
230	SLU 82		0	8.71	79.37	-0.4199	0.0008	0
230	SLU 83		0	8.94	81.44	-0.4318	0.0012	0
230	SLU 84		0	8.97	81.24	-0.4333	0.0009	0
230	SLE RA 1		0	5.65	50.44	-0.2716	0.0006	0
230	SLE RA 2		0	5.68	50.22	-0.2733	0.0002	0
230	SLE RA 3		0	5.82	51.92	-0.2806	0.0007	0
230	SLE RA 4		0	5.85	51.79	-0.2817	0.0005	0
230	SLE RA 5		0	5.85	51.47	-0.2823	0.0003	0
230	SLE RA 6		0	6	53.17	-0.2896	0.0008	0
230	SLE RA 7		0	6.02	53.04	-0.2906	0.0005	0
230	SLE RA 8		0	5.99	52.93	-0.2895	0.0008	0
230	SLE RA 9		0	6.01	52.8	-0.2906	0.0005	0
230	SLE RA 10		0	6.2	55.68	-0.2985	0.0004	0
230	SLE RA 11		0	6.34	57.38	-0.3057	0.0008	0
230	SLE RA 12		0	6.36	57.25	-0.3068	0.0006	0
230	SLE RA 13		0	6.37	56.93	-0.3074	0.0004	0
230	SLE RA 14		0	6.51	58.63	-0.3147	0.0009	0
230	SLE RA 15		0	6.53	58.5	-0.3157	0.0007	0
230	SLE RA 16		0	6.51	58.39	-0.3146	0.0009	0
230	SLE RA 17		0	6.53	58.26	-0.3157	0.0007	0
230	SLE RA 18		0	6.39	58.24	-0.3075	0.0008	0
230	SLE RA 19		0	6.41	58.11	-0.3085	0.0006	0
230	SLE RA 20		0	6.56	59.49	-0.3164	0.0009	0
230	SLE RA 21		0	6.58	59.36	-0.3175	0.0006	0
230	SLE FR 1		0	5.65	50.44	-0.2716	0.0006	0
230	SLE FR 2		0	5.65	50.4	-0.272	0.0006	0
230	SLE FR 3		0	5.72	50.94	-0.2752	0.0007	0
230	SLE FR 4		0	5.88	52.74	-0.2827	0.0006	0
230	SLE FR 5		0	5.94	53.28	-0.286	0.0007	0
230	SLE FR 6		0	6.02	54.34	-0.2895	0.0007	0
230	SLE QP 1		0	5.65	50.44	-0.2716	0.0006	0
230	SLE QP 2		0	5.87	52.78	-0.2824	0.0007	0
230	SLD 1	0.2	5.9	59.79	-0.2862	0.1821	0.0004	0
230	SLD 2	0.2	5.9	59.79	-0.2862	0.1821	0.0004	0
230	SLD 3	0.16	2.29	51.46	-0.0941	0.1526	0.0003	0
230	SLD 4	0.16	2.29	51.46	-0.0941	0.1526	0.0003	0
230	SLD 5	0.12	11.34	67.51	-0.5749	0.0999	0.0002	0
230	SLD 6	0.12	11.34	67.51	-0.5749	0.0999	0.0002	0
230	SLD 7	-0.01	-0.67	39.76	0.0655	0.0015	0	0
230	SLD 8	-0.01	-0.67	39.76	0.0655	0.0015	0	0
230	SLD 9	0.01	12.41	65.81	-0.6302	-0.0001	0	0
230	SLD 10	0.01	12.41	65.81	-0.6302	-0.0001	0	0
230	SLD 11	-0.11	0.4	38.05	0.0101	-0.0985	-0.0002	0
230	SLD 12	-0.11	0.4	38.05	0.0101	-0.0985	-0.0002	0
230	SLD 13	-0.16	9.45	54.1	-0.4707	-0.1512	-0.0003	0
230	SLD 14	-0.16	9.45	54.1	-0.4707	-0.1512	-0.0003	0
230	SLD 15	-0.19	5.84	45.78	-0.2786	-0.1807	-0.0004	0
230	SLD 16	-0.19	5.84	45.78	-0.2786	-0.1807	-0.0004	0
230	SLV 1	0.49	5.9	69.54	-0.2896	0.4602	0.001	0
230	SLV 2	0.49	5.9	69.54	-0.2896	0.4602	0.001	0
230	SLV 3	0.39	-2.59	49.88	0.1632	0.3854	0.0008	0
230	SLV 4	0.39	-2.59	49.88	0.1632	0.3854	0.0008	0
230	SLV 5	0.29	18.76	87.62	-0.9713	0.252	0.0006	0
230	SLV 6	0.29	18.76	87.62	-0.9713	0.252	0.0006	0
230	SLV 7	-0.02	-9.55	22.11	0.5381	0.0027	0	0
230	SLV 8	-0.02	-9.55	22.11	0.5381	0.0027	0	0
230	SLV 9	0.02	21.29	83.46	-1.1028	-0.0013	0	0
230	SLV 10	0.02	21.29	83.46	-1.1028	-0.0013	0	0
230	SLV 11	-0.29	-7.02	17.95	0.4066	-0.2506	-0.0006	0
230	SLV 12	-0.29	-7.02	17.95	0.4066	-0.2506	-0.0006	0
230	SLV 13	-0.39	14.33	55.68	-0.7279	-0.384	-0.0008	0
230	SLV 14	-0.39	14.33	55.68	-0.7279	-0.384	-0.0008	0
230	SLV 15	-0.48	5.84	36.03	-0.2751	-0.4588	-0.001	0
230	SLV 16	-0.48	5.84	36.03	-0.2751	-0.4588	-0.001	0
231	SLU 1		0	4.8	32.45	-0.2892	-0.0001	0
231	SLU 2		0	4.8	32.53	-0.2896	0	0
231	SLU 3		0	4.59	30.66	-0.275	0.0001	0
231	SLU 4		0	4.59	30.71	-0.2752	0.0001	0
231	SLU 5		0	4.46	29.77	-0.2669	0.0003	0
231	SLU 6		0	4.25	27.9	-0.2523	0.0004	0
231	SLU 7		0	4.25	27.94	-0.2525	0.0004	0
231	SLU 8		0	4.12	26.93	-0.2439	0.0005	0
231	SLU 9		0	4.12	26.97	-0.2441	0.0005	0
231	SLU 10		0	5.7	38.47	-0.3441	0.0008	0
231	SLU 11		0	5.49	36.6	-0.3295	0.0008	0
231	SLU 12		0	5.49	36.65	-0.3297	0.0009	0
231	SLU 13		0	5.36	35.71	-0.3215	0.001	0
231	SLU 14		0	5.15	33.84	-0.3068	0.0011	0
231	SLU 15		0	5.15	33.89	-0.307	0.0012	0
231	SLU 16		0	5.02	32.87	-0.2984	0.0012	0
231	SLU 17		0	5.02	32.92	-0.2986	0.0013	0
231	SLU 18		0	6.08	40.94	-0.3671	0.001	0
231	SLU 19		0	6.08	40.98	-0.3673	0.001	0
231	SLU 20		0	5.74	38.18	-0.3445	0.0012	0
231	SLU 21		0	5.74	38.22	-0.3447	0.0013	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
231	SLU 22		0	5.45	36.61	-0.3282	0.0004	0
231	SLU 23		0	5.45	36.69	-0.3285	0.0005	0
231	SLU 24		0	5.24	34.82	-0.3139	0.0006	0
231	SLU 25		0	5.24	34.87	-0.3141	0.0007	0
231	SLU 26		0	5.11	33.93	-0.3059	0.0008	0
231	SLU 27		0	4.9	32.06	-0.2912	0.0009	0
231	SLU 28		0	4.9	32.11	-0.2914	0.0009	0
231	SLU 29		0	4.77	31.09	-0.2828	0.001	0
231	SLU 30		0	4.77	31.14	-0.283	0.001	0
231	SLU 31		0	6.35	42.63	-0.3831	0.0013	0
231	SLU 32		0	6.14	40.77	-0.3684	0.0013	0
231	SLU 33		0	6.14	40.81	-0.3686	0.0014	0
231	SLU 34		0	6.01	39.87	-0.3604	0.0016	0
231	SLU 35		0	5.8	38.01	-0.3458	0.0016	0
231	SLU 36		0	5.8	38.05	-0.346	0.0017	0
231	SLU 37		0	5.67	37.03	-0.3374	0.0017	0
231	SLU 38		0	5.67	37.08	-0.3376	0.0018	0
231	SLU 39		0	6.73	45.1	-0.4061	0.0015	0
231	SLU 40		0	6.74	45.15	-0.4063	0.0016	0
231	SLU 41		0	6.4	42.34	-0.3834	0.0018	0
231	SLU 42		0	6.4	42.39	-0.3836	0.0018	0
231	SLU 43		0	6.01	40.76	-0.3626	-0.0003	0
231	SLU 44		0	6.01	40.83	-0.363	-0.0002	0
231	SLU 45		0	5.8	38.97	-0.3484	-0.0001	0
231	SLU 46		0	5.8	39.01	-0.3486	-0.0001	0
231	SLU 47		0	5.67	38.07	-0.3403	0.0001	0
231	SLU 48		0	5.46	36.2	-0.3257	0.0001	0
231	SLU 49		0	5.46	36.25	-0.3259	0.0002	0
231	SLU 50		0	5.33	35.23	-0.3173	0.0003	0
231	SLU 51		0	5.33	35.28	-0.3175	0.0003	0
231	SLU 52		0	6.91	46.77	-0.4175	0.0006	0
231	SLU 53		0	6.7	44.91	-0.4029	0.0006	0
231	SLU 54		0	6.7	44.95	-0.4031	0.0007	0
231	SLU 55		0	6.58	44.01	-0.3949	0.0008	0
231	SLU 56		0	6.36	42.15	-0.3802	0.0009	0
231	SLU 57		0	6.36	42.19	-0.3805	0.001	0
231	SLU 58		0	6.23	41.18	-0.3718	0.001	0
231	SLU 59		0	6.23	41.22	-0.3721	0.0011	0
231	SLU 60		0	7.3	49.24	-0.4405	0.0008	0
231	SLU 61		0	7.3	49.29	-0.4408	0.0008	0
231	SLU 62		0	6.96	46.48	-0.4179	0.001	0
231	SLU 63		0	6.96	46.53	-0.4181	0.0011	0
231	SLU 64		0	6.66	44.92	-0.4016	0.0002	0
231	SLU 65		0	6.67	45	-0.4019	0.0003	0
231	SLU 66		0	6.45	43.13	-0.3873	0.0004	0
231	SLU 67		0	6.46	43.18	-0.3875	0.0005	0
231	SLU 68		0	6.33	42.24	-0.3793	0.0006	0
231	SLU 69		0	6.11	40.37	-0.3646	0.0007	0
231	SLU 70		0	6.12	40.42	-0.3649	0.0007	0
231	SLU 71		0	5.98	39.4	-0.3563	0.0008	0
231	SLU 72		0	5.99	39.45	-0.3565	0.0008	0
231	SLU 73		0	7.57	50.94	-0.4565	0.0011	0
231	SLU 74		0	7.35	49.07	-0.4418	0.0011	0
231	SLU 75		0	7.36	49.12	-0.4421	0.0012	0
231	SLU 76		0	7.23	48.18	-0.4338	0.0014	0
231	SLU 77		0	7.01	46.31	-0.4192	0.0014	0
231	SLU 78		0	7.02	46.36	-0.4194	0.0015	0
231	SLU 79		0	6.88	45.34	-0.4108	0.0015	0
231	SLU 80		0	6.89	45.39	-0.411	0.0016	0
231	SLU 81		0	7.95	53.41	-0.4795	0.0013	0
231	SLU 82		0	7.95	53.46	-0.4797	0.0014	0
231	SLU 83		0	7.61	50.65	-0.4568	0.0016	0
231	SLU 84		0	7.61	50.69	-0.457	0.0016	0
231	SLE RA 1		0	4.98	33.64	-0.3004	0.0001	0
231	SLE RA 2		0	4.98	33.69	-0.3006	0.0001	0
231	SLE RA 3		0	4.84	32.45	-0.2908	0.0002	0
231	SLE RA 4		0	4.84	32.48	-0.291	0.0002	0
231	SLE RA 5		0	4.76	31.85	-0.2855	0.0003	0
231	SLE RA 6		0	4.62	30.61	-0.2757	0.0004	0
231	SLE RA 7		0	4.62	30.64	-0.2759	0.0004	0
231	SLE RA 8		0	4.53	29.96	-0.2701	0.0004	0
231	SLE RA 9		0	4.53	29.99	-0.2703	0.0005	0
231	SLE RA 10		0	5.59	37.65	-0.3369	0.0006	0
231	SLE RA 11		0	5.44	36.41	-0.3272	0.0007	0
231	SLE RA 12		0	5.44	36.44	-0.3273	0.0007	0
231	SLE RA 13		0	5.36	35.81	-0.3218	0.0008	0
231	SLE RA 14		0	5.22	34.57	-0.3121	0.0008	0
231	SLE RA 15		0	5.22	34.6	-0.3122	0.0009	0
231	SLE RA 16		0	5.13	33.92	-0.3065	0.0009	0
231	SLE RA 17		0	5.13	33.95	-0.3066	0.001	0
231	SLE RA 18		0	5.84	39.3	-0.3523	0.0008	0
231	SLE RA 19		0	5.84	39.33	-0.3524	0.0008	0
231	SLE RA 20		0	5.61	37.46	-0.3372	0.0009	0
231	SLE RA 21		0	5.61	37.49	-0.3373	0.001	0
231	SLE FR 1		0	4.98	33.64	-0.3004	0.0001	0
231	SLE FR 2		0	4.98	33.65	-0.3004	0.0001	0
231	SLE FR 3		0	4.89	32.9	-0.2943	0.0001	0
231	SLE FR 4		0	5.24	35.35	-0.316	0.0003	0
231	SLE FR 5		0	5.15	34.6	-0.3099	0.0003	0
231	SLE FR 6		0	5.41	36.47	-0.3263	0.0004	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
231	SLE QP 1	0	4.98	33.64	-0.3004	0.0001	0
231	SLE QP 2	0	5.24	35.34	-0.3159	0.0003	0
231	SLD 1	-0.06	7.59	47.06	-0.4664	-0.0424	0.0003
231	SLD 2	-0.06	7.59	47.06	-0.4664	-0.0424	0.0003
231	SLD 3	-0.1	4.71	34.66	-0.2844	-0.0689	0.0005
231	SLD 4	-0.1	4.71	34.66	-0.2844	-0.0689	0.0005
231	SLD 5	0.04	10.31	57.66	-0.6371	0.0276	-0.0002
231	SLD 6	0.04	10.31	57.66	-0.6371	0.0276	-0.0002
231	SLD 7	-0.09	0.71	16.33	-0.0304	-0.0606	0.0004
231	SLD 8	-0.09	0.71	16.33	-0.0304	-0.0606	0.0004
231	SLD 9	0.09	9.76	54.34	-0.6014	0.0612	-0.0004
231	SLD 10	0.09	9.76	54.34	-0.6014	0.0612	-0.0004
231	SLD 11	-0.04	0.17	13.02	0.0053	-0.0271	0.0002
231	SLD 12	-0.04	0.17	13.02	0.0053	-0.0271	0.0002
231	SLD 13	0.1	5.77	36.01	-0.3474	0.0694	-0.0005
231	SLD 14	0.1	5.77	36.01	-0.3474	0.0694	-0.0005
231	SLD 15	0.06	2.89	23.61	-0.1654	0.043	-0.0003
231	SLD 16	0.06	2.89	23.61	-0.1654	0.043	-0.0003
231	SLV 1	-0.15	10.8	63.2	-0.672	-0.1004	0.0008
231	SLV 2	-0.15	10.8	63.2	-0.672	-0.1004	0.0008
231	SLV 3	-0.25	3.99	33.56	-0.2411	-0.1673	0.0013
231	SLV 4	-0.25	3.99	33.56	-0.2411	-0.1673	0.0013
231	SLV 5	0.11	17.24	88.66	-1.0763	0.0716	-0.0004
231	SLV 6	0.11	17.24	88.66	-1.0763	0.0716	-0.0004
231	SLV 7	-0.23	-5.47	-10.16	0.36	-0.1515	0.001
231	SLV 8	-0.23	-5.47	-10.16	0.36	-0.1515	0.001
231	SLV 9	0.23	15.95	80.83	-0.9919	0.1521	-0.001
231	SLV 10	0.23	15.95	80.83	-0.9919	0.1521	-0.001
231	SLV 11	-0.11	-6.76	-17.99	0.4444	-0.071	0.0004
231	SLV 12	-0.11	-6.76	-17.99	0.4444	-0.071	0.0004
231	SLV 13	0.25	6.49	37.11	-0.3907	0.1679	-0.0013
231	SLV 14	0.25	6.49	37.11	-0.3907	0.1679	-0.0013
231	SLV 15	0.15	-0.32	7.47	0.0402	0.1009	-0.0008
231	SLV 16	0.15	-0.32	7.47	0.0402	0.1009	-0.0008
232	SLU 1	0	4.45	25.12	-0.3316	0.0001	0
232	SLU 2	0	4.46	25.27	-0.3321	0	0
232	SLU 3	0	4.23	22.57	-0.3177	0.0001	0
232	SLU 4	0	4.23	22.66	-0.318	0	0
232	SLU 5	0	4.1	21.71	-0.3086	0	0
232	SLU 6	0	3.87	19.01	-0.2941	0.0001	0
232	SLU 7	0	3.87	19.1	-0.2944	0.0001	0
232	SLU 8	0	3.74	18	-0.2845	0.0001	0
232	SLU 9	0	3.74	18.08	-0.2848	0	0
232	SLU 10	0	5.27	30.16	-0.3926	-0.0001	0
232	SLU 11	0	5.03	27.46	-0.3781	0	0
232	SLU 12	0	5.04	27.55	-0.3785	0	0
232	SLU 13	0	4.91	26.6	-0.3691	-0.0001	0
232	SLU 14	0	4.67	23.9	-0.3546	0.0001	0
232	SLU 15	0	4.68	23.99	-0.3549	0	0
232	SLU 16	0	4.54	22.89	-0.345	0.0001	0
232	SLU 17	0	4.55	22.98	-0.3453	0	0
232	SLU 18	0	5.6	32.11	-0.4179	0	0
232	SLU 19	0	5.61	32.2	-0.4183	-0.0001	0
232	SLU 20	0	5.25	28.55	-0.3944	0	0
232	SLU 21	0	5.25	28.63	-0.3947	0	0
232	SLU 22	0	4.96	27.22	-0.3713	0.0001	0
232	SLU 23	0	4.97	27.37	-0.3719	0	0
232	SLU 24	0	4.73	24.67	-0.3574	0.0001	0
232	SLU 25	0	4.74	24.76	-0.3577	0.0001	0
232	SLU 26	0	4.61	23.81	-0.3483	0	0
232	SLU 27	0	4.38	21.11	-0.3339	0.0001	0
232	SLU 28	0	4.38	21.2	-0.3342	0.0001	0
232	SLU 29	0	4.24	20.1	-0.3242	0.0001	0
232	SLU 30	0	4.25	20.19	-0.3246	0.0001	0
232	SLU 31	0	5.77	32.26	-0.4324	-0.0001	0
232	SLU 32	0	5.54	29.57	-0.4179	0.0001	0
232	SLU 33	0	5.55	29.65	-0.4182	0	0
232	SLU 34	0	5.42	28.7	-0.4088	0	0
232	SLU 35	0	5.18	26	-0.3943	0.0001	0
232	SLU 36	0	5.19	26.09	-0.3947	0	0
232	SLU 37	0	5.05	24.99	-0.3847	0.0001	0
232	SLU 38	0	5.05	25.08	-0.385	0	0
232	SLU 39	0	6.11	34.21	-0.4577	0	0
232	SLU 40	0	6.12	34.3	-0.458	0	0
232	SLU 41	0	5.75	30.65	-0.4342	0	0
232	SLU 42	0	5.76	30.74	-0.4345	0	0
232	SLU 43	0	5.61	31.93	-0.4174	0.0001	0
232	SLU 44	0	5.62	32.08	-0.418	0	0
232	SLU 45	0	5.39	29.38	-0.4035	0.0001	0
232	SLU 46	0	5.39	29.47	-0.4038	0.0001	0
232	SLU 47	0	5.26	28.52	-0.3944	0	0
232	SLU 48	0	5.03	25.82	-0.38	0.0001	0
232	SLU 49	0	5.03	25.91	-0.3803	0.0001	0
232	SLU 50	0	4.9	24.81	-0.3703	0.0001	0
232	SLU 51	0	4.9	24.9	-0.3707	0.0001	0
232	SLU 52	0	6.43	36.97	-0.4784	-0.0001	0
232	SLU 53	0	6.19	34.28	-0.464	0.0001	0
232	SLU 54	0	6.2	34.37	-0.4643	0	0
232	SLU 55	0	6.07	33.41	-0.4549	0	0
232	SLU 56	0	5.84	30.72	-0.4404	0.0001	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
232	SLU 57		0	5.84	30.8	-0.4408	0	0
232	SLU 58		0	5.7	29.7	-0.4308	0.0001	0
232	SLU 59		0	5.71	29.79	-0.4311	0	0
232	SLU 60		0	6.76	38.92	-0.5038	0	0
232	SLU 61		0	6.77	39.01	-0.5041	0	0
232	SLU 62		0	6.41	35.36	-0.4802	0	0
232	SLU 63		0	6.41	35.45	-0.4806	0	0
232	SLU 64		0	6.12	34.04	-0.4572	0.0001	0
232	SLU 65		0	6.13	34.18	-0.4577	0	0
232	SLU 66		0	5.89	31.49	-0.4433	0.0001	0
232	SLU 67		0	5.9	31.58	-0.4436	0.0001	0
232	SLU 68		0	5.77	30.62	-0.4342	0	0
232	SLU 69		0	5.54	27.93	-0.4197	0.0001	0
232	SLU 70		0	5.54	28.02	-0.42	0.0001	0
232	SLU 71		0	5.4	26.91	-0.4101	0.0001	0
232	SLU 72		0	5.41	27	-0.4104	0.0001	0
232	SLU 73		0	6.94	39.08	-0.5182	0	0
232	SLU 74		0	6.7	36.38	-0.5037	0.0001	0
232	SLU 75		0	6.71	36.47	-0.5041	0	0
232	SLU 76		0	6.58	35.51	-0.4947	0	0
232	SLU 77		0	6.34	32.82	-0.4802	0.0001	0
232	SLU 78		0	6.35	32.91	-0.4805	0	0
232	SLU 79		0	6.21	31.81	-0.4705	0.0001	0
232	SLU 80		0	6.22	31.89	-0.4709	0	0
232	SLU 81		0	7.27	41.02	-0.5435	0	0
232	SLU 82		0	7.28	41.11	-0.5439	0	0
232	SLU 83		0	6.91	37.46	-0.52	0	0
232	SLU 84		0	6.92	37.55	-0.5203	0	0
232	SLE RA 1		0	4.6	25.72	-0.3429	0.0001	0
232	SLE RA 2		0	4.6	25.82	-0.3433	0	0
232	SLE RA 3		0	4.45	24.02	-0.3337	0.0001	0
232	SLE RA 4		0	4.45	24.08	-0.3339	0.0001	0
232	SLE RA 5		0	4.36	23.44	-0.3276	0	0
232	SLE RA 6		0	4.21	21.65	-0.318	0.0001	0
232	SLE RA 7		0	4.21	21.71	-0.3182	0.0001	0
232	SLE RA 8		0	4.12	20.97	-0.3115	0.0001	0
232	SLE RA 9		0	4.12	21.03	-0.3118	0.0001	0
232	SLE RA 10		0	5.14	29.08	-0.3836	0	0
232	SLE RA 11		0	4.98	27.28	-0.374	0.0001	0
232	SLE RA 12		0	4.99	27.34	-0.3742	0	0
232	SLE RA 13		0	4.9	26.71	-0.3679	0	0
232	SLE RA 14		0	4.75	24.91	-0.3583	0.0001	0
232	SLE RA 15		0	4.75	24.97	-0.3585	0	0
232	SLE RA 16		0	4.66	24.23	-0.3519	0.0001	0
232	SLE RA 17		0	4.66	24.29	-0.3521	0	0
232	SLE RA 18		0	5.36	30.38	-0.4005	0	0
232	SLE RA 19		0	5.37	30.44	-0.4007	0	0
232	SLE RA 20		0	5.13	28	-0.3848	0	0
232	SLE RA 21		0	5.13	28.06	-0.385	0	0
232	SLE FR 1		0	4.6	25.72	-0.3429	0.0001	0
232	SLE FR 2		0	4.6	25.74	-0.343	0.0001	0
232	SLE FR 3		0	4.5	24.77	-0.3367	0.0001	0
232	SLE FR 4		0	4.83	27.14	-0.3603	0.0001	0
232	SLE FR 5		0	4.73	26.17	-0.3539	0.0001	0
232	SLE FR 6		0	4.98	28.05	-0.3717	0.0001	0
232	SLE QP 1		0	4.6	25.72	-0.3429	0.0001	0
232	SLE QP 2		0	4.83	27.12	-0.3602	0.0001	0
232	SLD 1		-0.1	5.26	28.82	-0.3927	-0.0688	-0.0003
232	SLD 2		-0.1	5.26	28.82	-0.3927	-0.0688	-0.0003
232	SLD 3		-0.05	2.76	18.03	-0.229	-0.0344	-0.0004
232	SLD 4		-0.05	2.76	18.03	-0.229	-0.0344	-0.0004
232	SLD 5		-0.1	8.75	43.99	-0.6183	-0.0726	0.0001
232	SLD 6		-0.1	8.75	43.99	-0.6183	-0.0726	0.0001
232	SLD 7		0.06	0.41	8.03	-0.0725	0.0418	-0.0003
232	SLD 8		0.06	0.41	8.03	-0.0725	0.0418	-0.0003
232	SLD 9		-0.06	9.24	46.21	-0.6479	-0.0416	0.0003
232	SLD 10		-0.06	9.24	46.21	-0.6479	-0.0416	0.0003
232	SLD 11		0.11	0.9	10.24	-0.1021	0.0728	-0.0001
232	SLD 12		0.11	0.9	10.24	-0.1021	0.0728	-0.0001
232	SLD 13		0.05	6.89	36.2	-0.4915	0.0346	0.0004
232	SLD 14		0.05	6.89	36.2	-0.4915	0.0346	0.0004
232	SLD 15		0.1	4.39	25.41	-0.3277	0.0689	0.0003
232	SLD 16		0.1	4.39	25.41	-0.3277	0.0689	0.0003
232	SLV 1		-0.24	5.86	31.22	-0.4364	-0.1681	-0.0007
232	SLV 2		-0.24	5.86	31.22	-0.4364	-0.1681	-0.0007
232	SLV 3		-0.11	-0.04	5.47	-0.0505	-0.082	-0.001
232	SLV 4		-0.11	-0.04	5.47	-0.0505	-0.082	-0.001
232	SLV 5		-0.26	14.08	67.4	-0.9683	-0.181	0.0002
232	SLV 6		-0.26	14.08	67.4	-0.9683	-0.181	0.0002
232	SLV 7		0.16	-5.58	-18.43	0.3179	0.106	-0.0007
232	SLV 8		0.16	-5.58	-18.43	0.3179	0.106	-0.0007
232	SLV 9		-0.16	15.23	72.66	-1.0384	-0.1059	0.0007
232	SLV 10		-0.16	15.23	72.66	-1.0384	-0.1059	0.0007
232	SLV 11		0.26	-4.43	-13.17	0.2479	0.1811	-0.0003
232	SLV 12		0.26	-4.43	-13.17	0.2479	0.1811	-0.0003
232	SLV 13		0.12	9.69	48.77	-0.6699	0.0821	0.0009
232	SLV 14		0.12	9.69	48.77	-0.6699	0.0821	0.0009
232	SLV 15		0.24	3.79	23.02	-0.284	0.1682	0.0006
232	SLV 16		0.24	3.79	23.02	-0.284	0.1682	0.0006
233	SLU 1		0	4.54	54.01	-0.2339	0.0007	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
233	SLU 2		-0.02	4.79	54.64	-0.2589	-0.0149	0.0004
233	SLU 3		0	4.59	55.22	-0.2369	0.0006	0.0002
233	SLU 4		-0.01	4.74	55.6	-0.2519	-0.0088	0.0003
233	SLU 5		-0.02	4.79	55.21	-0.2597	-0.015	0.0004
233	SLU 6		0	4.59	55.79	-0.2377	0.0006	0.0002
233	SLU 7		-0.01	4.74	56.17	-0.2527	-0.0088	0.0003
233	SLU 8		0	4.54	55.15	-0.2355	0.0006	0.0002
233	SLU 9		-0.01	4.69	55.53	-0.2505	-0.0088	0.0003
233	SLU 10		-0.02	5.2	60.67	-0.2781	-0.0152	0.0004
233	SLU 11		-0.01	5	61.24	-0.2561	0.0003	0.0002
233	SLU 12		-0.02	5.15	61.62	-0.2711	-0.0091	0.0003
233	SLU 13		-0.02	5.2	61.23	-0.2789	-0.0153	0.0004
233	SLU 14		-0.01	5	61.81	-0.2569	0.0003	0.0002
233	SLU 15		-0.02	5.15	62.19	-0.2719	-0.0091	0.0003
233	SLU 16		-0.01	4.95	61.17	-0.2547	0.0003	0.0002
233	SLU 17		-0.02	5.1	61.55	-0.2697	-0.0091	0.0003
233	SLU 18		-0.01	5.13	62.62	-0.2613	0.0003	0.0002
233	SLU 19		-0.02	5.28	62.99	-0.2763	-0.0091	0.0003
233	SLU 20		-0.01	5.13	63.18	-0.2621	0.0002	0.0002
233	SLU 21		-0.02	5.28	63.56	-0.2771	-0.0092	0.0003
233	SLU 22		-0.01	4.93	59.89	-0.2526	0.0005	0.0002
233	SLU 23		-0.02	5.18	60.52	-0.2775	-0.0151	0.0004
233	SLU 24		-0.01	4.97	61.1	-0.2556	0.0004	0.0002
233	SLU 25		-0.02	5.12	61.48	-0.2705	-0.009	0.0003
233	SLU 26		-0.02	5.18	61.09	-0.2783	-0.0152	0.0004
233	SLU 27		-0.01	4.97	61.67	-0.2563	0.0004	0.0002
233	SLU 28		-0.02	5.12	62.05	-0.2713	-0.009	0.0003
233	SLU 29		-0.01	4.93	61.03	-0.2542	0.0004	0.0002
233	SLU 30		-0.02	5.08	61.41	-0.2691	-0.009	0.0003
233	SLU 31		-0.02	5.58	66.55	-0.2967	-0.0154	0.0004
233	SLU 32		-0.01	5.38	67.13	-0.2748	0.0001	0.0003
233	SLU 33		-0.02	5.53	67.5	-0.2897	-0.0093	0.0004
233	SLU 34		-0.02	5.58	67.11	-0.2975	-0.0155	0.0004
233	SLU 35		-0.01	5.38	67.69	-0.2755	0.0001	0.0003
233	SLU 36		-0.02	5.53	68.07	-0.2905	-0.0093	0.0004
233	SLU 37		-0.01	5.33	67.05	-0.2734	0.0001	0.0003
233	SLU 38		-0.02	5.48	67.43	-0.2883	-0.0093	0.0004
233	SLU 39		-0.01	5.51	68.5	-0.28	0.0001	0.0003
233	SLU 40		-0.02	5.66	68.88	-0.295	-0.0093	0.0004
233	SLU 41		-0.01	5.51	69.07	-0.2808	0	0.0003
233	SLU 42		-0.02	5.66	69.44	-0.2958	-0.0094	0.0004
233	SLU 43		-0.01	5.78	68.2	-0.2977	0.001	0.0002
233	SLU 44		-0.02	6.02	68.83	-0.3226	-0.0147	0.0004
233	SLU 45		-0.01	5.82	69.41	-0.3007	0.0009	0.0002
233	SLU 46		-0.02	5.97	69.79	-0.3156	-0.0085	0.0003
233	SLU 47		-0.02	6.02	69.4	-0.3234	-0.0147	0.0004
233	SLU 48		-0.01	5.82	69.98	-0.3014	0.0008	0.0002
233	SLU 49		-0.02	5.97	70.35	-0.3164	-0.0086	0.0003
233	SLU 50		-0.01	5.77	69.33	-0.2993	0.0009	0.0002
233	SLU 51		-0.02	5.92	69.71	-0.3142	-0.0085	0.0003
233	SLU 52		-0.02	6.43	74.85	-0.3418	-0.015	0.0004
233	SLU 53		-0.01	6.23	75.43	-0.3199	0.0006	0.0003
233	SLU 54		-0.02	6.38	75.81	-0.3348	-0.0088	0.0004
233	SLU 55		-0.02	6.43	75.42	-0.3426	-0.015	0.0004
233	SLU 56		-0.01	6.23	76	-0.3207	0.0005	0.0003
233	SLU 57		-0.02	6.38	76.38	-0.3356	-0.0089	0.0004
233	SLU 58		-0.01	6.18	75.36	-0.3185	0.0006	0.0003
233	SLU 59		-0.02	6.33	75.74	-0.3334	-0.0088	0.0004
233	SLU 60		-0.01	6.36	76.8	-0.3251	0.0006	0.0003
233	SLU 61		-0.02	6.51	77.18	-0.3401	-0.0088	0.0004
233	SLU 62		-0.01	6.36	77.37	-0.3259	0.0005	0.0003
233	SLU 63		-0.02	6.51	77.75	-0.3409	-0.0089	0.0004
233	SLU 64		-0.01	6.16	74.08	-0.3163	0.0008	0.0003
233	SLU 65		-0.02	6.41	74.71	-0.3413	-0.0149	0.0004
233	SLU 66		-0.01	6.21	75.29	-0.3193	0.0007	0.0003
233	SLU 67		-0.02	6.36	75.67	-0.3343	-0.0087	0.0004
233	SLU 68		-0.02	6.41	75.28	-0.3421	-0.0149	0.0004
233	SLU 69		-0.01	6.21	75.86	-0.3201	0.0006	0.0003
233	SLU 70		-0.02	6.35	76.24	-0.3351	-0.0088	0.0004
233	SLU 71		-0.01	6.16	75.22	-0.3179	0.0007	0.0003
233	SLU 72		-0.02	6.31	75.59	-0.3329	-0.0087	0.0004
233	SLU 73		-0.02	6.82	80.73	-0.3605	-0.0151	0.0005
233	SLU 74		-0.01	6.61	81.31	-0.3385	0.0004	0.0003
233	SLU 75		-0.02	6.76	81.69	-0.3535	-0.009	0.0004
233	SLU 76		-0.02	6.82	81.3	-0.3613	-0.0152	0.0005
233	SLU 77		-0.01	6.61	81.88	-0.3393	0.0004	0.0003
233	SLU 78		-0.02	6.76	82.26	-0.3543	-0.009	0.0004
233	SLU 79		-0.01	6.57	81.24	-0.3371	0.0004	0.0003
233	SLU 80		-0.02	6.72	81.62	-0.3521	-0.009	0.0004
233	SLU 81		-0.01	6.74	82.68	-0.3438	0.0004	0.0003
233	SLU 82		-0.02	6.89	83.06	-0.3587	-0.009	0.0004
233	SLU 83		-0.01	6.74	83.25	-0.3446	0.0003	0.0003
233	SLU 84		-0.02	6.89	83.63	-0.3595	-0.0091	0.0004
233	SLE RA 1		0	4.65	55.69	-0.2392	0.0007	0.0002
233	SLE RA 2		-0.02	4.82	56.11	-0.2559	-0.0098	0.0003
233	SLE RA 3		0	4.68	56.5	-0.2412	0.0006	0.0002
233	SLE RA 4		-0.01	4.78	56.75	-0.2512	-0.0057	0.0003
233	SLE RA 5		-0.02	4.82	56.49	-0.2564	-0.0098	0.0003
233	SLE RA 6		0	4.68	56.88	-0.2418	0.0006	0.0002
233	SLE RA 7		-0.01	4.78	57.13	-0.2517	-0.0057	0.0003



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
233	SLE RA 8	0	4.65	56.45	-0.2403	0.0006	0.0002
233	SLE RA 9	-0.01	4.75	56.7	-0.2503	-0.0057	0.0003
233	SLE RA 10	-0.02	5.09	60.13	-0.2687	-0.01	0.0003
233	SLE RA 11	-0.01	4.96	60.51	-0.254	0.0004	0.0002
233	SLE RA 12	-0.01	5.06	60.77	-0.264	-0.0059	0.0003
233	SLE RA 13	-0.02	5.09	60.51	-0.2692	-0.01	0.0003
233	SLE RA 14	-0.01	4.96	60.89	-0.2546	0.0004	0.0002
233	SLE RA 15	-0.01	5.06	61.14	-0.2645	-0.0059	0.0003
233	SLE RA 16	-0.01	4.92	60.46	-0.2531	0.0004	0.0002
233	SLE RA 17	-0.01	5.02	60.72	-0.2631	-0.0059	0.0003
233	SLE RA 18	-0.01	5.04	61.43	-0.2575	0.0004	0.0002
233	SLE RA 19	-0.01	5.14	61.68	-0.2675	-0.0059	0.0003
233	SLE RA 20	-0.01	5.04	61.81	-0.2581	0.0003	0.0002
233	SLE RA 21	-0.01	5.14	62.06	-0.268	-0.0059	0.0003
233	SLE FR 1	0	4.65	55.69	-0.2392	0.0007	0.0002
233	SLE FR 2	-0.01	4.69	55.78	-0.2426	-0.0014	0.0002
233	SLE FR 3	0	4.65	55.84	-0.2394	0.0006	0.0002
233	SLE FR 4	-0.01	4.8	57.5	-0.2481	-0.0015	0.0002
233	SLE FR 5	0	4.77	57.56	-0.2449	0.0006	0.0002
233	SLE FR 6	-0.01	4.85	58.56	-0.2484	0.0005	0.0002
233	SLE QP 1	0	4.65	55.69	-0.2392	0.0007	0.0002
233	SLE QP 2	0	4.77	57.41	-0.2447	0.0006	0.0002
233	SLD 1	0.31	4.42	45.79	-0.2463	0.2605	-0.0028
233	SLD 2	0.31	4.42	45.79	-0.2463	0.2605	-0.0028
233	SLD 3	0.18	2.33	40.36	-0.0944	0.1491	-0.0012
233	SLD 4	0.18	2.33	40.36	-0.0944	0.1491	-0.0012
233	SLD 5	0.29	7.84	62.16	-0.4757	0.2476	-0.0031
233	SLD 6	0.29	7.84	62.16	-0.4757	0.2476	-0.0031
233	SLD 7	-0.15	0.86	44.06	0.0309	-0.1239	0.0021
233	SLD 8	-0.15	0.86	44.06	0.0309	-0.1239	0.0021
233	SLD 9	0.14	8.68	70.76	-0.5203	0.125	-0.0017
233	SLD 10	0.14	8.68	70.76	-0.5203	0.125	-0.0017
233	SLD 11	-0.3	1.7	52.66	-0.0138	-0.2464	0.0035
233	SLD 12	-0.3	1.7	52.66	-0.0138	-0.2464	0.0035
233	SLD 13	-0.19	7.21	74.46	-0.3951	-0.1479	0.0016
233	SLD 14	-0.19	7.21	74.46	-0.3951	-0.1479	0.0016
233	SLD 15	-0.32	5.12	69.03	-0.2431	-0.2593	0.0032
233	SLD 16	-0.32	5.12	69.03	-0.2431	-0.2593	0.0032
233	SLV 1	0.76	3.94	30.17	-0.2469	0.6316	-0.007
233	SLV 2	0.76	3.94	30.17	-0.2469	0.6316	-0.007
233	SLV 3	0.42	-0.93	17.54	0.1064	0.3489	-0.0031
233	SLV 4	0.42	-0.93	17.54	0.1064	0.3489	-0.0031
233	SLV 5	0.74	11.9	68.4	-0.7812	0.6186	-0.0079
233	SLV 6	0.74	11.9	68.4	-0.7812	0.6186	-0.0079
233	SLV 7	-0.39	-4.32	26.3	0.3964	-0.3237	0.0052
233	SLV 8	-0.39	-4.32	26.3	0.3964	-0.3237	0.0052
233	SLV 9	0.38	13.86	88.53	-0.8859	0.3248	-0.0048
233	SLV 10	0.38	13.86	88.53	-0.8859	0.3248	-0.0048
233	SLV 11	-0.75	-2.36	46.43	0.2917	-0.6175	0.0083
233	SLV 12	-0.75	-2.36	46.43	0.2917	-0.6175	0.0083
233	SLV 13	-0.43	10.47	97.28	-0.5958	-0.3477	0.0035
233	SLV 14	-0.43	10.47	97.28	-0.5958	-0.3477	0.0035
233	SLV 15	-0.77	5.6	84.65	-0.2425	-0.6304	0.0074
233	SLV 16	-0.77	5.6	84.65	-0.2425	-0.6304	0.0074
234	SLU 1	-0.35	4.93	50.78	-0.3125	-0.2275	-0.0001
234	SLU 2	-0.32	5.27	51.44	-0.3299	-0.2065	0
234	SLU 3	-0.36	5.07	52.29	-0.3216	-0.2345	-0.0001
234	SLU 4	-0.34	5.28	52.69	-0.332	-0.2218	-0.0001
234	SLU 5	-0.33	5.39	52.48	-0.3367	-0.2106	0
234	SLU 6	-0.36	5.19	53.33	-0.3284	-0.2386	-0.0001
234	SLU 7	-0.35	5.4	53.73	-0.3388	-0.226	-0.0001
234	SLU 8	-0.36	5.16	52.86	-0.3261	-0.2359	-0.0001
234	SLU 9	-0.34	5.37	53.26	-0.3365	-0.2232	-0.0001
234	SLU 10	-0.36	5.72	56.76	-0.3597	-0.2352	-0.0001
234	SLU 11	-0.4	5.52	57.61	-0.3515	-0.2632	-0.0001
234	SLU 12	-0.38	5.73	58.01	-0.3619	-0.2505	-0.0001
234	SLU 13	-0.37	5.83	57.8	-0.3665	-0.2393	-0.0001
234	SLU 14	-0.41	5.64	58.65	-0.3583	-0.2673	-0.0001
234	SLU 15	-0.39	5.85	59.05	-0.3687	-0.2547	-0.0001
234	SLU 16	-0.4	5.61	58.18	-0.356	-0.2646	-0.0001
234	SLU 17	-0.39	5.82	58.58	-0.3664	-0.2519	-0.0001
234	SLU 18	-0.41	5.57	58.38	-0.3552	-0.2685	-0.0001
234	SLU 19	-0.39	5.77	58.78	-0.3656	-0.2559	-0.0001
234	SLU 20	-0.41	5.68	59.42	-0.362	-0.2727	-0.0001
234	SLU 21	-0.4	5.89	59.82	-0.3724	-0.2601	-0.0001
234	SLU 22	-0.39	5.39	56.24	-0.3434	-0.2564	-0.0001
234	SLU 23	-0.36	5.74	56.9	-0.3608	-0.2354	-0.0001
234	SLU 24	-0.4	5.54	57.74	-0.3525	-0.2633	-0.0001
234	SLU 25	-0.38	5.75	58.14	-0.3629	-0.2507	-0.0001
234	SLU 26	-0.37	5.86	57.94	-0.3676	-0.2395	-0.0001
234	SLU 27	-0.41	5.66	58.78	-0.3593	-0.2675	-0.0001
234	SLU 28	-0.39	5.87	59.18	-0.3697	-0.2549	-0.0001
234	SLU 29	-0.4	5.63	58.32	-0.3571	-0.2648	-0.0001
234	SLU 30	-0.39	5.84	58.71	-0.3675	-0.2521	-0.0001
234	SLU 31	-0.41	6.19	62.22	-0.3906	-0.2641	-0.0001
234	SLU 32	-0.44	5.99	63.07	-0.3824	-0.2921	-0.0001
234	SLU 33	-0.43	6.2	63.46	-0.3928	-0.2794	-0.0001
234	SLU 34	-0.41	6.3	63.26	-0.3974	-0.2682	-0.0001
234	SLU 35	-0.45	6.11	64.11	-0.3892	-0.2962	-0.0001
234	SLU 36	-0.43	6.31	64.5	-0.3996	-0.2836	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
234	SLU 37			-0.45	6.08	63.64	-0.3869	-0.2935	-0.0001
234	SLU 38			-0.43	6.28	64.03	-0.3973	-0.2808	-0.0001
234	SLU 39			-0.45	6.03	63.84	-0.3861	-0.2974	-0.0001
234	SLU 40			-0.44	6.24	64.23	-0.3965	-0.2848	-0.0001
234	SLU 41			-0.46	6.15	64.88	-0.3929	-0.3016	-0.0001
234	SLU 42			-0.44	6.36	65.27	-0.4033	-0.289	-0.0001
234	SLU 43			-0.43	6.24	64.15	-0.3957	-0.2859	-0.0001
234	SLU 44			-0.41	6.58	64.81	-0.413	-0.2648	-0.0001
234	SLU 45			-0.44	6.39	65.65	-0.4048	-0.2928	-0.0001
234	SLU 46			-0.43	6.6	66.05	-0.4152	-0.2802	-0.0001
234	SLU 47			-0.42	6.7	65.85	-0.4198	-0.269	-0.0001
234	SLU 48			-0.45	6.51	66.69	-0.4116	-0.297	-0.0001
234	SLU 49			-0.44	6.71	67.09	-0.422	-0.2843	-0.0001
234	SLU 50			-0.45	6.48	66.23	-0.4093	-0.2942	-0.0001
234	SLU 51			-0.43	6.68	66.62	-0.4197	-0.2816	-0.0001
234	SLU 52			-0.45	7.03	70.13	-0.4429	-0.2935	-0.0001
234	SLU 53			-0.49	6.84	70.98	-0.4346	-0.3215	-0.0001
234	SLU 54			-0.47	7.04	71.37	-0.445	-0.3089	-0.0001
234	SLU 55			-0.46	7.15	71.17	-0.4497	-0.2977	-0.0001
234	SLU 56			-0.49	6.96	72.02	-0.4414	-0.3257	-0.0001
234	SLU 57			-0.48	7.16	72.41	-0.4518	-0.3131	-0.0001
234	SLU 58			-0.49	6.93	71.55	-0.4392	-0.3229	-0.0001
234	SLU 59			-0.48	7.13	71.94	-0.4496	-0.3103	-0.0001
234	SLU 60			-0.5	6.88	71.75	-0.4383	-0.3269	-0.0001
234	SLU 61			-0.48	7.09	72.14	-0.4487	-0.3142	-0.0001
234	SLU 62			-0.5	7	72.79	-0.4451	-0.3311	-0.0001
234	SLU 63			-0.49	7.21	73.18	-0.4555	-0.3184	-0.0001
234	SLU 64			-0.48	6.71	69.6	-0.4266	-0.3148	-0.0001
234	SLU 65			-0.45	7.05	70.26	-0.4439	-0.2937	-0.0001
234	SLU 66			-0.49	6.86	71.11	-0.4357	-0.3217	-0.0001
234	SLU 67			-0.47	7.07	71.5	-0.4461	-0.3091	-0.0001
234	SLU 68			-0.46	7.17	71.3	-0.4507	-0.2979	-0.0001
234	SLU 69			-0.5	6.98	72.15	-0.4425	-0.3259	-0.0001
234	SLU 70			-0.48	7.18	72.54	-0.4529	-0.3132	-0.0001
234	SLU 71			-0.49	6.95	71.68	-0.4402	-0.3231	-0.0001
234	SLU 72			-0.48	7.15	72.08	-0.4506	-0.3105	-0.0001
234	SLU 73			-0.5	7.5	75.58	-0.4738	-0.3224	-0.0001
234	SLU 74			-0.53	7.31	76.43	-0.4655	-0.3504	-0.0001
234	SLU 75			-0.52	7.51	76.83	-0.4759	-0.3378	-0.0001
234	SLU 76			-0.5	7.62	76.62	-0.4806	-0.3266	-0.0001
234	SLU 77			-0.54	7.43	77.47	-0.4724	-0.3546	-0.0001
234	SLU 78			-0.52	7.63	77.87	-0.4828	-0.3419	-0.0001
234	SLU 79			-0.53	7.4	77	-0.4701	-0.3518	-0.0001
234	SLU 80			-0.52	7.6	77.4	-0.4805	-0.3392	-0.0001
234	SLU 81			-0.54	7.35	77.2	-0.4692	-0.3558	-0.0001
234	SLU 82			-0.52	7.56	77.6	-0.4796	-0.3431	-0.0001
234	SLU 83			-0.55	7.47	78.24	-0.4761	-0.3599	-0.0001
234	SLU 84			-0.53	7.67	78.64	-0.4865	-0.3473	-0.0001
234	SLE RA 1			-0.36	5.06	52.34	-0.3213	-0.2358	-0.0001
234	SLE RA 2			-0.34	5.29	52.78	-0.3329	-0.2217	-0.0001
234	SLE RA 3			-0.37	5.16	53.35	-0.3274	-0.2404	-0.0001
234	SLE RA 4			-0.36	5.3	53.61	-0.3343	-0.232	-0.0001
234	SLE RA 5			-0.35	5.37	53.47	-0.3374	-0.2245	-0.0001
234	SLE RA 6			-0.37	5.24	54.04	-0.3319	-0.2432	-0.0001
234	SLE RA 7			-0.36	5.37	54.3	-0.3389	-0.2348	-0.0001
234	SLE RA 8			-0.37	5.22	53.73	-0.3304	-0.2413	-0.0001
234	SLE RA 9			-0.36	5.35	53.99	-0.3374	-0.2329	-0.0001
234	SLE RA 10			-0.37	5.59	56.33	-0.3528	-0.2409	-0.0001
234	SLE RA 11			-0.39	5.46	56.89	-0.3473	-0.2595	-0.0001
234	SLE RA 12			-0.38	5.59	57.16	-0.3543	-0.2511	-0.0001
234	SLE RA 13			-0.37	5.67	57.02	-0.3574	-0.2437	-0.0001
234	SLE RA 14			-0.4	5.54	57.59	-0.3519	-0.2623	-0.0001
234	SLE RA 15			-0.39	5.67	57.85	-0.3588	-0.2539	-0.0001
234	SLE RA 16			-0.4	5.52	57.27	-0.3503	-0.2605	-0.0001
234	SLE RA 17			-0.39	5.65	57.54	-0.3573	-0.2521	-0.0001
234	SLE RA 18			-0.4	5.49	57.41	-0.3498	-0.2631	-0.0001
234	SLE RA 19			-0.39	5.62	57.67	-0.3567	-0.2547	-0.0001
234	SLE RA 20			-0.4	5.56	58.1	-0.3543	-0.2659	-0.0001
234	SLE RA 21			-0.39	5.7	58.37	-0.3613	-0.2575	-0.0001
234	SLE FR 1			-0.36	5.06	52.34	-0.3213	-0.2358	-0.0001
234	SLE FR 2			-0.35	5.1	52.43	-0.3237	-0.233	-0.0001
234	SLE FR 3			-0.36	5.09	52.62	-0.3232	-0.2369	-0.0001
234	SLE FR 4			-0.37	5.23	53.95	-0.3322	-0.2412	-0.0001
234	SLE FR 5			-0.37	5.22	54.14	-0.3317	-0.2451	-0.0001
234	SLE FR 6			-0.38	5.27	54.87	-0.3356	-0.2494	-0.0001
234	SLE QP 1			-0.36	5.06	52.34	-0.3213	-0.2358	-0.0001
234	SLE QP 2			-0.37	5.19	53.86	-0.3299	-0.244	-0.0001
234	SLD 1			-0.66	8.07	70.76	-0.4966	-0.4429	0
234	SLD 2			-0.66	8.07	70.76	-0.4966	-0.4429	0
234	SLD 3			-0.8	5.51	65.1	-0.3537	-0.5473	0.0002
234	SLD 4			-0.8	5.51	65.1	-0.3537	-0.5473	0.0002
234	SLD 5			-0.25	9.94	67.52	-0.5965	-0.1452	-0.0003
234	SLD 6			-0.25	9.94	67.52	-0.5965	-0.1452	-0.0003
234	SLD 7			-0.71	1.4	48.64	-0.1204	-0.4934	0.0002
234	SLD 8			-0.71	1.4	48.64	-0.1204	-0.4934	0.0002
234	SLD 9			-0.03	8.97	59.08	-0.5393	0.0054	-0.0004
234	SLD 10			-0.03	8.97	59.08	-0.5393	0.0054	-0.0004
234	SLD 11			-0.49	0.44	40.2	-0.0633	-0.3427	0.0001
234	SLD 12			-0.49	0.44	40.2	-0.0633	-0.3427	0.0001
234	SLD 13			0.06	4.87	42.62	-0.306	0.0593	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
234	SLD 14		0.06	4.87	42.62	-0.306	0.0593	-0.0004
234	SLD 15		-0.08	2.3	36.96	-0.1632	-0.0451	-0.0002
234	SLD 16		-0.08	2.3	36.96	-0.1632	-0.0451	-0.0002
234	SLV 1		-1.06	11.96	93.36	-0.7207	-0.7076	0.0002
234	SLV 2		-1.06	11.96	93.36	-0.7207	-0.7076	0.0002
234	SLV 3		-1.39	6	80.19	-0.3885	-0.9651	0.0006
234	SLV 4		-1.39	6	80.19	-0.3885	-0.9651	0.0006
234	SLV 5		-0.07	16.27	85.68	-0.951	0.0075	-0.0006
234	SLV 6		-0.07	16.27	85.68	-0.951	0.0075	-0.0006
234	SLV 7		-1.19	-3.62	41.79	0.1564	-0.8509	0.0007
234	SLV 8		-1.19	-3.62	41.79	0.1564	-0.8509	0.0007
234	SLV 9		0.44	13.99	65.93	-0.8162	-0.3629	-0.0009
234	SLV 10		0.44	13.99	65.93	-0.8162	0.3629	-0.0009
234	SLV 11		-0.67	-5.89	22.04	0.2913	-0.4955	0.0005
234	SLV 12		-0.67	-5.89	22.04	0.2913	-0.4955	0.0005
234	SLV 13		0.65	4.38	27.53	-0.2713	0.4772	-0.0007
234	SLV 14		0.65	4.38	27.53	-0.2713	0.4772	-0.0007
234	SLV 15		0.31	-1.59	14.36	0.061	0.2196	-0.0003
234	SLV 16		0.31	-1.59	14.36	0.061	0.2196	-0.0003
235	SLU 1		0	3.36	42.78	-0.1282	-0.0023	0
235	SLU 2		0	3.43	42.23	-0.1311	-0.0016	0
235	SLU 3		0	3.46	44.63	-0.1319	-0.0025	0
235	SLU 4		0	3.5	44.3	-0.1336	-0.002	0
235	SLU 5		0	3.52	43.73	-0.1344	-0.0017	0
235	SLU 6		0	3.55	46.13	-0.1351	-0.0025	0
235	SLU 7		0	3.6	45.79	-0.1369	-0.0021	0
235	SLU 8		0	3.54	45.78	-0.1348	-0.0025	0
235	SLU 9		0	3.59	45.44	-0.1365	-0.0021	0
235	SLU 10		0	3.85	49.71	-0.1478	-0.0021	0
235	SLU 11		0	3.88	52.11	-0.1485	-0.0029	0.0001
235	SLU 12		0	3.93	51.78	-0.1502	-0.0025	0
235	SLU 13		0	3.95	51.21	-0.151	-0.0021	0
235	SLU 14		0	3.97	53.6	-0.1518	-0.003	0.0001
235	SLU 15		0	4.02	53.27	-0.1535	-0.0026	0
235	SLU 16		0	3.97	53.26	-0.1514	-0.0029	0.0001
235	SLU 17		0	4.01	52.92	-0.1531	-0.0025	0
235	SLU 18		0	3.96	53.47	-0.152	-0.003	0.0001
235	SLU 19		0	4.01	53.14	-0.1537	-0.0025	0
235	SLU 20		0	4.05	54.97	-0.1553	-0.0031	0.0001
235	SLU 21		0	4.1	54.63	-0.157	-0.0026	0
235	SLU 22		0	3.78	50.06	-0.1446	-0.0028	0
235	SLU 23		0	3.85	49.51	-0.1475	-0.0021	0
235	SLU 24		0	3.88	51.91	-0.1482	-0.0029	0.0001
235	SLU 25		0	3.92	51.57	-0.15	-0.0025	0
235	SLU 26		0	3.94	51	-0.1508	-0.0021	0
235	SLU 27		0	3.97	53.4	-0.1515	-0.003	0.0001
235	SLU 28		0	4.02	53.07	-0.1532	-0.0025	0
235	SLU 29		0	3.96	53.05	-0.1511	-0.0029	0.0001
235	SLU 30		0	4.01	52.72	-0.1529	-0.0025	0
235	SLU 31		0	4.27	56.99	-0.1641	-0.0025	0
235	SLU 32		0	4.3	59.39	-0.1648	-0.0033	0.0001
235	SLU 33		0	4.35	59.05	-0.1666	-0.0029	0.0001
235	SLU 34		0	4.37	58.48	-0.1674	-0.0026	0
235	SLU 35		0	4.39	60.88	-0.1681	-0.0034	0.0001
235	SLU 36		0	4.44	60.55	-0.1699	-0.003	0.0001
235	SLU 37		0	4.39	60.53	-0.1678	-0.0034	0.0001
235	SLU 38		0	4.43	60.2	-0.1695	-0.003	0.0001
235	SLU 39		0	4.38	60.75	-0.1683	-0.0034	0.0001
235	SLU 40		0	4.43	60.41	-0.1701	-0.003	0.0001
235	SLU 41		0	4.47	62.24	-0.1716	-0.0035	0.0001
235	SLU 42		0	4.52	61.91	-0.1734	-0.0031	0.0001
235	SLU 43		0	4.22	53.13	-0.1611	-0.0029	0.0001
235	SLU 44		0	4.29	52.57	-0.164	-0.0022	0
235	SLU 45		0	4.32	54.97	-0.1647	-0.003	0.0001
235	SLU 46		0	4.37	54.64	-0.1665	-0.0026	0
235	SLU 47		0	4.39	54.07	-0.1673	-0.0022	0
235	SLU 48		0	4.41	56.47	-0.168	-0.0031	0.0001
235	SLU 49		0	4.46	56.13	-0.1697	-0.0027	0
235	SLU 50		0	4.4	56.12	-0.1676	-0.003	0.0001
235	SLU 51		0	4.45	55.78	-0.1694	-0.0026	0
235	SLU 52		0	4.72	60.05	-0.1806	-0.0026	0
235	SLU 53		0	4.74	62.45	-0.1814	-0.0035	0.0001
235	SLU 54		0	4.79	62.12	-0.1831	-0.003	0.0001
235	SLU 55		0	4.81	61.55	-0.1839	-0.0027	0
235	SLU 56		0	4.84	63.95	-0.1846	-0.0035	0.0001
235	SLU 57		0	4.88	63.61	-0.1864	-0.0031	0.0001
235	SLU 58		0	4.83	63.6	-0.1843	-0.0035	0.0001
235	SLU 59		0	4.87	63.26	-0.186	-0.0031	0.0001
235	SLU 60		0	4.82	63.81	-0.1848	-0.0035	0.0001
235	SLU 61		0	4.87	63.48	-0.1866	-0.0031	0.0001
235	SLU 62		0	4.92	65.31	-0.1881	-0.0036	0.0001
235	SLU 63		0	4.96	64.97	-0.1899	-0.0032	0.0001
235	SLU 64		0	4.64	60.4	-0.1775	-0.0033	0.0001
235	SLU 65		0	4.71	59.85	-0.1804	-0.0026	0
235	SLU 66		0	4.74	62.25	-0.1811	-0.0034	0.0001
235	SLU 67		0	4.79	61.91	-0.1828	-0.003	0.0001
235	SLU 68		0	4.81	61.34	-0.1836	-0.0027	0
235	SLU 69		0	4.83	63.74	-0.1844	-0.0035	0.0001
235	SLU 70		0	4.88	63.41	-0.1861	-0.0031	0.0001
235	SLU 71		0	4.82	63.39	-0.184	-0.0035	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
235	SLU 72		0	4.87	63.06	-0.1857	-0.0031	0.0001
235	SLU 73		0	5.14	67.33	-0.197	-0.0031	0.0001
235	SLU 74		0	5.16	69.73	-0.1977	-0.0039	0.0001
235	SLU 75		0	5.21	69.39	-0.1995	-0.0035	0.0001
235	SLU 76		0	5.23	68.82	-0.2003	-0.0031	0.0001
235	SLU 77		0	5.26	71.22	-0.201	-0.004	0.0001
235	SLU 78		0	5.3	70.89	-0.2027	-0.0035	0.0001
235	SLU 79		0	5.25	70.87	-0.2006	-0.0039	0.0001
235	SLU 80		0	5.29	70.54	-0.2024	-0.0035	0.0001
235	SLU 81		0	5.24	71.09	-0.2012	-0.004	0.0001
235	SLU 82		0	5.29	70.75	-0.2029	-0.0035	0.0001
235	SLU 83		0	5.34	72.58	-0.2045	-0.004	0.0001
235	SLU 84		0	5.38	72.25	-0.2062	-0.0036	0.0001
235	SLE RA 1		0	3.48	44.86	-0.1329	-0.0025	0
235	SLE RA 2		0	3.53	44.49	-0.1348	-0.002	0
235	SLE RA 3		0	3.54	46.09	-0.1353	-0.0025	0
235	SLE RA 4		0	3.57	45.87	-0.1365	-0.0023	0
235	SLE RA 5		0	3.59	45.49	-0.137	-0.002	0
235	SLE RA 6		0	3.61	47.09	-0.1375	-0.0026	0
235	SLE RA 7		0	3.64	46.87	-0.1387	-0.0023	0
235	SLE RA 8		0	3.6	46.86	-0.1373	-0.0026	0
235	SLE RA 9		0	3.63	46.64	-0.1384	-0.0023	0
235	SLE RA 10		0	3.81	49.48	-0.1459	-0.0023	0
235	SLE RA 11		0	3.83	51.08	-0.1464	-0.0028	0.0001
235	SLE RA 12		0	3.86	50.86	-0.1476	-0.0026	0
235	SLE RA 13		0	3.87	50.48	-0.1481	-0.0023	0
235	SLE RA 14		0	3.89	52.08	-0.1486	-0.0029	0.0001
235	SLE RA 15		0	3.92	51.86	-0.1498	-0.0026	0
235	SLE RA 16		0	3.88	51.84	-0.1484	-0.0029	0.0001
235	SLE RA 17		0	3.91	51.62	-0.1495	-0.0026	0
235	SLE RA 18		0	3.88	51.99	-0.1487	-0.0029	0.0001
235	SLE RA 19		0	3.91	51.77	-0.1499	-0.0026	0
235	SLE RA 20		0	3.94	52.98	-0.1509	-0.0029	0.0001
235	SLE RA 21		0	3.97	52.76	-0.1521	-0.0027	0
235	SLE FR 1		0	3.48	44.86	-0.1329	-0.0025	0
235	SLE FR 2		0	3.49	44.79	-0.1333	-0.0024	0
235	SLE FR 3		0	3.5	45.26	-0.1338	-0.0025	0
235	SLE FR 4		0	3.61	46.93	-0.138	-0.0025	0
235	SLE FR 5		0	3.62	47.4	-0.1385	-0.0026	0
235	SLE FR 6		0	3.68	48.43	-0.1408	-0.0027	0
235	SLE QP 1		0	3.48	44.86	-0.1329	-0.0025	0
235	SLE QP 2		0	3.6	47	-0.1377	-0.0026	0
235	SLD 1	0.21	6.49	50.19	-0.2559	0.1987	-0.0038	
235	SLD 2	0.21	6.49	50.19	-0.2559	0.1987	-0.0038	
235	SLD 3	0.26	3.14	47.24	-0.1174	0.2482	-0.0048	
235	SLD 4	0.26	3.14	47.24	-0.1174	0.2482	-0.0048	
235	SLD 5	-0.02	9.55	52.43	-0.3832	-0.0172	0.0003	
235	SLD 6	-0.02	9.55	52.43	-0.3832	-0.0172	0.0003	
235	SLD 7	0.16	-1.63	42.6	0.0785	0.1477	-0.0028	
235	SLD 8	0.16	-1.63	42.6	0.0785	0.1477	-0.0028	
235	SLD 9	-0.16	8.82	51.4	-0.3538	-0.1528	0.0029	
235	SLD 10	-0.16	8.82	51.4	-0.3538	-0.1528	0.0029	
235	SLD 11	0.01	-2.36	41.57	0.1079	0.012	-0.0002	
235	SLD 12	0.01	-2.36	41.57	0.1079	0.012	-0.0002	
235	SLD 13	-0.27	4.06	46.76	-0.1579	-0.2534	0.0049	
235	SLD 14	-0.27	4.06	46.76	-0.1579	-0.2534	0.0049	
235	SLD 15	-0.22	0.7	43.81	-0.0194	-0.2039	0.0039	
235	SLD 16	-0.22	0.7	43.81	-0.0194	-0.2039	0.0039	
235	SLV 1	0.54	10.45	54.62	-0.4178	0.5116	-0.0098	
235	SLV 2	0.54	10.45	54.62	-0.4178	0.5116	-0.0098	
235	SLV 3	0.68	2.57	47.69	-0.0922	0.6381	-0.0122	
235	SLV 4	0.68	2.57	47.69	-0.0922	0.6381	-0.0122	
235	SLV 5	-0.04	17.61	59.8	-0.7156	-0.0402	0.0007	
235	SLV 6	-0.04	17.61	59.8	-0.7156	-0.0402	0.0007	
235	SLV 7	0.4	-8.67	36.7	0.3699	0.3815	-0.0073	
235	SLV 8	0.4	-8.67	36.7	0.3699	0.3815	-0.0073	
235	SLV 9	-0.41	15.87	57.31	-0.6452	-0.3867	0.0074	
235	SLV 10	-0.41	15.87	57.31	-0.6452	-0.3867	0.0074	
235	SLV 11	0.03	-10.42	34.2	0.4403	0.0351	-0.0007	
235	SLV 12	0.03	-10.42	34.2	0.4403	0.0351	-0.0007	
235	SLV 13	-0.68	4.63	46.31	-0.1831	-0.6433	0.0123	
235	SLV 14	-0.68	4.63	46.31	-0.1831	-0.6433	0.0123	
235	SLV 15	-0.55	-3.26	39.38	0.1425	-0.5168	0.0099	
235	SLV 16	-0.55	-3.26	39.38	0.1425	-0.5168	0.0099	
236	SLU 1		0	3.13	46.36	-0.1248	0.0004	0
236	SLU 2		0	3.24	45.97	-0.1291	-0.0002	0
236	SLU 3		0	3.31	48.35	-0.1322	0.0005	0
236	SLU 4		0	3.37	48.12	-0.1348	0.0002	0
236	SLU 5		0	3.44	47.56	-0.1378	-0.0001	0
236	SLU 6		0	3.5	49.94	-0.1409	0.0006	0
236	SLU 7		0	3.57	49.71	-0.1435	0.0003	0
236	SLU 8		0	3.53	49.53	-0.1422	0.0006	0
236	SLU 9		0	3.59	49.3	-0.1448	0.0003	0
236	SLU 10		0	3.55	53.91	-0.1415	-0.0001	0
236	SLU 11		0	3.62	56.29	-0.1445	0.0006	0
236	SLU 12		0	3.68	56.06	-0.1471	0.0002	0
236	SLU 13		0	3.75	55.5	-0.1502	0	0
236	SLU 14		0	3.82	57.88	-0.1532	0.0007	0
236	SLU 15		0	3.88	57.65	-0.1558	0.0003	0
236	SLU 16		0	3.84	57.47	-0.1545	0.0007	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
236	SLU 17		0	3.91	57.24	-0.1571	0.0004	0
236	SLU 18		0	3.58	57.7	-0.1424	0.0005	0
236	SLU 19		0	3.65	57.47	-0.145	0.0002	0
236	SLU 20		0	3.78	59.29	-0.1511	0.0006	0
236	SLU 21		0	3.84	59.05	-0.1537	0.0003	0
236	SLU 22		0	3.53	54.04	-0.1405	0.0005	0
236	SLU 23		0	3.63	53.66	-0.1449	-0.0001	0
236	SLU 24		0	3.7	56.04	-0.1479	0.0006	0
236	SLU 25		0	3.76	55.8	-0.1506	0.0003	0
236	SLU 26		0	3.83	55.24	-0.1536	0.0001	0
236	SLU 27		0	3.9	57.62	-0.1567	0.0007	0
236	SLU 28		0	3.96	57.39	-0.1593	0.0004	0
236	SLU 29		0	3.92	57.21	-0.1579	0.0007	0
236	SLU 30		0	3.98	56.98	-0.1606	0.0004	0
236	SLU 31		0	3.95	61.59	-0.1573	0	0
236	SLU 32		0	4.01	63.97	-0.1603	0.0007	0
236	SLU 33		0	4.08	63.74	-0.1629	0.0003	0
236	SLU 34		0	4.14	63.18	-0.166	0.0001	0
236	SLU 35		0	4.21	65.56	-0.169	0.0008	0
236	SLU 36		0	4.27	65.33	-0.1716	0.0005	0
236	SLU 37		0	4.24	65.15	-0.1703	0.0008	0
236	SLU 38		0	4.3	64.92	-0.1729	0.0005	0
236	SLU 39		0	3.98	65.38	-0.1582	0.0006	0
236	SLU 40		0	4.04	65.15	-0.1608	0.0003	0
236	SLU 41		0	4.17	66.97	-0.1669	0.0007	0
236	SLU 42		0	4.24	66.74	-0.1695	0.0004	0
236	SLU 43		0	3.94	57.63	-0.1568	0.0005	0
236	SLU 44		0	4.05	57.24	-0.1611	-0.0001	0
236	SLU 45		0	4.11	59.62	-0.1642	0.0006	0
236	SLU 46		0	4.17	59.39	-0.1668	0.0003	0
236	SLU 47		0	4.24	58.83	-0.1698	0	0
236	SLU 48		0	4.31	61.21	-0.1729	0.0007	0
236	SLU 49		0	4.37	60.98	-0.1755	0.0004	0
236	SLU 50		0	4.34	60.8	-0.1742	0.0007	0
236	SLU 51		0	4.4	60.57	-0.1768	0.0004	0
236	SLU 52		0	4.36	65.18	-0.1735	0	0
236	SLU 53		0	4.43	67.56	-0.1765	0.0007	0
236	SLU 54		0	4.49	67.33	-0.1791	0.0003	0
236	SLU 55		0	4.56	66.77	-0.1822	0.0001	0
236	SLU 56		0	4.62	69.15	-0.1852	0.0008	0
236	SLU 57		0	4.69	68.92	-0.1878	0.0004	0
236	SLU 58		0	4.65	68.74	-0.1865	0.0008	0
236	SLU 59		0	4.71	68.51	-0.1891	0.0004	0
236	SLU 60		0	4.39	68.97	-0.1744	0.0006	0
236	SLU 61		0	4.45	68.74	-0.177	0.0002	0
236	SLU 62		0	4.59	70.56	-0.1831	0.0007	0
236	SLU 63		0	4.65	70.33	-0.1857	0.0004	0
236	SLU 64		0	4.33	65.31	-0.1726	0.0006	0
236	SLU 65		0	4.44	64.93	-0.1769	0	0
236	SLU 66		0	4.5	67.31	-0.18	0.0007	0
236	SLU 67		0	4.57	67.08	-0.1826	0.0004	0
236	SLU 68		0	4.64	66.51	-0.1856	0.0001	0
236	SLU 69		0	4.7	68.89	-0.1887	0.0008	0
236	SLU 70		0	4.76	68.66	-0.1913	0.0005	0
236	SLU 71		0	4.73	68.49	-0.19	0.0008	0
236	SLU 72		0	4.79	68.26	-0.1926	0.0005	0
236	SLU 73		0	4.75	72.87	-0.1893	0.0001	0
236	SLU 74		0	4.82	75.25	-0.1923	0.0008	0
236	SLU 75		0	4.88	75.02	-0.1949	0.0004	0
236	SLU 76		0	4.95	74.45	-0.198	0.0002	0
236	SLU 77		0	5.02	76.83	-0.201	0.0009	0
236	SLU 78		0	5.08	76.6	-0.2036	0.0005	0
236	SLU 79		0	5.04	76.43	-0.2023	0.0009	0
236	SLU 80		0	5.11	76.19	-0.2049	0.0005	0
236	SLU 81		0	4.78	76.66	-0.1902	0.0007	0
236	SLU 82		0	4.85	76.42	-0.1928	0.0003	0
236	SLU 83		0	4.98	78.24	-0.1989	0.0008	0
236	SLU 84		0	5.04	78.01	-0.2015	0.0005	0
236	SLE RA 1		0	3.25	48.55	-0.1293	0.0004	0
236	SLE RA 2		0	3.32	48.3	-0.1322	0.0001	0
236	SLE RA 3		0	3.36	49.88	-0.1342	0.0005	0
236	SLE RA 4		0	3.4	49.73	-0.136	0.0003	0
236	SLE RA 5		0	3.45	49.35	-0.138	0.0001	0
236	SLE RA 6		0	3.49	50.94	-0.14	0.0006	0
236	SLE RA 7		0	3.53	50.79	-0.1418	0.0004	0
236	SLE RA 8		0	3.51	50.67	-0.1409	0.0006	0
236	SLE RA 9		0	3.55	50.51	-0.1426	0.0004	0
236	SLE RA 10		0	3.53	53.59	-0.1404	0.0001	0
236	SLE RA 11		0	3.57	55.18	-0.1424	0.0006	0
236	SLE RA 12		0	3.61	55.02	-0.1442	0.0003	0
236	SLE RA 13		0	3.66	54.65	-0.1462	0.0002	0
236	SLE RA 14		0	3.7	56.23	-0.1482	0.0006	0
236	SLE RA 15		0	3.74	56.08	-0.15	0.0004	0
236	SLE RA 16		0	3.72	55.96	-0.1491	0.0006	0
236	SLE RA 17		0	3.76	55.81	-0.1508	0.0004	0
236	SLE RA 18		0	3.55	56.11	-0.141	0.0005	0
236	SLE RA 19		0	3.59	55.96	-0.1428	0.0003	0
236	SLE RA 20		0	3.68	57.17	-0.1468	0.0006	0
236	SLE RA 21		0	3.72	57.02	-0.1486	0.0003	0
236	SLE FR 1		0	3.25	48.55	-0.1293	0.0004	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.		x	y	z	
236	SLE FR 2		0	3.26	48.5	-0.1298	0.0004	0
236	SLE FR 3		0	3.3	48.98	-0.1316	0.0005	0
236	SLE FR 4		0	3.35	50.77	-0.1334	0.0004	0
236	SLE FR 5		0	3.39	51.24	-0.1351	0.0005	0
236	SLE FR 6		0	3.4	52.33	-0.1351	0.0005	0
236	SLE QP 1		0	3.25	48.55	-0.1293	0.0004	0
236	SLE QP 2		0	3.34	50.82	-0.1328	0.0005	0
236	SLD 1		0.28	3.18	54.5	-0.1274	0.2552	-0.0003
236	SLD 2		0.28	3.18	54.5	-0.1274	0.2552	-0.0003
236	SLD 3		0.24	-1.25	51.27	0.0665	0.2217	-0.0003
236	SLD 4		0.24	-1.25	51.27	0.0665	0.2217	-0.0003
236	SLD 5		0.14	10.01	56.82	-0.4251	0.1278	-0.0002
236	SLD 6		0.14	10.01	56.82	-0.4251	0.1278	-0.0002
236	SLD 7		0.02	-4.76	46.06	0.221	0.0159	0
236	SLD 8		0.02	-4.76	46.06	0.221	0.0159	0
236	SLD 9		-0.02	11.43	55.58	-0.4865	-0.015	0
236	SLD 10		-0.02	11.43	55.58	-0.4865	-0.015	0
236	SLD 11		-0.14	-3.33	44.82	0.1596	-0.1269	0.0002
236	SLD 12		-0.14	-3.33	44.82	0.1596	-0.1269	0.0002
236	SLD 13		-0.24	7.92	50.37	-0.3321	-0.2208	0.0002
236	SLD 14		-0.24	7.92	50.37	-0.3321	-0.2208	0.0002
236	SLD 15		-0.28	3.49	47.15	-0.1382	-0.2543	0.0003
236	SLD 16		-0.28	3.49	47.15	-0.1382	-0.2543	0.0003
236	SLV 1		0.71	2.95	59.56	-0.1189	0.6499	-0.0007
236	SLV 2		0.71	2.95	59.56	-0.1189	0.6499	-0.0007
236	SLV 3		0.62	-7.49	51.93	0.3381	0.5645	-0.0006
236	SLV 4		0.62	-7.49	51.93	0.3381	0.5645	-0.0006
236	SLV 5		0.35	19.05	65.01	-0.8218	0.3248	-0.0004
236	SLV 6		0.35	19.05	65.01	-0.8218	0.3248	-0.0004
236	SLV 7		0.05	-15.75	39.58	0.7017	0.0402	0
236	SLV 8		0.05	-15.75	39.58	0.7017	0.0402	0
236	SLV 9		-0.05	22.42	62.06	-0.9672	-0.0393	0
236	SLV 10		-0.05	22.42	62.06	-0.9672	-0.0393	0
236	SLV 11		-0.35	-12.38	36.63	0.5562	-0.3238	0.0004
236	SLV 12		-0.35	-12.38	36.63	0.5562	-0.3238	0.0004
236	SLV 13		-0.62	14.17	49.71	-0.6037	-0.5636	0.0006
236	SLV 14		-0.62	14.17	49.71	-0.6037	-0.5636	0.0006
236	SLV 15		-0.71	3.73	42.08	-0.1466	-0.6489	0.0007
236	SLV 16		-0.71	3.73	42.08	-0.1466	-0.6489	0.0007
237	SLU 1		0	3.57	31.25	-0.1383	0.0009	0
237	SLU 2		0	3.57	31.31	-0.1385	0.001	0
237	SLU 3		0	3.38	30.05	-0.1269	0.0011	-0.0001
237	SLU 4		0	3.38	30.08	-0.127	0.0011	-0.0001
237	SLU 5		0	3.28	29.3	-0.1224	0.0012	-0.0001
237	SLU 6		0	3.1	28.04	-0.1107	0.0014	-0.0001
237	SLU 7		0	3.1	28.07	-0.1108	0.0014	-0.0001
237	SLU 8		0	3	27.23	-0.1059	0.0015	-0.0001
237	SLU 9		0	3	27.26	-0.1061	0.0015	-0.0001
237	SLU 10		0.01	4.27	37.01	-0.166	0.002	-0.0001
237	SLU 11		0.01	4.08	35.75	-0.1544	0.0021	-0.0001
237	SLU 12		0.01	4.09	35.79	-0.1545	0.0021	-0.0001
237	SLU 13		0.01	3.99	35	-0.1498	0.0023	-0.0001
237	SLU 14		0.01	3.8	33.74	-0.1382	0.0024	-0.0001
237	SLU 15		0.01	3.8	33.78	-0.1383	0.0024	-0.0001
237	SLU 16		0.01	3.7	32.94	-0.1334	0.0025	-0.0001
237	SLU 17		0.01	3.7	32.97	-0.1336	0.0025	-0.0001
237	SLU 18		0.01	4.57	39.4	-0.1776	0.0024	-0.0001
237	SLU 19		0.01	4.57	39.43	-0.1777	0.0024	-0.0001
237	SLU 20		0.01	4.29	37.39	-0.1614	0.0027	-0.0001
237	SLU 21		0.01	4.29	37.42	-0.1615	0.0027	-0.0001
237	SLU 22		0.01	4.06	35.48	-0.1556	0.0017	-0.0001
237	SLU 23		0.01	4.06	35.53	-0.1558	0.0017	-0.0001
237	SLU 24		0.01	3.87	34.27	-0.1442	0.0018	-0.0001
237	SLU 25		0.01	3.87	34.31	-0.1443	0.0019	-0.0001
237	SLU 26		0.01	3.78	33.52	-0.1397	0.002	-0.0001
237	SLU 27		0.01	3.59	32.26	-0.128	0.0021	-0.0001
237	SLU 28		0.01	3.59	32.3	-0.1281	0.0022	-0.0001
237	SLU 29		0.01	3.49	31.46	-0.1233	0.0022	-0.0001
237	SLU 30		0.01	3.49	31.49	-0.1234	0.0023	-0.0001
237	SLU 31		0.01	4.76	41.24	-0.1833	0.0027	-0.0001
237	SLU 32		0.01	4.58	39.98	-0.1717	0.0029	-0.0001
237	SLU 33		0.01	4.58	40.01	-0.1718	0.0029	-0.0001
237	SLU 34		0.01	4.48	39.23	-0.1671	0.003	-0.0001
237	SLU 35		0.01	4.29	37.97	-0.1555	0.0032	-0.0001
237	SLU 36		0.01	4.29	38	-0.1556	0.0032	-0.0001
237	SLU 37		0.01	4.19	37.16	-0.1507	0.0033	-0.0001
237	SLU 38		0.01	4.19	37.19	-0.1509	0.0033	-0.0001
237	SLU 39		0.01	5.06	43.63	-0.1949	0.0031	-0.0001
237	SLU 40		0.01	5.06	43.66	-0.195	0.0032	-0.0001
237	SLU 41		0.01	4.78	41.62	-0.1787	0.0034	-0.0001
237	SLU 42		0.01	4.78	41.65	-0.1788	0.0035	-0.0001
237	SLU 43		0	4.47	39.18	-0.1739	0.0009	-0.0001
237	SLU 44		0	4.47	39.23	-0.1741	0.001	-0.0001
237	SLU 45		0.01	4.28	37.97	-0.1624	0.0011	-0.0001
237	SLU 46		0.01	4.28	38.01	-0.1626	0.0011	-0.0001
237	SLU 47		0.01	4.18	37.22	-0.1579	0.0013	-0.0001
237	SLU 48		0.01	4	35.96	-0.1463	0.0014	-0.0001
237	SLU 49		0.01	4	36	-0.1464	0.0014	-0.0001
237	SLU 50		0.01	3.9	35.16	-0.1415	0.0015	-0.0001
237	SLU 51		0.01	3.9	35.19	-0.1416	0.0015	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
237	SLU 52		0.01	5.17	44.94	-0.2016	0.002	-0.0001
237	SLU 53		0.01	4.99	43.68	-0.1899	0.0021	-0.0001
237	SLU 54		0.01	4.99	43.71	-0.1901	0.0022	-0.0001
237	SLU 55		0.01	4.89	42.93	-0.1854	0.0023	-0.0001
237	SLU 56		0.01	4.7	41.67	-0.1738	0.0024	-0.0001
237	SLU 57		0.01	4.7	41.7	-0.1739	0.0024	-0.0001
237	SLU 58		0.01	4.6	40.86	-0.169	0.0025	-0.0001
237	SLU 59		0.01	4.6	40.89	-0.1691	0.0026	-0.0001
237	SLU 60		0.01	5.47	47.33	-0.2131	0.0024	-0.0001
237	SLU 61		0.01	5.47	47.36	-0.2133	0.0024	-0.0001
237	SLU 62		0.01	5.19	45.32	-0.197	0.0027	-0.0001
237	SLU 63		0.01	5.19	45.35	-0.1971	0.0027	-0.0001
237	SLU 64		0.01	4.96	43.4	-0.1912	0.0017	-0.0001
237	SLU 65		0.01	4.96	43.46	-0.1914	0.0017	-0.0001
237	SLU 66		0.01	4.77	42.2	-0.1798	0.0019	-0.0001
237	SLU 67		0.01	4.77	42.23	-0.1799	0.0019	-0.0001
237	SLU 68		0.01	4.68	41.45	-0.1752	0.002	-0.0001
237	SLU 69		0.01	4.49	40.19	-0.1636	0.0021	-0.0001
237	SLU 70		0.01	4.49	40.22	-0.1637	0.0022	-0.0001
237	SLU 71		0.01	4.39	39.38	-0.1588	0.0023	-0.0001
237	SLU 72		0.01	4.39	39.42	-0.1589	0.0023	-0.0001
237	SLU 73		0.01	5.66	49.16	-0.2189	0.0028	-0.0001
237	SLU 74		0.01	5.48	47.9	-0.2072	0.0029	-0.0001
237	SLU 75		0.01	5.48	47.94	-0.2074	0.0029	-0.0001
237	SLU 76		0.01	5.38	47.15	-0.2027	0.003	-0.0001
237	SLU 77		0.01	5.19	45.89	-0.1911	0.0032	-0.0001
237	SLU 78		0.01	5.19	45.93	-0.1912	0.0032	-0.0001
237	SLU 79		0.01	5.1	45.09	-0.1863	0.0033	-0.0001
237	SLU 80		0.01	5.1	45.12	-0.1864	0.0033	-0.0001
237	SLU 81		0.01	5.96	51.55	-0.2305	0.0032	-0.0001
237	SLU 82		0.01	5.97	51.58	-0.2306	0.0032	-0.0001
237	SLU 83		0.01	5.68	49.54	-0.2143	0.0034	-0.0001
237	SLU 84		0.01	5.68	49.57	-0.2144	0.0035	-0.0001
237	SLE RA 1		0	3.71	32.46	-0.1433	0.0011	-0.0001
237	SLE RA 2		0	3.71	32.49	-0.1434	0.0012	-0.0001
237	SLE RA 3		0	3.58	31.66	-0.1356	0.0012	-0.0001
237	SLE RA 4		0	3.58	31.68	-0.1357	0.0013	-0.0001
237	SLE RA 5		0	3.52	31.15	-0.1326	0.0013	-0.0001
237	SLE RA 6		0.01	3.39	30.32	-0.1249	0.0014	-0.0001
237	SLE RA 7		0.01	3.39	30.34	-0.1249	0.0015	-0.0001
237	SLE RA 8		0.01	3.33	29.78	-0.1217	0.0015	-0.0001
237	SLE RA 9		0.01	3.33	29.8	-0.1218	0.0015	-0.0001
237	SLE RA 10		0.01	4.18	36.3	-0.1617	0.0018	-0.0001
237	SLE RA 11		0.01	4.05	35.46	-0.154	0.0019	-0.0001
237	SLE RA 12		0.01	4.05	35.48	-0.1541	0.002	-0.0001
237	SLE RA 13		0.01	3.99	34.96	-0.1509	0.002	-0.0001
237	SLE RA 14		0.01	3.86	34.12	-0.1432	0.0021	-0.0001
237	SLE RA 15		0.01	3.86	34.14	-0.1433	0.0021	-0.0001
237	SLE RA 16		0.01	3.8	33.58	-0.14	0.0022	-0.0001
237	SLE RA 17		0.01	3.8	33.6	-0.1401	0.0022	-0.0001
237	SLE RA 18		0.01	4.38	37.89	-0.1694	0.0021	-0.0001
237	SLE RA 19		0.01	4.38	37.91	-0.1695	0.0021	-0.0001
237	SLE RA 20		0.01	4.19	36.55	-0.1587	0.0023	-0.0001
237	SLE RA 21		0.01	4.19	36.57	-0.1587	0.0023	-0.0001
237	SLE FR 1		0	3.71	32.46	-0.1433	0.0011	-0.0001
237	SLE FR 2		0	3.71	32.47	-0.1433	0.0011	-0.0001
237	SLE FR 3		0	3.63	31.92	-0.1389	0.0012	-0.0001
237	SLE FR 4		0.01	3.91	34.09	-0.1511	0.0014	-0.0001
237	SLE FR 5		0.01	3.83	33.55	-0.1468	0.0015	-0.0001
237	SLE FR 6		0.01	4.04	35.17	-0.1563	0.0016	-0.0001
237	SLE QP 1		0	3.71	32.46	-0.1433	0.0011	-0.0001
237	SLE QP 2		0.01	3.91	34.09	-0.1511	0.0014	-0.0001
237	SLD 1		0.07	6.52	42.11	-0.2796	-0.0179	0.0003
237	SLD 2		0.07	6.52	42.11	-0.2796	-0.0179	0.0003
237	SLD 3		0.05	3.16	34.19	-0.1162	-0.0315	0.0005
237	SLD 4		0.05	3.16	34.19	-0.1162	-0.0315	0.0005
237	SLD 5		0.06	9.79	48.51	-0.4374	0.0163	-0.0003
237	SLD 6		0.06	9.79	48.51	-0.4374	0.0163	-0.0003
237	SLD 7		-0.02	-1.42	22.1	0.1071	-0.0291	0.0004
237	SLD 8		-0.02	-1.42	22.1	0.1071	-0.0291	0.0004
237	SLD 9		0.03	9.23	46.07	-0.4093	0.0319	-0.0006
237	SLD 10		0.03	9.23	46.07	-0.4093	0.0319	-0.0006
237	SLD 11		-0.05	-1.97	19.67	0.1352	-0.0134	0.0002
237	SLD 12		-0.05	-1.97	19.67	0.1352	-0.0134	0.0002
237	SLD 13		-0.04	4.66	33.99	-0.186	0.0343	-0.0006
237	SLD 14		-0.04	4.66	33.99	-0.186	0.0343	-0.0006
237	SLD 15		-0.06	1.3	26.06	-0.0227	0.0207	-0.0004
237	SLD 16		-0.06	1.3	26.06	-0.0227	0.0207	-0.0004
237	SLV 1		0.16	10.06	53.18	-0.4542	-0.045	0.0007
237	SLV 2		0.16	10.06	53.18	-0.4542	-0.045	0.0007
237	SLV 3		0.11	2.13	34.16	-0.0685	-0.0795	0.0013
237	SLV 4		0.11	2.13	34.16	-0.0685	-0.0795	0.0013
237	SLV 5		0.14	17.77	68.65	-0.8269	0.0399	-0.0007
237	SLV 6		0.14	17.77	68.65	-0.8269	0.0399	-0.0007
237	SLV 7		-0.05	-8.64	5.28	0.4586	-0.0752	0.0012
237	SLV 8		-0.05	-8.64	5.28	0.4586	-0.0752	0.0012
237	SLV 9		0.06	16.46	62.9	-0.7608	0.0781	-0.0013
237	SLV 10		0.06	16.46	62.9	-0.7608	0.0781	-0.0013
237	SLV 11		-0.13	-9.96	-0.47	0.5247	-0.037	0.0006
237	SLV 12		-0.13	-9.96	-0.47	0.5247	-0.037	0.0006



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
237	SLV 13			-0.1	5.68	34.01	-0.2337	0.0824	-0.0014
237	SLV 14			-0.1	5.68	34.01	-0.2337	0.0824	-0.0014
237	SLV 15			-0.15	-2.25	15	0.1519	0.0478	-0.0009
237	SLV 16			-0.15	-2.25	15	0.1519	0.0478	-0.0009
238	SLU 1			-0.01	2.95	24.63	-0.0625	-0.0022	0.0001
238	SLU 2			-0.01	2.96	24.74	-0.0633	-0.0022	0.0001
238	SLU 3			-0.01	2.73	22.86	-0.0444	-0.0021	0.0001
238	SLU 4			-0.01	2.73	22.93	-0.0449	-0.0022	0.0001
238	SLU 5			-0.01	2.64	22.14	-0.0406	-0.0021	0.0001
238	SLU 6			-0.01	2.41	20.26	-0.0217	-0.002	0.0001
238	SLU 7			-0.01	2.41	20.32	-0.0222	-0.0021	0.0001
238	SLU 8			-0.01	2.31	19.43	-0.0171	-0.002	0.0001
238	SLU 9			-0.01	2.31	19.49	-0.0176	-0.002	0.0001
238	SLU 10			-0.01	3.49	29.36	-0.0767	-0.0027	0.0001
238	SLU 11			-0.01	3.26	27.48	-0.0578	-0.0026	0.0001
238	SLU 12			-0.01	3.27	27.55	-0.0583	-0.0026	0.0001
238	SLU 13			-0.01	3.17	26.76	-0.054	-0.0026	0.0001
238	SLU 14			-0.01	2.94	24.88	-0.0351	-0.0025	0.0001
238	SLU 15			-0.01	2.94	24.95	-0.0356	-0.0025	0.0001
238	SLU 16			-0.01	2.84	24.05	-0.0305	-0.0025	0.0001
238	SLU 17			-0.01	2.84	24.12	-0.031	-0.0025	0.0001
238	SLU 18			-0.01	3.71	31.24	-0.0816	-0.0029	0.0001
238	SLU 19			-0.01	3.72	31.3	-0.0821	-0.0029	0.0001
238	SLU 20			-0.01	3.39	28.63	-0.0589	-0.0028	0.0001
238	SLU 21			-0.01	3.39	28.7	-0.0594	-0.0028	0.0001
238	SLU 22			-0.01	3.26	27.01	-0.0628	-0.0025	0.0001
238	SLU 23			-0.01	3.27	27.11	-0.0637	-0.0025	0.0001
238	SLU 24			-0.01	3.04	25.23	-0.0448	-0.0024	0.0001
238	SLU 25			-0.01	3.04	25.3	-0.0453	-0.0025	0.0001
238	SLU 26			-0.01	2.94	24.51	-0.041	-0.0024	0.0001
238	SLU 27			-0.01	2.71	22.63	-0.0221	-0.0023	0.0001
238	SLU 28			-0.01	2.72	22.69	-0.0226	-0.0023	0.0001
238	SLU 29			-0.01	2.61	21.8	-0.0175	-0.0023	0.0001
238	SLU 30			-0.01	2.62	21.87	-0.0179	-0.0023	0.0001
238	SLU 31			-0.01	3.8	31.74	-0.0771	-0.003	0.0001
238	SLU 32			-0.01	3.57	29.86	-0.0582	-0.0029	0.0001
238	SLU 33			-0.01	3.57	29.92	-0.0587	-0.0029	0.0001
238	SLU 34			-0.01	3.48	29.13	-0.0544	-0.0029	0.0001
238	SLU 35			-0.01	3.24	27.25	-0.0355	-0.0028	0.0001
238	SLU 36			-0.01	3.25	27.32	-0.036	-0.0028	0.0001
238	SLU 37			-0.01	3.15	26.42	-0.0309	-0.0027	0.0001
238	SLU 38			-0.01	3.15	26.49	-0.0313	-0.0028	0.0001
238	SLU 39			-0.01	4.02	33.61	-0.082	-0.0032	0.0001
238	SLU 40			-0.01	4.03	33.67	-0.0825	-0.0032	0.0001
238	SLU 41			-0.01	3.7	31.01	-0.0593	-0.003	0.0001
238	SLU 42			-0.01	3.7	31.07	-0.0598	-0.0031	0.0001
238	SLU 43			-0.01	3.73	31.21	-0.0811	-0.0028	0.0001
238	SLU 44			-0.01	3.74	31.32	-0.0819	-0.0028	0.0001
238	SLU 45			-0.01	3.51	29.44	-0.063	-0.0027	0.0001
238	SLU 46			-0.01	3.51	29.5	-0.0635	-0.0027	0.0001
238	SLU 47			-0.01	3.42	28.72	-0.0592	-0.0027	0.0001
238	SLU 48			-0.01	3.19	26.84	-0.0404	-0.0026	0.0001
238	SLU 49			-0.01	3.19	26.9	-0.0408	-0.0026	0.0001
238	SLU 50			-0.01	3.09	26.01	-0.0357	-0.0026	0.0001
238	SLU 51			-0.01	3.09	26.07	-0.0362	-0.0026	0.0001
238	SLU 52			-0.01	4.27	35.94	-0.0953	-0.0033	0.0001
238	SLU 53			-0.01	4.04	34.06	-0.0765	-0.0032	0.0001
238	SLU 54			-0.01	4.05	34.12	-0.0769	-0.0032	0.0001
238	SLU 55			-0.01	3.95	33.34	-0.0726	-0.0032	0.0001
238	SLU 56			-0.01	3.72	31.46	-0.0538	-0.0031	0.0001
238	SLU 57			-0.01	3.72	31.52	-0.0542	-0.0031	0.0001
238	SLU 58			-0.01	3.62	30.63	-0.0491	-0.003	0.0001
238	SLU 59			-0.01	3.62	30.69	-0.0496	-0.003	0.0001
238	SLU 60			-0.01	4.49	37.81	-0.1002	-0.0034	0.0001
238	SLU 61			-0.01	4.5	37.88	-0.1007	-0.0034	0.0001
238	SLU 62			-0.01	4.17	35.21	-0.0775	-0.0033	0.0001
238	SLU 63			-0.01	4.18	35.28	-0.078	-0.0033	0.0001
238	SLU 64			-0.01	4.04	33.58	-0.0815	-0.003	0.0001
238	SLU 65			-0.01	4.05	33.69	-0.0823	-0.0031	0.0001
238	SLU 66			-0.01	3.82	31.81	-0.0634	-0.003	0.0001
238	SLU 67			-0.01	3.82	31.87	-0.0639	-0.003	0.0001
238	SLU 68			-0.01	3.72	31.09	-0.0596	-0.003	0.0001
238	SLU 69			-0.01	3.49	29.21	-0.0407	-0.0029	0.0001
238	SLU 70			-0.01	3.5	29.27	-0.0412	-0.0029	0.0001
238	SLU 71			-0.01	3.39	28.38	-0.0361	-0.0028	0.0001
238	SLU 72			-0.01	3.4	28.44	-0.0366	-0.0029	0.0001
238	SLU 73			-0.01	4.58	38.31	-0.0957	-0.0036	0.0001
238	SLU 74			-0.01	4.35	36.43	-0.0768	-0.0035	0.0001
238	SLU 75			-0.01	4.35	36.5	-0.0773	-0.0035	0.0001
238	SLU 76			-0.01	4.26	35.71	-0.073	-0.0035	0.0001
238	SLU 77			-0.01	4.03	33.83	-0.0541	-0.0033	0.0001
238	SLU 78			-0.01	4.03	33.89	-0.0546	-0.0034	0.0001
238	SLU 79			-0.01	3.93	33	-0.0495	-0.0033	0.0001
238	SLU 80			-0.01	3.93	33.06	-0.05	-0.0033	0.0001
238	SLU 81			-0.01	4.8	40.19	-0.1006	-0.0037	0.0001
238	SLU 82			-0.01	4.81	40.25	-0.1011	-0.0037	0.0001
238	SLU 83			-0.01	4.48	37.58	-0.0779	-0.0036	0.0001
238	SLU 84			-0.01	4.48	37.65	-0.0784	-0.0036	0.0001
238	SLE RA 1			-0.01	3.04	25.31	-0.0626	-0.0023	0.0001
238	SLE RA 2			-0.01	3.05	25.38	-0.0631	-0.0023	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
238	SLE RA 3	-0.01	2.89	24.13	-0.0506	-0.0022	0.0001
238	SLE RA 4	-0.01	2.89	24.17	-0.0509	-0.0023	0.0001
238	SLE RA 5	-0.01	2.83	23.65	-0.048	-0.0022	0.0001
238	SLE RA 6	-0.01	2.68	22.39	-0.0354	-0.0022	0.0001
238	SLE RA 7	-0.01	2.68	22.44	-0.0358	-0.0022	0.0001
238	SLE RA 8	-0.01	2.61	21.84	-0.0323	-0.0021	0.0001
238	SLE RA 9	-0.01	2.61	21.88	-0.0326	-0.0022	0.0001
238	SLE RA 10	-0.01	3.4	28.46	-0.0721	-0.0026	0.0001
238	SLE RA 11	-0.01	3.25	27.21	-0.0595	-0.0025	0.0001
238	SLE RA 12	-0.01	3.25	27.25	-0.0598	-0.0026	0.0001
238	SLE RA 13	-0.01	3.19	26.73	-0.0569	-0.0026	0.0001
238	SLE RA 14	-0.01	3.03	25.48	-0.0444	-0.0025	0.0001
238	SLE RA 15	-0.01	3.03	25.52	-0.0447	-0.0025	0.0001
238	SLE RA 16	-0.01	2.96	24.92	-0.0413	-0.0025	0.0001
238	SLE RA 17	-0.01	2.97	24.97	-0.0416	-0.0025	0.0001
238	SLE RA 18	-0.01	3.55	29.71	-0.0753	-0.0027	0.0001
238	SLE RA 19	-0.01	3.55	29.76	-0.0757	-0.0027	0.0001
238	SLE RA 20	-0.01	3.33	27.98	-0.0602	-0.0027	0.0001
238	SLE RA 21	-0.01	3.34	28.02	-0.0605	-0.0027	0.0001
238	SLE FR 1	-0.01	3.04	25.31	-0.0626	-0.0023	0.0001
238	SLE FR 2	-0.01	3.04	25.33	-0.0627	-0.0023	0.0001
238	SLE FR 3	-0.01	2.95	24.62	-0.0565	-0.0023	0.0001
238	SLE FR 4	-0.01	3.19	26.65	-0.0665	-0.0024	0.0001
238	SLE FR 5	-0.01	3.11	25.94	-0.0604	-0.0024	0.0001
238	SLE FR 6	-0.01	3.29	27.51	-0.069	-0.0025	0.0001
238	SLE QP 1	-0.01	3.04	25.31	-0.0626	-0.0023	0.0001
238	SLE QP 2	-0.01	3.19	26.63	-0.0664	-0.0024	0.0001
238	SLD 1	0.02	3.73	26.68	-0.1015	-0.0335	-0.0001
238	SLD 2	0.02	3.73	26.68	-0.1015	-0.0335	-0.0001
238	SLD 3	0.04	0.69	19.9	0.0591	-0.0169	-0.0002
238	SLD 4	0.04	0.69	19.9	0.0591	-0.0169	-0.0002
238	SLD 5	-0.03	7.96	36.92	-0.3204	-0.0369	0.0003
238	SLD 6	-0.03	7.96	36.92	-0.3204	-0.0369	0.0003
238	SLD 7	0.03	-2.17	14.34	0.2148	0.0184	-0.0003
238	SLD 8	0.03	-2.17	14.34	0.2148	0.0184	-0.0003
238	SLD 9	-0.05	8.55	38.93	-0.3476	-0.0232	0.0005
238	SLD 10	-0.05	8.55	38.93	-0.3476	-0.0232	0.0005
238	SLD 11	0.01	-1.58	16.34	0.1876	0.0321	-0.0001
238	SLD 12	0.01	-1.58	16.34	0.1876	0.0321	-0.0001
238	SLD 13	-0.06	5.69	33.36	-0.1919	0.0121	0.0004
238	SLD 14	-0.06	5.69	33.36	-0.1919	0.0121	0.0004
238	SLD 15	-0.04	2.65	26.59	-0.0314	0.0287	0.0002
238	SLD 16	-0.04	2.65	26.59	-0.0314	0.0287	0.0002
238	SLV 1	0.06	4.47	26.88	-0.1492	-0.0794	-0.0003
238	SLV 2	0.06	4.47	26.88	-0.1492	-0.0794	-0.0003
238	SLV 3	0.11	-2.68	10.64	0.2292	-0.0377	-0.0007
238	SLV 4	0.11	-2.68	10.64	0.2292	-0.0377	-0.0007
238	SLV 5	-0.06	14.42	51.33	-0.6652	-0.0887	0.0006
238	SLV 6	-0.06	14.42	51.33	-0.6652	-0.0887	0.0006
238	SLV 7	0.1	-9.41	-2.79	0.5962	0.0502	-0.0008
238	SLV 8	0.1	-9.41	-2.79	0.5962	0.0502	-0.0008
238	SLV 9	-0.11	15.8	56.05	-0.729	-0.055	0.001
238	SLV 10	-0.11	15.8	56.05	-0.729	-0.055	0.001
238	SLV 11	0.04	-8.03	1.94	0.5324	0.0839	-0.0005
238	SLV 12	0.04	-8.03	1.94	0.5324	0.0839	-0.0005
238	SLV 13	-0.13	9.07	42.62	-0.362	0.0329	0.0009
238	SLV 14	-0.13	9.07	42.62	-0.362	0.0329	0.0009
238	SLV 15	-0.08	1.92	26.39	0.0164	0.0745	0.0005
238	SLV 16	-0.08	1.92	26.39	0.0164	0.0745	0.0005
239	SLU 1	0.01	0.92	53.13	-0.0277	0.0093	-0.0001
239	SLU 2	0	1.39	52.8	-0.0478	-0.0068	0.0002
239	SLU 3	0.01	0.87	54.27	-0.0257	0.0095	-0.0001
239	SLU 4	0	1.15	54.08	-0.0378	-0.0001	0.0001
239	SLU 5	0	1.34	53.29	-0.0461	-0.0066	0.0002
239	SLU 6	0.01	0.82	54.76	-0.024	0.0097	-0.0001
239	SLU 7	0	1.1	54.57	-0.0361	-0.0001	0.0001
239	SLU 8	0.01	0.82	54.11	-0.0242	0.0096	-0.0001
239	SLU 9	0	1.1	53.91	-0.0363	0	0.0001
239	SLU 10	0	1.33	58.84	-0.0447	-0.0058	0.0002
239	SLU 11	0.01	0.8	60.31	-0.0226	0.0106	-0.0001
239	SLU 12	0	1.08	60.11	-0.0347	0.0009	0.0001
239	SLU 13	0	1.28	59.33	-0.043	-0.0056	0.0002
239	SLU 14	0.01	0.75	60.8	-0.0208	0.0107	-0.0001
239	SLU 15	0	1.03	60.6	-0.0329	0.0011	0.0001
239	SLU 16	0.01	0.75	60.15	-0.0211	0.0107	-0.0001
239	SLU 17	0	1.04	59.95	-0.0332	0.001	0.0001
239	SLU 18	0.01	0.82	61.76	-0.0232	0.0107	-0.0001
239	SLU 19	0	1.11	61.56	-0.0353	0.0011	0.0001
239	SLU 20	0.01	0.77	62.25	-0.0215	0.0109	-0.0001
239	SLU 21	0	1.06	62.05	-0.0336	0.0013	0.0001
239	SLU 22	0.01	0.84	58.98	-0.0241	0.0104	-0.0001
239	SLU 23	0	1.31	58.65	-0.0443	-0.0057	0.0002
239	SLU 24	0.01	0.79	60.12	-0.0222	0.0107	-0.0001
239	SLU 25	0	1.07	59.92	-0.0343	0.001	0.0001
239	SLU 26	0	1.26	59.14	-0.0425	-0.0055	0.0002
239	SLU 27	0.01	0.74	60.61	-0.0204	0.0108	-0.0001
239	SLU 28	0	1.02	60.41	-0.0325	0.0012	0.0001
239	SLU 29	0.01	0.74	59.96	-0.0206	0.0108	-0.0001
239	SLU 30	0	1.02	59.76	-0.0327	0.0011	0.0001
239	SLU 31	0	1.25	64.69	-0.0411	-0.0046	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
239	SLU 32		0.01	0.72	66.16	-0.019	0.0117	-0.0001
239	SLU 33		0	1	65.96	-0.0311	0.0021	0.0001
239	SLU 34		0	1.2	65.18	-0.0394	-0.0045	0.0002
239	SLU 35		0.01	0.67	66.65	-0.0173	0.0119	-0.0001
239	SLU 36		0.01	0.95	66.45	-0.0294	0.0022	0.0001
239	SLU 37		0.01	0.67	66	-0.0175	0.0118	-0.0001
239	SLU 38		0.01	0.96	65.8	-0.0296	0.0022	0.0001
239	SLU 39		0.01	0.74	67.61	-0.0197	0.0119	-0.0001
239	SLU 40		0.01	1.03	67.41	-0.0317	0.0022	0.0001
239	SLU 41		0.01	0.69	68.1	-0.0179	0.0121	-0.0001
239	SLU 42		0.01	0.98	67.9	-0.03	0.0024	0.0001
239	SLU 43		0.01	1.22	67.07	-0.0372	0.0117	-0.0001
239	SLU 44		0	1.7	66.73	-0.0574	-0.0044	0.0002
239	SLU 45		0.01	1.17	68.21	-0.0353	0.0119	-0.0001
239	SLU 46		0	1.45	68.01	-0.0473	0.0023	0
239	SLU 47		0	1.65	67.22	-0.0556	-0.0042	0.0002
239	SLU 48		0.01	1.12	68.7	-0.0335	0.0121	-0.0001
239	SLU 49		0.01	1.4	68.5	-0.0456	0.0025	0
239	SLU 50		0.01	1.12	68.05	-0.0337	0.012	-0.0001
239	SLU 51		0.01	1.41	67.85	-0.0458	0.0024	0
239	SLU 52		0	1.63	72.77	-0.0542	-0.0034	0.0001
239	SLU 53		0.01	1.1	74.25	-0.0321	0.013	-0.0001
239	SLU 54		0.01	1.39	74.05	-0.0442	0.0033	0
239	SLU 55		0	1.58	73.26	-0.0525	-0.0032	0.0001
239	SLU 56		0.01	1.05	74.74	-0.0304	0.0131	-0.0001
239	SLU 57		0.01	1.34	74.54	-0.0425	0.0035	0
239	SLU 58		0.01	1.06	74.08	-0.0306	0.0131	-0.0001
239	SLU 59		0.01	1.34	73.88	-0.0427	0.0034	0
239	SLU 60		0.01	1.13	75.69	-0.0327	0.0131	-0.0001
239	SLU 61		0.01	1.41	75.49	-0.0448	0.0035	0
239	SLU 62		0.01	1.08	76.18	-0.031	0.0133	-0.0001
239	SLU 63		0.01	1.36	75.98	-0.0431	0.0037	0
239	SLU 64		0.01	1.14	72.92	-0.0337	0.0128	-0.0001
239	SLU 65		0	1.62	72.58	-0.0538	-0.0033	0.0001
239	SLU 66		0.01	1.09	74.06	-0.0317	0.0131	-0.0001
239	SLU 67		0.01	1.37	73.86	-0.0438	0.0034	0
239	SLU 68		0	1.57	73.07	-0.0521	-0.0031	0.0001
239	SLU 69		0.01	1.04	74.55	-0.0299	0.0132	-0.0001
239	SLU 70		0.01	1.32	74.35	-0.042	0.0036	0
239	SLU 71		0.01	1.04	73.9	-0.0302	0.0132	-0.0001
239	SLU 72		0.01	1.33	73.7	-0.0423	0.0035	0
239	SLU 73		0	1.55	78.62	-0.0507	-0.0022	0.0001
239	SLU 74		0.02	1.02	80.1	-0.0286	0.0141	-0.0001
239	SLU 75		0.01	1.31	79.9	-0.0406	0.0045	0
239	SLU 76		0	1.5	79.11	-0.0489	-0.0021	0.0001
239	SLU 77		0.02	0.97	80.59	-0.0268	0.0143	-0.0001
239	SLU 78		0.01	1.26	80.39	-0.0389	0.0046	0
239	SLU 79		0.02	0.98	79.93	-0.027	0.0142	-0.0001
239	SLU 80		0.01	1.26	79.73	-0.0391	0.0046	0
239	SLU 81		0.02	1.05	81.54	-0.0292	0.0143	-0.0001
239	SLU 82		0.01	1.33	81.34	-0.0413	0.0046	0
239	SLU 83		0.02	1	82.03	-0.0274	0.0145	-0.0001
239	SLU 84		0.01	1.28	81.83	-0.0395	0.0048	0
239	SLE RA 1		0.01	0.9	54.8	-0.0267	0.0096	-0.0001
239	SLE RA 2		0	1.21	54.58	-0.0401	-0.0011	0.0001
239	SLE RA 3		0.01	0.86	55.56	-0.0254	0.0098	-0.0001
239	SLE RA 4		0.01	1.05	55.43	-0.0334	0.0034	0
239	SLE RA 5		0	1.18	54.91	-0.0389	-0.001	0.0001
239	SLE RA 6		0.01	0.83	55.89	-0.0242	0.0099	-0.0001
239	SLE RA 7		0.01	1.02	55.76	-0.0323	0.0035	0
239	SLE RA 8		0.01	0.83	55.46	-0.0243	0.0098	-0.0001
239	SLE RA 9		0.01	1.02	55.32	-0.0324	0.0034	0
239	SLE RA 10		0	1.17	58.61	-0.038	-0.0004	0.0001
239	SLE RA 11		0.01	0.82	59.59	-0.0233	0.0105	-0.0001
239	SLE RA 12		0.01	1.01	59.46	-0.0313	0.004	0
239	SLE RA 13		0	1.14	58.93	-0.0369	-0.0003	0.0001
239	SLE RA 14		0.01	0.78	59.92	-0.0221	0.0106	-0.0001
239	SLE RA 15		0.01	0.97	59.78	-0.0302	0.0042	0
239	SLE RA 16		0.01	0.79	59.48	-0.0223	0.0105	-0.0001
239	SLE RA 17		0.01	0.98	59.35	-0.0303	0.0041	0
239	SLE RA 18		0.01	0.83	60.55	-0.0237	0.0106	-0.0001
239	SLE RA 19		0.01	1.02	60.42	-0.0318	0.0042	0
239	SLE RA 20		0.01	0.8	60.88	-0.0225	0.0107	-0.0001
239	SLE RA 21		0.01	0.99	60.75	-0.0306	0.0043	0
239	SLE FR 1		0.01	0.9	54.8	-0.0267	0.0096	-0.0001
239	SLE FR 2		0.01	0.96	54.76	-0.0294	0.0075	-0.0001
239	SLE FR 3		0.01	0.88	54.93	-0.0262	0.0097	-0.0001
239	SLE FR 4		0.01	0.94	56.48	-0.0285	0.0078	-0.0001
239	SLE FR 5		0.01	0.86	56.66	-0.0253	0.0099	-0.0001
239	SLE FR 6		0.01	0.86	57.68	-0.0252	0.0101	-0.0001
239	SLE QP 1		0.01	0.9	54.8	-0.0267	0.0096	-0.0001
239	SLE QP 2		0.01	0.88	56.53	-0.0258	0.0099	-0.0001
239	SLD 1		0.37	1.62	40.85	-0.0561	0.3247	-0.0074
239	SLD 2		0.37	1.62	40.85	-0.0561	0.3247	-0.0074
239	SLD 3		0.25	-1.48	43.92	0.0671	0.2081	-0.0049
239	SLD 4		0.25	-1.48	43.92	0.0671	0.2081	-0.0049
239	SLD 5		0.3	5.8	47.16	-0.2217	0.2812	-0.0061
239	SLD 6		0.3	5.8	47.16	-0.2217	0.2812	-0.0061
239	SLD 7		-0.1	-4.53	57.41	0.1889	-0.1075	0.0023
239	SLD 8		-0.1	-4.53	57.41	0.1889	-0.1075	0.0023



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
239	SLD 9		0.12	6.28	55.65	-0.2404	0.1273	-0.0025
239	SLD 10		0.12	6.28	55.65	-0.2404	0.1273	-0.0025
239	SLD 11		-0.27	-4.04	65.89	0.1701	-0.2614	0.006
239	SLD 12		-0.27	-4.04	65.89	0.1701	-0.2614	0.006
239	SLD 13		-0.23	3.24	69.14	-0.1186	-0.1883	0.0047
239	SLD 14		-0.23	3.24	69.14	-0.1186	-0.1883	0.0047
239	SLD 15		-0.35	0.14	72.21	0.0045	-0.3049	0.0072
239	SLD 16		-0.35	0.14	72.21	0.0045	-0.3049	0.0072
239	SLV 1		0.87	2.57	19.8	-0.0952	0.7772	-0.0177
239	SLV 2		0.87	2.57	19.8	-0.0952	0.7772	-0.0177
239	SLV 3		0.58	-4.63	27.03	0.1913	0.4811	-0.0113
239	SLV 4		0.58	-4.63	27.03	0.1913	0.4811	-0.0113
239	SLV 5		0.72	12.31	34.55	-0.4811	0.6892	-0.0151
239	SLV 6		0.72	12.31	34.55	-0.4811	0.6892	-0.0151
239	SLV 7		-0.27	-11.7	58.64	0.4738	-0.2979	0.0063
239	SLV 8		-0.27	-11.7	58.64	0.4738	-0.2979	0.0063
239	SLV 9		0.29	13.46	54.41	-0.5254	0.3177	-0.0065
239	SLV 10		0.29	13.46	54.41	-0.5254	0.3177	-0.0065
239	SLV 11		-0.7	-10.56	78.51	0.4295	-0.6694	0.015
239	SLV 12		-0.7	-10.56	78.51	0.4295	-0.6694	0.015
239	SLV 13		-0.56	6.39	86.03	-0.2428	-0.4613	0.0111
239	SLV 14		-0.56	6.39	86.03	-0.2428	-0.4613	0.0111
239	SLV 15		-0.85	-0.82	93.25	0.0436	-0.7574	0.0175
239	SLV 16		-0.85	-0.82	93.25	0.0436	-0.7574	0.0175
240	SLU 1		-0.27	0.72	50.25	0.0467	-0.2095	0.0011
240	SLU 2		-0.25	1.32	49.86	0.0098	-0.1887	0.001
240	SLU 3		-0.28	0.77	51.63	0.0453	-0.2156	0.0011
240	SLU 4		-0.26	1.13	51.4	0.0231	-0.2031	0.0011
240	SLU 5		-0.25	1.39	50.75	0.0061	-0.1923	0.001
240	SLU 6		-0.28	0.85	52.52	0.0416	-0.2192	0.0011
240	SLU 7		-0.27	1.21	52.29	0.0195	-0.2067	0.0011
240	SLU 8		-0.28	0.87	52.03	0.0394	-0.2167	0.0011
240	SLU 9		-0.26	1.23	51.79	0.0172	-0.2042	0.0011
240	SLU 10		-0.28	1.26	55.24	0.0221	-0.2154	0.0011
240	SLU 11		-0.31	0.72	57.02	0.0576	-0.2424	0.0012
240	SLU 12		-0.3	1.08	56.78	0.0355	-0.2299	0.0012
240	SLU 13		-0.29	1.34	56.13	0.0184	-0.219	0.0011
240	SLU 14		-0.31	0.79	57.91	0.0539	-0.246	0.0012
240	SLU 15		-0.3	1.15	57.67	0.0318	-0.2335	0.0012
240	SLU 16		-0.31	0.82	57.41	0.0517	-0.2435	0.0012
240	SLU 17		-0.3	1.18	57.18	0.0295	-0.231	0.0012
240	SLU 18		-0.32	0.64	57.94	0.0643	-0.2477	0.0013
240	SLU 19		-0.3	1	57.71	0.0422	-0.2352	0.0012
240	SLU 20		-0.32	0.72	58.83	0.0607	-0.2513	0.0013
240	SLU 21		-0.31	1.08	58.6	0.0385	-0.2388	0.0012
240	SLU 22		-0.3	0.7	55.69	0.0568	-0.2361	0.0012
240	SLU 23		-0.28	1.3	55.3	0.0198	-0.2153	0.0011
240	SLU 24		-0.31	0.75	57.07	0.0553	-0.2422	0.0012
240	SLU 25		-0.3	1.11	56.84	0.0332	-0.2297	0.0012
240	SLU 26		-0.29	1.37	56.19	0.0162	-0.2189	0.0011
240	SLU 27		-0.31	0.82	57.96	0.0517	-0.2458	0.0012
240	SLU 28		-0.3	1.18	57.73	0.0295	-0.2333	0.0012
240	SLU 29		-0.31	0.85	57.47	0.0494	-0.2433	0.0012
240	SLU 30		-0.3	1.21	57.23	0.0273	-0.2308	0.0012
240	SLU 31		-0.32	1.24	60.68	0.0322	-0.242	0.0013
240	SLU 32		-0.34	0.69	62.46	0.0677	-0.2689	0.0014
240	SLU 33		-0.33	1.05	62.22	0.0455	-0.2564	0.0013
240	SLU 34		-0.32	1.32	61.57	0.0285	-0.2456	0.0013
240	SLU 35		-0.35	0.77	63.35	0.064	-0.2726	0.0014
240	SLU 36		-0.34	1.13	63.11	0.0418	-0.2601	0.0013
240	SLU 37		-0.34	0.79	62.85	0.0617	-0.27	0.0014
240	SLU 38		-0.33	1.15	62.62	0.0396	-0.2575	0.0013
240	SLU 39		-0.35	0.62	63.38	0.0744	-0.2743	0.0014
240	SLU 40		-0.34	0.98	63.15	0.0522	-0.2618	0.0013
240	SLU 41		-0.35	0.7	64.27	0.0707	-0.2779	0.0014
240	SLU 42		-0.34	1.05	64.04	0.0485	-0.2654	0.0014
240	SLU 43		-0.34	0.95	63.46	0.0573	-0.2633	0.0013
240	SLU 44		-0.32	1.54	63.07	0.0204	-0.2424	0.0013
240	SLU 45		-0.34	1	64.84	0.0559	-0.2694	0.0014
240	SLU 46		-0.33	1.35	64.61	0.0337	-0.2569	0.0013
240	SLU 47		-0.32	1.62	63.96	0.0167	-0.246	0.0013
240	SLU 48		-0.35	1.07	65.73	0.0522	-0.273	0.0014
240	SLU 49		-0.34	1.43	65.5	0.03	-0.2605	0.0013
240	SLU 50		-0.35	1.1	65.24	0.05	-0.2705	0.0014
240	SLU 51		-0.33	1.45	65	0.0278	-0.258	0.0013
240	SLU 52		-0.35	1.49	68.45	0.0327	-0.2691	0.0014
240	SLU 53		-0.38	0.94	70.23	0.0682	-0.2961	0.0015
240	SLU 54		-0.37	1.3	69.99	0.046	-0.2836	0.0015
240	SLU 55		-0.35	1.56	69.34	0.029	-0.2728	0.0014
240	SLU 56		-0.38	1.02	71.12	0.0645	-0.2997	0.0015
240	SLU 57		-0.37	1.38	70.88	0.0424	-0.2872	0.0015
240	SLU 58		-0.38	1.04	70.62	0.0623	-0.2972	0.0015
240	SLU 59		-0.37	1.4	70.39	0.0401	-0.2847	0.0015
240	SLU 60		-0.38	0.87	71.15	0.0749	-0.3014	0.0015
240	SLU 61		-0.37	1.23	70.92	0.0528	-0.2889	0.0015
240	SLU 62		-0.39	0.94	72.04	0.0712	-0.305	0.0015
240	SLU 63		-0.38	1.3	71.81	0.0491	-0.2925	0.0015
240	SLU 64		-0.37	0.92	68.9	0.0674	-0.2898	0.0015
240	SLU 65		-0.35	1.52	68.51	0.0304	-0.269	0.0014
240	SLU 66		-0.38	0.97	70.28	0.0659	-0.296	0.0015



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
240	SLU 67			-0.37	1.33	70.05	0.0438	-0.2835	0.0015
240	SLU 68			-0.35	1.6	69.4	0.0267	-0.2726	0.0014
240	SLU 69			-0.38	1.05	71.17	0.0622	-0.2996	0.0015
240	SLU 70			-0.37	1.41	70.94	0.0401	-0.2871	0.0015
240	SLU 71			-0.38	1.07	70.68	0.06	-0.2971	0.0015
240	SLU 72			-0.37	1.43	70.44	0.0378	-0.2846	0.0015
240	SLU 73			-0.38	1.47	73.89	0.0427	-0.2957	0.0015
240	SLU 74			-0.41	0.92	75.67	0.0782	-0.3227	0.0016
240	SLU 75			-0.4	1.28	75.43	0.0561	-0.3102	0.0016
240	SLU 76			-0.39	1.54	74.78	0.0391	-0.2993	0.0016
240	SLU 77			-0.42	0.99	76.56	0.0746	-0.3263	0.0017
240	SLU 78			-0.4	1.35	76.32	0.0524	-0.3138	0.0016
240	SLU 79			-0.41	1.02	76.06	0.0723	-0.3238	0.0016
240	SLU 80			-0.4	1.38	75.83	0.0502	-0.3113	0.0016
240	SLU 81			-0.42	0.84	76.59	0.085	-0.328	0.0017
240	SLU 82			-0.41	1.2	76.36	0.0628	-0.3155	0.0016
240	SLU 83			-0.42	0.92	77.48	0.0813	-0.3316	0.0017
240	SLU 84			-0.41	1.28	77.25	0.0591	-0.3191	0.0016
240	SLE RA 1			-0.28	0.71	51.8	0.0496	-0.2171	0.0011
240	SLE RA 2			-0.26	1.11	51.54	0.025	-0.2032	0.0011
240	SLE RA 3			-0.28	0.75	52.73	0.0487	-0.2212	0.0011
240	SLE RA 4			-0.27	0.99	52.57	0.0339	-0.2129	0.0011
240	SLE RA 5			-0.27	1.16	52.14	0.0225	-0.2056	0.0011
240	SLE RA 6			-0.29	0.8	53.32	0.0462	-0.2236	0.0011
240	SLE RA 7			-0.28	1.04	53.16	0.0314	-0.2153	0.0011
240	SLE RA 8			-0.28	0.81	52.99	0.0447	-0.2219	0.0011
240	SLE RA 9			-0.28	1.05	52.83	0.0299	-0.2136	0.0011
240	SLE RA 10			-0.29	1.08	55.13	0.0332	-0.221	0.0011
240	SLE RA 11			-0.31	0.71	56.32	0.0569	-0.239	0.0012
240	SLE RA 12			-0.3	0.95	56.16	0.0421	-0.2307	0.0012
240	SLE RA 13			-0.29	1.13	55.73	0.0307	-0.2234	0.0012
240	SLE RA 14			-0.31	0.76	56.91	0.0544	-0.2414	0.0012
240	SLE RA 15			-0.3	1	56.75	0.0396	-0.2331	0.0012
240	SLE RA 16			-0.31	0.78	56.58	0.0529	-0.2397	0.0012
240	SLE RA 17			-0.3	1.02	56.42	0.0381	-0.2314	0.0012
240	SLE RA 18			-0.31	0.66	56.93	0.0613	-0.2426	0.0012
240	SLE RA 19			-0.3	0.9	56.78	0.0466	-0.2342	0.0012
240	SLE RA 20			-0.31	0.71	57.53	0.0589	-0.245	0.0012
240	SLE RA 21			-0.3	0.95	57.37	0.0441	-0.2366	0.0012
240	SLE FR 1			-0.28	0.71	51.8	0.0496	-0.2171	0.0011
240	SLE FR 2			-0.27	0.79	51.75	0.0447	-0.2143	0.0011
240	SLE FR 3			-0.28	0.73	52.04	0.0486	-0.2181	0.0011
240	SLE FR 4			-0.28	0.78	53.29	0.0482	-0.222	0.0011
240	SLE FR 5			-0.29	0.72	53.58	0.0522	-0.2257	0.0011
240	SLE FR 6			-0.29	0.69	54.37	0.0555	-0.2298	0.0012
240	SLE QP 1			-0.28	0.71	51.8	0.0496	-0.2171	0.0011
240	SLE QP 2			-0.29	0.7	53.34	0.0531	-0.2247	0.0011
240	SLD 1			-0.58	3.36	65.89	-0.0725	-0.4519	0.0022
240	SLD 2			-0.58	3.36	65.89	-0.0725	-0.4519	0.0022
240	SLD 3			-0.71	0.04	68.87	0.0921	-0.5608	0.0026
240	SLD 4			-0.71	0.04	68.87	0.0921	-0.5608	0.0026
240	SLD 5			-0.18	6.55	52.59	-0.2343	-0.1277	0.0008
240	SLD 6			-0.18	6.55	52.59	-0.2343	-0.1277	0.0008
240	SLD 7			-0.6	-4.55	62.52	0.3145	-0.4907	0.0022
240	SLD 8			-0.6	-4.55	62.52	0.3145	-0.4907	0.0022
240	SLD 9			0.03	5.95	44.17	-0.2083	0.0412	0.0001
240	SLD 10			0.03	5.95	44.17	-0.2083	0.0412	0.0001
240	SLD 11			-0.39	-5.15	54.1	0.3405	-0.3218	0.0015
240	SLD 12			-0.39	-5.15	54.1	0.3405	-0.3218	0.0015
240	SLD 13			0.13	1.36	37.82	0.0142	0.1113	-0.0003
240	SLD 14			0.13	1.36	37.82	0.0142	0.1113	-0.0003
240	SLD 15			0.01	-1.97	40.8	0.1788	0.0024	0.0001
240	SLD 16			0.01	-1.97	40.8	0.1788	0.0024	0.0001
240	SLV 1			-0.98	7.04	82.67	-0.2449	-0.7592	0.0035
240	SLV 2			-0.98	7.04	82.67	-0.2449	-0.7592	0.0035
240	SLV 3			-1.29	-0.75	89.69	0.1406	-1.0266	0.0046
240	SLV 4			-1.29	-0.75	89.69	0.1406	-1.0266	0.0046
240	SLV 5			-0.03	14.41	51.51	-0.621	0.0205	0.0003
240	SLV 6			-0.03	14.41	51.51	-0.621	0.0205	0.0003
240	SLV 7			-1.05	-11.54	74.88	0.664	-0.8709	0.0037
240	SLV 8			-1.05	-11.54	74.88	0.664	-0.8709	0.0037
240	SLV 9			0.47	12.94	31.8	-0.5578	0.4214	-0.0014
240	SLV 10			0.47	12.94	31.8	-0.5578	0.4214	-0.0014
240	SLV 11			-0.54	-13.01	55.18	0.7272	-0.47	0.002
240	SLV 12			-0.54	-13.01	55.18	0.7272	-0.47	0.002
240	SLV 13			0.71	2.14	17	-0.0343	0.5771	-0.0023
240	SLV 14			0.71	2.14	17	-0.0343	0.5771	-0.0023
240	SLV 15			0.41	-5.64	24.01	0.3512	0.3097	-0.0013
240	SLV 16			0.41	-5.64	24.01	0.3512	0.3097	-0.0013
241	SLU 1			0	1.96	43.66	-0.0549	-0.0018	0
241	SLU 2			0	2.07	43.12	-0.0583	-0.0012	0
241	SLU 3			0	2	45.64	-0.0556	-0.0019	0
241	SLU 4			0	2.07	45.32	-0.0576	-0.0015	0
241	SLU 5			0	2.11	44.75	-0.0592	-0.0013	0
241	SLU 6			0	2.05	47.27	-0.0565	-0.0019	0
241	SLU 7			0	2.11	46.95	-0.0585	-0.0016	0
241	SLU 8			0	2.06	46.92	-0.0568	-0.0019	0
241	SLU 9			0	2.12	46.6	-0.0588	-0.0015	0
241	SLU 10			0	2.22	50.63	-0.0622	-0.0016	0
241	SLU 11			0	2.16	53.16	-0.0595	-0.0022	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
241	SLU 12		0	2.22	52.83	-0.0616	-0.0019	0
241	SLU 13		0	2.27	52.26	-0.0631	-0.0016	0
241	SLU 14		0	2.2	54.79	-0.0604	-0.0023	0
241	SLU 15		0	2.27	54.46	-0.0625	-0.0019	0
241	SLU 16		0	2.21	54.44	-0.0607	-0.0022	0
241	SLU 17		0	2.27	54.11	-0.0627	-0.0019	0
241	SLU 18		0	2.18	54.4	-0.0605	-0.0023	0
241	SLU 19		0	2.25	54.07	-0.0626	-0.002	0
241	SLU 20		0	2.23	56.03	-0.0614	-0.0023	0
241	SLU 21		0	2.29	55.7	-0.0635	-0.002	0
241	SLU 22		0	2.12	51.04	-0.0588	-0.0022	0
241	SLU 23		0	2.23	50.5	-0.0622	-0.0016	0
241	SLU 24		0	2.16	53.02	-0.0595	-0.0022	0
241	SLU 25		0	2.23	52.69	-0.0615	-0.0019	0
241	SLU 26		0	2.27	52.13	-0.0631	-0.0016	0
241	SLU 27		0	2.21	54.65	-0.0604	-0.0023	0
241	SLU 28		0	2.27	54.32	-0.0624	-0.0019	0
241	SLU 29		0	2.22	54.3	-0.0606	-0.0022	0
241	SLU 30		0	2.28	53.97	-0.0627	-0.0019	0
241	SLU 31		0	2.38	58.01	-0.0661	-0.0019	0
241	SLU 32		0	2.32	60.53	-0.0634	-0.0026	0
241	SLU 33		0	2.38	60.21	-0.0654	-0.0022	0
241	SLU 34		0	2.43	59.64	-0.067	-0.0019	0
241	SLU 35		0	2.36	62.16	-0.0643	-0.0026	0
241	SLU 36		0	2.43	61.84	-0.0663	-0.0022	0
241	SLU 37		0	2.37	61.81	-0.0646	-0.0026	0
241	SLU 38		0	2.43	61.49	-0.0666	-0.0022	0
241	SLU 39		0	2.34	61.77	-0.0644	-0.0026	0
241	SLU 40		0	2.41	61.45	-0.0664	-0.0023	0
241	SLU 41		0	2.39	63.4	-0.0653	-0.0027	0
241	SLU 42		0	2.45	63.08	-0.0673	-0.0023	0
241	SLU 43		0	2.5	54.23	-0.0701	-0.0023	0
241	SLU 44		0	2.6	53.69	-0.0735	-0.0017	0
241	SLU 45		0	2.54	56.21	-0.0707	-0.0023	0
241	SLU 46		0	2.6	55.88	-0.0728	-0.002	0
241	SLU 47		0	2.65	55.32	-0.0744	-0.0017	0
241	SLU 48		0	2.58	57.84	-0.0717	-0.0024	0
241	SLU 49		0	2.65	57.51	-0.0737	-0.002	0
241	SLU 50		0	2.59	57.49	-0.0719	-0.0023	0
241	SLU 51		0	2.65	57.16	-0.0739	-0.002	0
241	SLU 52		0	2.76	61.2	-0.0774	-0.002	0
241	SLU 53		0	2.69	63.72	-0.0747	-0.0027	0
241	SLU 54		0	2.76	63.4	-0.0767	-0.0023	0
241	SLU 55		0	2.8	62.83	-0.0783	-0.002	0
241	SLU 56		0	2.74	65.36	-0.0756	-0.0027	0
241	SLU 57		0	2.8	65.03	-0.0776	-0.0024	0
241	SLU 58		0	2.74	65	-0.0758	-0.0027	0
241	SLU 59		0	2.81	64.68	-0.0779	-0.0023	0
241	SLU 60		0	2.72	64.96	-0.0757	-0.0028	0
241	SLU 61		0	2.78	64.64	-0.0777	-0.0024	0
241	SLU 62		0	2.76	66.6	-0.0766	-0.0028	0
241	SLU 63		0	2.83	66.27	-0.0786	-0.0024	0
241	SLU 64		0	2.66	61.61	-0.0739	-0.0026	0
241	SLU 65		0	2.76	61.06	-0.0773	-0.002	0
241	SLU 66		0	2.7	63.59	-0.0746	-0.0027	0
241	SLU 67		0	2.76	63.26	-0.0766	-0.0023	0
241	SLU 68		0	2.81	62.69	-0.0782	-0.002	0
241	SLU 69		0	2.74	65.22	-0.0755	-0.0027	0
241	SLU 70		0	2.81	64.89	-0.0776	-0.0023	0
241	SLU 71		0	2.75	64.87	-0.0758	-0.0027	0
241	SLU 72		0	2.81	64.54	-0.0778	-0.0023	0
241	SLU 73		0	2.92	68.58	-0.0812	-0.0023	0
241	SLU 74		0	2.85	71.1	-0.0785	-0.003	0
241	SLU 75		0	2.92	70.78	-0.0806	-0.0026	0
241	SLU 76		0	2.96	70.21	-0.0822	-0.0024	0
241	SLU 77		0	2.9	72.73	-0.0795	-0.003	0
241	SLU 78		0	2.96	72.41	-0.0815	-0.0027	0
241	SLU 79		0	2.9	72.38	-0.0797	-0.003	0
241	SLU 80		0	2.97	72.06	-0.0817	-0.0026	0
241	SLU 81		0	2.88	72.34	-0.0795	-0.0031	0
241	SLU 82		0	2.94	72.02	-0.0816	-0.0027	0
241	SLU 83		0	2.92	73.97	-0.0805	-0.0031	0
241	SLU 84		0	2.99	73.65	-0.0825	-0.0027	0
241	SLE RA 1		0	2.01	45.77	-0.056	-0.0019	0
241	SLE RA 2		0	2.08	45.41	-0.0583	-0.0015	0
241	SLE RA 3		0	2.04	47.09	-0.0565	-0.002	0
241	SLE RA 4		0	2.08	46.87	-0.0578	-0.0017	0
241	SLE RA 5		0	2.11	46.49	-0.0589	-0.0015	0
241	SLE RA 6		0	2.07	48.18	-0.0571	-0.002	0
241	SLE RA 7		0	2.11	47.96	-0.0584	-0.0018	0
241	SLE RA 8		0	2.07	47.94	-0.0573	-0.002	0
241	SLE RA 9		0	2.11	47.72	-0.0586	-0.0017	0
241	SLE RA 10		0	2.18	50.42	-0.0609	-0.0018	0
241	SLE RA 11		0	2.14	52.1	-0.0591	-0.0022	0
241	SLE RA 12		0	2.18	51.88	-0.0604	-0.002	0
241	SLE RA 13		0	2.21	51.5	-0.0615	-0.0018	0
241	SLE RA 14		0	2.17	53.19	-0.0597	-0.0022	0
241	SLE RA 15		0	2.21	52.97	-0.0611	-0.002	0
241	SLE RA 16		0	2.17	52.95	-0.0599	-0.0022	0
241	SLE RA 17		0	2.22	52.74	-0.0612	-0.002	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
241	SLE RA 18		0	2.16	52.93	-0.0598	-0.0022	0
241	SLE RA 19		0	2.2	52.71	-0.0611	-0.002	0
241	SLE RA 20		0	2.19	54.01	-0.0604	-0.0023	0
241	SLE RA 21		0	2.23	53.8	-0.0617	-0.002	0
241	SLE FR 1		0	2.01	45.77	-0.056	-0.0019	0
241	SLE FR 2		0	2.02	45.7	-0.0565	-0.0018	0
241	SLE FR 3		0	2.02	46.2	-0.0563	-0.0019	0
241	SLE FR 4		0	2.07	47.84	-0.0576	-0.0019	0
241	SLE FR 5		0	2.07	48.35	-0.0574	-0.002	0
241	SLE FR 6		0	2.08	49.35	-0.0579	-0.0021	0
241	SLE QP 1		0	2.01	45.77	-0.056	-0.0019	0
241	SLE QP 2		0	2.05	47.91	-0.0571	-0.002	0
241	SLD 1	0.23		5.09	48.63	-0.1561	0.2285	-0.0026
241	SLD 2	0.23		5.09	48.63	-0.1561	0.2285	-0.0026
241	SLD 3	0.29		1.58	50.33	-0.0422	0.2844	-0.0032
241	SLD 4	0.29		1.58	50.33	-0.0422	0.2844	-0.0032
241	SLD 5	-0.02		8.29	45.55	-0.2595	-0.0177	0.0002
241	SLD 6	-0.02		8.29	45.55	-0.2595	-0.0177	0.0002
241	SLD 7	0.17		-3.41	51.22	0.12	0.1687	-0.0019
241	SLD 8	0.17		-3.41	51.22	0.12	0.1687	-0.0019
241	SLD 9	-0.17		7.52	44.61	-0.2343	-0.1727	0.0019
241	SLD 10	-0.17		7.52	44.61	-0.2343	-0.1727	0.0019
241	SLD 11	0.01		-4.18	50.28	0.1452	0.0136	-0.0001
241	SLD 12	0.01		-4.18	50.28	0.1452	0.0136	-0.0001
241	SLD 13	-0.29		2.53	45.5	-0.0721	-0.2885	0.0032
241	SLD 14	-0.29		2.53	45.5	-0.0721	-0.2885	0.0032
241	SLD 15	-0.23		-0.98	47.2	0.0418	-0.2326	0.0026
241	SLD 16	-0.23		-0.98	47.2	0.0418	-0.2326	0.0026
241	SLV 1	0.59		9.24	49.66	-0.2915	0.5869	-0.0066
241	SLV 2	0.59		9.24	49.66	-0.2915	0.5869	-0.0066
241	SLV 3	0.74		0.99	53.66	-0.0239	0.7299	-0.0081
241	SLV 4	0.74		0.99	53.66	-0.0239	0.7299	-0.0081
241	SLV 5	-0.04		16.72	42.37	-0.5333	-0.0422	0.0004
241	SLV 6	-0.04		16.72	42.37	-0.5333	-0.0422	0.0004
241	SLV 7	0.44		-10.78	55.71	0.3587	0.4345	-0.0048
241	SLV 8	0.44		-10.78	55.71	0.3587	0.4345	-0.0048
241	SLV 9	-0.44		14.88	40.12	-0.473	-0.4385	0.0048
241	SLV 10	-0.44		14.88	40.12	-0.473	-0.4385	0.0048
241	SLV 11	0.04		-12.61	53.46	0.419	0.0382	-0.0004
241	SLV 12	0.04		-12.61	53.46	0.419	0.0382	-0.0004
241	SLV 13	-0.74		3.11	42.17	-0.0904	-0.734	0.0082
241	SLV 14	-0.74		3.11	42.17	-0.0904	-0.734	0.0082
241	SLV 15	-0.6		-5.14	46.17	0.1772	-0.591	0.0066
241	SLV 16	-0.6		-5.14	46.17	0.1772	-0.591	0.0066
242	SLU 1	0		1.37	46.33	-0.0526	0.0001	0
242	SLU 2	0		1.5	45.93	-0.0578	-0.0005	0
242	SLU 3	0		1.47	48.21	-0.0571	0.0002	0
242	SLU 4	0		1.55	47.97	-0.0602	-0.0002	0
242	SLU 5	0		1.65	47.37	-0.0643	-0.0004	0
242	SLU 6	0		1.62	49.64	-0.0636	0.0003	0
242	SLU 7	0		1.7	49.41	-0.0667	-0.0001	0
242	SLU 8	0		1.67	49.19	-0.0657	0.0003	0
242	SLU 9	0		1.75	48.96	-0.0688	0	0
242	SLU 10	0		1.48	53.83	-0.0575	-0.0005	0
242	SLU 11	0		1.45	56.1	-0.0568	0.0001	0
242	SLU 12	0		1.53	55.87	-0.0599	-0.0002	0
242	SLU 13	0		1.64	55.26	-0.064	-0.0004	0
242	SLU 14	0		1.61	57.53	-0.0634	0.0002	0
242	SLU 15	0		1.69	57.3	-0.0665	-0.0001	0
242	SLU 16	0		1.65	57.09	-0.0654	0.0002	0
242	SLU 17	0		1.74	56.85	-0.0685	-0.0001	0
242	SLU 18	0		1.34	57.6	-0.0522	0	0
242	SLU 19	0		1.42	57.37	-0.0553	-0.0003	0
242	SLU 20	0		1.5	59.04	-0.0587	0.0001	0
242	SLU 21	0		1.58	58.8	-0.0618	-0.0002	0
242	SLU 22	0		1.45	53.92	-0.0564	0.0001	0
242	SLU 23	0		1.58	53.53	-0.0615	-0.0004	0
242	SLU 24	0		1.55	55.8	-0.0609	0.0002	0
242	SLU 25	0		1.64	55.56	-0.064	-0.0001	0
242	SLU 26	0		1.74	54.96	-0.0681	-0.0003	0
242	SLU 27	0		1.71	57.23	-0.0674	0.0003	0
242	SLU 28	0		1.79	57	-0.0705	0	0
242	SLU 29	0		1.76	56.79	-0.0695	0.0003	0
242	SLU 30	0		1.84	56.55	-0.0726	0	0
242	SLU 31	0		1.57	61.42	-0.0613	-0.0005	0
242	SLU 32	0		1.54	63.69	-0.0606	0.0001	0
242	SLU 33	0		1.62	63.46	-0.0637	-0.0002	0
242	SLU 34	0		1.72	62.85	-0.0678	-0.0004	0
242	SLU 35	0		1.69	65.13	-0.0671	0.0002	0
242	SLU 36	0		1.77	64.89	-0.0703	-0.0001	0
242	SLU 37	0		1.74	64.68	-0.0692	0.0002	0
242	SLU 38	0		1.82	64.44	-0.0723	-0.0001	0
242	SLU 39	0		1.43	65.2	-0.056	0	0
242	SLU 40	0		1.51	64.96	-0.0591	-0.0003	0
242	SLU 41	0		1.58	66.63	-0.0625	0.0001	0
242	SLU 42	0		1.66	66.39	-0.0656	-0.0002	0
242	SLU 43	0		1.75	57.62	-0.067	0.0001	0
242	SLU 44	0		1.88	57.23	-0.0722	-0.0004	0
242	SLU 45	0		1.85	59.5	-0.0716	0.0002	0
242	SLU 46	0		1.93	59.27	-0.0747	-0.0001	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
242	SLU 47	0	2.03	58.66	-0.0788	-0.0003	0
242	SLU 48	0	2	60.94	-0.0781	0.0003	0
242	SLU 49	0	2.08	60.7	-0.0812	0	0
242	SLU 50	0	2.05	60.49	-0.0801	0.0003	0
242	SLU 51	0	2.13	60.25	-0.0833	0	0
242	SLU 52	0	1.86	65.12	-0.072	-0.0005	0
242	SLU 53	0	1.83	67.4	-0.0713	0.0001	0
242	SLU 54	0	1.91	67.16	-0.0744	-0.0002	0
242	SLU 55	0	2.02	66.56	-0.0785	-0.0004	0
242	SLU 56	0	1.99	68.83	-0.0778	0.0002	0
242	SLU 57	0	2.07	68.59	-0.0809	-0.0001	0
242	SLU 58	0	2.04	68.38	-0.0799	0.0002	0
242	SLU 59	0	2.12	68.15	-0.083	-0.0001	0
242	SLU 60	0	1.72	68.9	-0.0667	0	0
242	SLU 61	0	1.8	68.66	-0.0698	-0.0003	0
242	SLU 62	0	1.88	70.33	-0.0732	0.0001	0
242	SLU 63	0	1.96	70.1	-0.0763	-0.0002	0
242	SLU 64	0	1.83	65.21	-0.0708	0.0001	0
242	SLU 65	0	1.97	64.82	-0.076	-0.0004	0
242	SLU 66	0	1.93	67.09	-0.0753	0.0002	0
242	SLU 67	0	2.02	66.86	-0.0785	-0.0001	0
242	SLU 68	0	2.12	66.25	-0.0826	-0.0003	0
242	SLU 69	0	2.09	68.53	-0.0819	0.0003	0
242	SLU 70	0	2.17	68.29	-0.085	0	0
242	SLU 71	0	2.14	68.08	-0.0839	0.0003	0
242	SLU 72	0	2.22	67.85	-0.087	0	0
242	SLU 73	0	1.95	72.71	-0.0757	-0.0005	0
242	SLU 74	0	1.92	74.99	-0.0751	0.0001	0
242	SLU 75	0	2	74.75	-0.0782	-0.0002	0
242	SLU 76	0	2.1	74.15	-0.0823	-0.0004	0
242	SLU 77	0	2.07	76.42	-0.0816	0.0002	0
242	SLU 78	0	2.15	76.19	-0.0847	-0.0001	0
242	SLU 79	0	2.12	75.97	-0.0837	0.0002	0
242	SLU 80	0	2.2	75.74	-0.0868	-0.0001	0
242	SLU 81	0	1.81	76.49	-0.0704	0	0
242	SLU 82	0	1.89	76.25	-0.0736	-0.0003	0
242	SLU 83	0	1.96	77.92	-0.077	0.0001	0
242	SLU 84	0	2.04	77.69	-0.0801	-0.0002	0
242	SLE RA 1	0	1.39	48.49	-0.0537	0.0001	0
242	SLE RA 2	0	1.48	48.23	-0.0571	-0.0003	0
242	SLE RA 3	0	1.46	49.75	-0.0567	0.0001	0
242	SLE RA 4	0	1.51	49.59	-0.0587	-0.0001	0
242	SLE RA 5	0	1.58	49.19	-0.0615	-0.0002	0
242	SLE RA 6	0	1.56	50.7	-0.061	0.0002	0
242	SLE RA 7	0	1.61	50.55	-0.0631	0	0
242	SLE RA 8	0	1.59	50.41	-0.0624	0.0002	0
242	SLE RA 9	0	1.65	50.25	-0.0645	0	0
242	SLE RA 10	0	1.47	53.5	-0.0569	-0.0003	0
242	SLE RA 11	0	1.45	55.01	-0.0565	0.0001	0
242	SLE RA 12	0	1.5	54.85	-0.0585	-0.0001	0
242	SLE RA 13	0	1.57	54.45	-0.0613	-0.0002	0
242	SLE RA 14	0	1.55	55.97	-0.0608	0.0002	0
242	SLE RA 15	0	1.6	55.81	-0.0629	0	0
242	SLE RA 16	0	1.58	55.67	-0.0622	0.0002	0
242	SLE RA 17	0	1.64	55.51	-0.0643	0	0
242	SLE RA 18	0	1.37	56.01	-0.0534	0	0
242	SLE RA 19	0	1.43	55.86	-0.0555	-0.0002	0
242	SLE RA 20	0	1.48	56.97	-0.0578	0.0001	0
242	SLE RA 21	0	1.53	56.81	-0.0598	-0.0001	0
242	SLE FR 1	0	1.39	48.49	-0.0537	0.0001	0
242	SLE FR 2	0	1.41	48.44	-0.0543	0	0
242	SLE FR 3	0	1.43	48.88	-0.0554	0.0001	0
242	SLE FR 4	0	1.4	50.7	-0.0543	0	0
242	SLE FR 5	0	1.43	51.13	-0.0553	0.0001	0
242	SLE FR 6	0	1.38	52.25	-0.0535	0	0
242	SLE QP 1	0	1.39	48.49	-0.0537	0.0001	0
242	SLE QP 2	0	1.39	50.75	-0.0536	0	0
242	SLD 1	0.31	1.14	52.65	-0.0462	0.2871	-0.0005
242	SLD 2	0.31	1.14	52.65	-0.0462	0.2871	-0.0005
242	SLD 3	0.27	-3.69	53.9	0.1523	0.2503	-0.0004
242	SLD 4	0.27	-3.69	53.9	0.1523	0.2503	-0.0004
242	SLD 5	0.15	8.64	49.41	-0.3524	0.142	-0.0002
242	SLD 6	0.15	8.64	49.41	-0.3524	0.142	-0.0002
242	SLD 7	0.02	-7.46	53.61	0.3092	0.0193	0
242	SLD 8	0.02	-7.46	53.61	0.3092	0.0193	0
242	SLD 9	-0.02	10.23	47.9	-0.4164	-0.0192	0
242	SLD 10	-0.02	10.23	47.9	-0.4164	-0.0192	0
242	SLD 11	-0.15	-5.87	52.09	0.2452	-0.1419	0.0002
242	SLD 12	-0.15	-5.87	52.09	0.2452	-0.1419	0.0002
242	SLD 13	-0.27	6.46	47.6	-0.2595	-0.2502	0.0004
242	SLD 14	-0.27	6.46	47.6	-0.2595	-0.2502	0.0004
242	SLD 15	-0.31	1.63	48.85	-0.061	-0.287	0.0005
242	SLD 16	-0.31	1.63	48.85	-0.061	-0.287	0.0005
242	SLV 1	0.78	0.78	55.18	-0.0352	0.7325	-0.0012
242	SLV 2	0.78	0.78	55.18	-0.0352	0.7325	-0.0012
242	SLV 3	0.68	-10.6	58.19	0.4327	0.6387	-0.001
242	SLV 4	0.68	-10.6	58.19	0.4327	0.6387	-0.001
242	SLV 5	0.38	18.47	47.52	-0.7577	0.362	-0.0006
242	SLV 6	0.38	18.47	47.52	-0.7577	0.362	-0.0006
242	SLV 7	0.05	-19.48	57.55	0.8019	0.0494	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
242	SLV 8		0.05	-19.48	57.55	0.8019	0.0494	-0.0001
242	SLV 9		-0.05	22.25	43.96	-0.9091	-0.0493	0.0001
242	SLV 10		-0.05	22.25	43.96	-0.9091	-0.0493	0.0001
242	SLV 11		-0.38	-15.7	53.99	0.6506	-0.3619	0.0006
242	SLV 12		-0.38	-15.7	53.99	0.6506	-0.3619	0.0006
242	SLV 13		-0.68	13.37	43.31	-0.5398	-0.6386	0.001
242	SLV 14		-0.68	13.37	43.31	-0.5398	-0.6386	0.001
242	SLV 15		-0.78	1.99	46.32	-0.0719	-0.7324	0.0012
242	SLV 16		-0.78	1.99	46.32	-0.0719	-0.7324	0.0012
243	SLU 1		2.14	2.89	44.38	-0.1254	0.0086	0.0002
243	SLU 2		2.14	2.89	44.44	-0.1254	0.0086	0.0002
243	SLU 3		2.09	2.71	43.26	-0.1175	0.0101	0.0002
243	SLU 4		2.1	2.71	43.29	-0.1175	0.0101	0.0002
243	SLU 5		2.05	2.62	42.29	-0.1134	0.011	0.0002
243	SLU 6		2.01	2.45	41.12	-0.1055	0.0125	0.0002
243	SLU 7		2.01	2.45	41.15	-0.1056	0.0124	0.0002
243	SLU 8		1.96	2.36	40.09	-0.1014	0.0133	0.0002
243	SLU 9		1.97	2.36	40.12	-0.1014	0.0133	0.0002
243	SLU 10		2.57	3.39	52.29	-0.148	0.0175	0.0003
243	SLU 11		2.52	3.22	51.11	-0.1402	0.019	0.0002
243	SLU 12		2.52	3.22	51.14	-0.1402	0.019	0.0002
243	SLU 13		2.48	3.13	50.14	-0.1361	0.0198	0.0002
243	SLU 14		2.43	2.95	48.97	-0.1282	0.0213	0.0002
243	SLU 15		2.43	2.95	49	-0.1282	0.0213	0.0002
243	SLU 16		2.39	2.86	47.94	-0.1241	0.0222	0.0002
243	SLU 17		2.39	2.86	47.98	-0.1241	0.0222	0.0002
243	SLU 18		2.75	3.61	55.6	-0.1577	0.0213	0.0003
243	SLU 19		2.75	3.61	55.63	-0.1577	0.0213	0.0003
243	SLU 20		2.66	3.35	53.45	-0.1457	0.0237	0.0002
243	SLU 21		2.66	3.34	53.48	-0.1457	0.0237	0.0002
243	SLU 22		2.47	3.23	50.48	-0.1407	0.0153	0.0002
243	SLU 23		2.47	3.23	50.53	-0.1407	0.0153	0.0002
243	SLU 24		2.42	3.06	49.36	-0.1328	0.0168	0.0002
243	SLU 25		2.42	3.06	49.39	-0.1328	0.0167	0.0002
243	SLU 26		2.38	2.97	48.38	-0.1287	0.0176	0.0002
243	SLU 27		2.34	2.79	47.21	-0.1209	0.0191	0.0002
243	SLU 28		2.34	2.79	47.24	-0.1209	0.0191	0.0002
243	SLU 29		2.29	2.7	46.19	-0.1167	0.02	0.0002
243	SLU 30		2.29	2.7	46.22	-0.1168	0.02	0.0002
243	SLU 31		2.89	3.74	58.38	-0.1633	0.0241	0.0003
243	SLU 32		2.85	3.57	57.21	-0.1555	0.0256	0.0003
243	SLU 33		2.85	3.56	57.24	-0.1555	0.0256	0.0003
243	SLU 34		2.81	3.47	56.24	-0.1514	0.0265	0.0002
243	SLU 35		2.76	3.3	55.06	-0.1435	0.028	0.0002
243	SLU 36		2.76	3.3	55.09	-0.1435	0.028	0.0002
243	SLU 37		2.72	3.21	54.04	-0.1394	0.0289	0.0002
243	SLU 38		2.72	3.21	54.07	-0.1394	0.0288	0.0002
243	SLU 39		3.07	3.96	61.69	-0.173	0.028	0.0003
243	SLU 40		3.08	3.96	61.72	-0.173	0.028	0.0003
243	SLU 41		2.99	3.69	59.55	-0.1611	0.0303	0.0003
243	SLU 42		2.99	3.69	59.58	-0.1611	0.0303	0.0003
243	SLU 43		2.67	3.64	55.61	-0.1577	0.009	0.0003
243	SLU 44		2.67	3.64	55.66	-0.1577	0.0089	0.0003
243	SLU 45		2.62	3.46	54.49	-0.1499	0.0104	0.0003
243	SLU 46		2.62	3.46	54.52	-0.1499	0.0104	0.0003
243	SLU 47		2.58	3.37	53.52	-0.1458	0.0113	0.0002
243	SLU 48		2.54	3.2	52.34	-0.1379	0.0128	0.0002
243	SLU 49		2.54	3.2	52.37	-0.1379	0.0128	0.0002
243	SLU 50		2.49	3.1	51.32	-0.1338	0.0137	0.0002
243	SLU 51		2.49	3.1	51.35	-0.1338	0.0136	0.0002
243	SLU 52		3.09	4.14	63.51	-0.1804	0.0178	0.0003
243	SLU 53		3.05	3.97	62.34	-0.1725	0.0193	0.0003
243	SLU 54		3.05	3.97	62.37	-0.1725	0.0193	0.0003
243	SLU 55		3.01	3.88	61.37	-0.1684	0.0202	0.0003
243	SLU 56		2.96	3.7	60.19	-0.1605	0.0217	0.0003
243	SLU 57		2.96	3.7	60.22	-0.1606	0.0216	0.0003
243	SLU 58		2.92	3.61	59.17	-0.1564	0.0225	0.0002
243	SLU 59		2.92	3.61	59.2	-0.1564	0.0225	0.0002
243	SLU 60		3.27	4.36	66.82	-0.1901	0.0216	0.0003
243	SLU 61		3.28	4.36	66.86	-0.1901	0.0216	0.0003
243	SLU 62		3.19	4.09	64.68	-0.1781	0.024	0.0003
243	SLU 63		3.19	4.09	64.71	-0.1781	0.024	0.0003
243	SLU 64		2.99	3.98	61.7	-0.173	0.0156	0.0003
243	SLU 65		3	3.98	61.75	-0.1731	0.0156	0.0003
243	SLU 66		2.95	3.81	60.58	-0.1652	0.0171	0.0003
243	SLU 67		2.95	3.81	60.61	-0.1652	0.0171	0.0003
243	SLU 68		2.91	3.71	59.61	-0.1611	0.0179	0.0003
243	SLU 69		2.86	3.54	58.44	-0.1532	0.0194	0.0002
243	SLU 70		2.87	3.54	58.47	-0.1532	0.0194	0.0002
243	SLU 71		2.82	3.45	57.41	-0.1491	0.0203	0.0002
243	SLU 72		2.82	3.45	57.44	-0.1491	0.0203	0.0002
243	SLU 73		3.42	4.49	69.61	-0.1957	0.0245	0.0003
243	SLU 74		3.38	4.31	68.43	-0.1878	0.026	0.0003
243	SLU 75		3.38	4.31	68.46	-0.1878	0.0259	0.0003
243	SLU 76		3.34	4.22	67.46	-0.1837	0.0268	0.0003
243	SLU 77		3.29	4.05	66.29	-0.1759	0.0283	0.0003
243	SLU 78		3.29	4.05	66.32	-0.1759	0.0283	0.0003
243	SLU 79		3.25	3.96	65.26	-0.1717	0.0292	0.0003
243	SLU 80		3.25	3.95	65.29	-0.1717	0.0292	0.0003
243	SLU 81		3.6	4.7	72.92	-0.2054	0.0283	0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
243	SLU 82		3.6	4.7	72.95	-0.2054	0.0283	0.0004
243	SLU 83		3.52	4.44	70.77	-0.1934	0.0306	0.0003
243	SLU 84		3.52	4.44	70.8	-0.1934	0.0306	0.0003
243	SLE RA 1		2.23	2.99	46.12	-0.1297	0.0105	0.0002
243	SLE RA 2		2.23	2.99	46.16	-0.1298	0.0105	0.0002
243	SLE RA 3		2.2	2.87	45.38	-0.1245	0.0115	0.0002
243	SLE RA 4		2.2	2.87	45.4	-0.1245	0.0115	0.0002
243	SLE RA 5		2.18	2.81	44.73	-0.1218	0.0121	0.0002
243	SLE RA 6		2.14	2.69	43.95	-0.1165	0.0131	0.0002
243	SLE RA 7		2.15	2.69	43.97	-0.1165	0.0131	0.0002
243	SLE RA 8		2.12	2.63	43.26	-0.1138	0.0137	0.0002
243	SLE RA 9		2.12	2.63	43.28	-0.1138	0.0137	0.0002
243	SLE RA 10		2.52	3.32	51.39	-0.1448	0.0164	0.0003
243	SLE RA 11		2.49	3.21	50.61	-0.1396	0.0174	0.0002
243	SLE RA 12		2.49	3.21	50.63	-0.1396	0.0174	0.0002
243	SLE RA 13		2.46	3.15	49.96	-0.1369	0.018	0.0002
243	SLE RA 14		2.43	3.03	49.18	-0.1316	0.019	0.0002
243	SLE RA 15		2.43	3.03	49.2	-0.1316	0.019	0.0002
243	SLE RA 16		2.4	2.97	48.5	-0.1289	0.0196	0.0002
243	SLE RA 17		2.4	2.97	48.52	-0.1289	0.0196	0.0002
243	SLE RA 18		2.64	3.47	53.6	-0.1513	0.019	0.0003
243	SLE RA 19		2.64	3.47	53.62	-0.1513	0.019	0.0003
243	SLE RA 20		2.58	3.29	52.17	-0.1433	0.0206	0.0002
243	SLE RA 21		2.58	3.29	52.19	-0.1433	0.0206	0.0002
243	SLE FR 1		2.23	2.99	46.12	-0.1297	0.0105	0.0002
243	SLE FR 2		2.23	2.99	46.13	-0.1297	0.0105	0.0002
243	SLE FR 3		2.21	2.92	45.55	-0.1265	0.0112	0.0002
243	SLE FR 4		2.35	3.13	48.37	-0.1362	0.0131	0.0002
243	SLE FR 5		2.33	3.06	47.79	-0.133	0.0137	0.0002
243	SLE FR 6		2.43	3.23	49.86	-0.1405	0.0148	0.0002
243	SLE QP 1		2.23	2.99	46.12	-0.1297	0.0105	0.0002
243	SLE QP 2		2.35	3.13	48.37	-0.1362	0.0131	0.0002
243	SLD 1		2.16	6.09	56.38	-0.2601	-0.0384	0.0006
243	SLD 2		2.16	6.09	56.38	-0.2601	-0.0384	0.0006
243	SLD 3		1.89	2.35	48.87	-0.1048	-0.0287	0.0002
243	SLD 4		1.89	2.35	48.87	-0.1048	-0.0287	0.0002
243	SLD 5		2.72	9.69	62.16	-0.4089	-0.0171	0.001
243	SLD 6		2.72	9.69	62.16	-0.4089	-0.0171	0.001
243	SLD 7		1.79	-2.78	37.13	0.1087	0.0152	-0.0004
243	SLD 8		1.79	-2.78	37.13	0.1087	0.0152	-0.0004
243	SLD 9		2.91	9.04	59.61	-0.3812	0.0109	0.0009
243	SLD 10		2.91	9.04	59.61	-0.3812	0.0109	0.0009
243	SLD 11		1.99	-3.43	34.57	0.1365	0.0432	-0.0005
243	SLD 12		1.99	-3.43	34.57	0.1365	0.0432	-0.0005
243	SLD 13		2.82	3.91	47.87	-0.1676	0.0549	0.0002
243	SLD 14		2.82	3.91	47.87	-0.1676	0.0549	0.0002
243	SLD 15		2.54	0.17	40.35	-0.0123	0.0646	-0.0002
243	SLD 16		2.54	0.17	40.35	-0.0123	0.0646	-0.0002
243	SLV 1		1.92	10.1	67.45	-0.428	-0.1072	0.0012
243	SLV 2		1.92	10.1	67.45	-0.428	-0.1072	0.0012
243	SLV 3		1.25	1.29	49.36	-0.062	-0.0841	0.0002
243	SLV 4		1.25	1.29	49.36	-0.062	-0.0841	0.0002
243	SLV 5		3.24	18.59	81.53	-0.779	-0.0579	0.002
243	SLV 6		3.24	18.59	81.53	-0.779	-0.0579	0.002
243	SLV 7		1.01	-10.78	21.23	0.4413	0.0189	-0.0013
243	SLV 8		1.01	-10.78	21.23	0.4413	0.0189	-0.0013
243	SLV 9		3.7	17.04	75.5	-0.7137	0.0073	0.0017
243	SLV 10		3.7	17.04	75.5	-0.7137	0.0073	0.0017
243	SLV 11		1.47	-12.32	15.21	0.5065	0.0841	-0.0015
243	SLV 12		1.47	-12.32	15.21	0.5065	0.0841	-0.0015
243	SLV 13		3.45	4.97	47.37	-0.2104	0.1103	0.0003
243	SLV 14		3.45	4.97	47.37	-0.2104	0.1103	0.0003
243	SLV 15		2.79	-3.84	29.28	0.1556	0.1333	-0.0007
243	SLV 16		2.79	-3.84	29.28	0.1556	0.1333	-0.0007
244	SLU 1		-2.28	0	12.56	-0.0011	-0.0139	-0.0002
244	SLU 2		-2.28	0	12.58	-0.0011	-0.014	-0.0002
244	SLU 3		-2.17	0	12.1	-0.001	-0.0118	-0.0001
244	SLU 4		-2.18	0	12.11	-0.001	-0.0119	-0.0001
244	SLU 5		-2.09	0	11.73	-0.001	-0.0103	-0.0001
244	SLU 6		-1.99	0	11.25	-0.0008	-0.0082	-0.0001
244	SLU 7		-1.99	0	11.26	-0.0009	-0.0083	-0.0001
244	SLU 8		-1.91	0	10.86	-0.0008	-0.0066	-0.0001
244	SLU 9		-1.91	0	10.87	-0.0008	-0.0067	-0.0001
244	SLU 10		-2.48	0	14.14	-0.0013	-0.0084	-0.0002
244	SLU 11		-2.38	0	13.66	-0.0012	-0.0062	-0.0002
244	SLU 12		-2.38	0	13.67	-0.0012	-0.0063	-0.0002
244	SLU 13		-2.3	0	13.29	-0.0012	-0.0048	-0.0002
244	SLU 14		-2.19	0	12.81	-0.0011	-0.0026	-0.0002
244	SLU 15		-2.19	0	12.82	-0.0011	-0.0027	-0.0002
244	SLU 16		-2.11	0	12.42	-0.001	-0.0011	-0.0001
244	SLU 17		-2.11	0	12.43	-0.001	-0.0011	-0.0001
244	SLU 18		-2.56	0	14.79	-0.0014	-0.0059	-0.0002
244	SLU 19		-2.57	0	14.8	-0.0014	-0.006	-0.0002
244	SLU 20		-2.38	0	13.94	-0.0013	-0.0023	-0.0002
244	SLU 21		-2.38	0	13.95	-0.0013	-0.0024	-0.0002
244	SLU 22		-2.44	0	13.8	-0.0012	-0.0099	-0.0002
244	SLU 23		-2.45	0	13.82	-0.0012	-0.01	-0.0002
244	SLU 24		-2.34	0	13.33	-0.0011	-0.0079	-0.0002
244	SLU 25		-2.34	0	13.35	-0.0011	-0.0079	-0.0002
244	SLU 26		-2.26	0	12.97	-0.0011	-0.0064	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
244	SLU 27			-2.15	0	12.48	-0.001	-0.0043	-0.0001
244	SLU 28			-2.16	0	12.5	-0.001	-0.0043	-0.0001
244	SLU 29			-2.07	0	12.1	-0.0009	-0.0027	-0.0001
244	SLU 30			-2.07	0	12.11	-0.0009	-0.0027	-0.0001
244	SLU 31			-2.65	0	15.38	-0.0015	-0.0044	-0.0002
244	SLU 32			-2.54	0	14.9	-0.0013	-0.0023	-0.0002
244	SLU 33			-2.54	0	14.91	-0.0013	-0.0023	-0.0002
244	SLU 34			-2.46	0	14.53	-0.0013	-0.0008	-0.0002
244	SLU 35			-2.36	0	14.05	-0.0012	0.0013	-0.0002
244	SLU 36			-2.36	0	14.06	-0.0012	0.0013	-0.0002
244	SLU 37			-2.27	0	13.66	-0.0012	0.0029	-0.0002
244	SLU 38			-2.28	0	13.67	-0.0012	0.0028	-0.0002
244	SLU 39			-2.73	0	16.03	-0.0015	-0.002	-0.0002
244	SLU 40			-2.73	0	16.04	-0.0015	-0.002	-0.0002
244	SLU 41			-2.55	0	15.18	-0.0014	0.0016	-0.0002
244	SLU 42			-2.55	0	15.19	-0.0014	0.0016	-0.0002
244	SLU 43			-2.9	0	15.9	-0.0014	-0.0194	-0.0002
244	SLU 44			-2.91	0	15.92	-0.0014	-0.0195	-0.0002
244	SLU 45			-2.8	0	15.44	-0.0013	-0.0173	-0.0002
244	SLU 46			-2.8	0	15.45	-0.0013	-0.0174	-0.0002
244	SLU 47			-2.72	0	15.07	-0.0012	-0.0159	-0.0002
244	SLU 48			-2.61	0	14.59	-0.0011	-0.0137	-0.0002
244	SLU 49			-2.62	0	14.6	-0.0011	-0.0138	-0.0002
244	SLU 50			-2.53	0	14.2	-0.0011	-0.0122	-0.0002
244	SLU 51			-2.53	0	14.22	-0.0011	-0.0122	-0.0002
244	SLU 52			-3.11	0	17.49	-0.0016	-0.0139	-0.0002
244	SLU 53			-3	0	17	-0.0015	-0.0118	-0.0002
244	SLU 54			-3	0	17.02	-0.0015	-0.0118	-0.0002
244	SLU 55			-2.92	0	16.64	-0.0015	-0.0103	-0.0002
244	SLU 56			-2.82	0	16.15	-0.0013	-0.0082	-0.0002
244	SLU 57			-2.82	0	16.17	-0.0014	-0.0082	-0.0002
244	SLU 58			-2.73	0	15.77	-0.0013	-0.0066	-0.0002
244	SLU 59			-2.74	0	15.78	-0.0013	-0.0066	-0.0002
244	SLU 60			-3.19	0	18.13	-0.0017	-0.0114	-0.0002
244	SLU 61			-3.19	0	18.15	-0.0017	-0.0115	-0.0003
244	SLU 62			-3.01	0	17.28	-0.0015	-0.0078	-0.0002
244	SLU 63			-3.01	0	17.3	-0.0016	-0.0079	-0.0002
244	SLU 64			-3.07	0	17.14	-0.0015	-0.0154	-0.0002
244	SLU 65			-3.07	0	17.16	-0.0015	-0.0155	-0.0002
244	SLU 66			-2.97	0	16.68	-0.0014	-0.0134	-0.0002
244	SLU 67			-2.97	0	16.69	-0.0014	-0.0134	-0.0002
244	SLU 68			-2.89	0	16.31	-0.0014	-0.0119	-0.0002
244	SLU 69			-2.78	0	15.83	-0.0013	-0.0098	-0.0002
244	SLU 70			-2.78	0	15.84	-0.0013	-0.0098	-0.0002
244	SLU 71			-2.7	0	15.44	-0.0012	-0.0082	-0.0002
244	SLU 72			-2.7	0	15.45	-0.0012	-0.0083	-0.0002
244	SLU 73			-3.27	0	18.72	-0.0017	-0.01	-0.0003
244	SLU 74			-3.17	0	18.24	-0.0016	-0.0078	-0.0002
244	SLU 75			-3.17	0	18.25	-0.0016	-0.0079	-0.0002
244	SLU 76			-3.09	0	17.87	-0.0016	-0.0063	-0.0002
244	SLU 77			-2.98	0	17.39	-0.0015	-0.0042	-0.0002
244	SLU 78			-2.99	0	17.4	-0.0015	-0.0043	-0.0002
244	SLU 79			-2.9	0	17	-0.0014	-0.0026	-0.0002
244	SLU 80			-2.9	0	17.01	-0.0014	-0.0027	-0.0002
244	SLU 81			-3.36	0	19.37	-0.0018	-0.0075	-0.0003
244	SLU 82			-3.36	0	19.38	-0.0018	-0.0075	-0.0003
244	SLU 83			-3.17	0	18.52	-0.0017	-0.0039	-0.0002
244	SLU 84			-3.17	0	18.53	-0.0017	-0.0039	-0.0002
244	SLE RA 1			-2.32	0	12.91	-0.0011	-0.0127	-0.0002
244	SLE RA 2			-2.33	0	12.93	-0.0011	-0.0128	-0.0002
244	SLE RA 3			-2.25	0	12.6	-0.0011	-0.0114	-0.0002
244	SLE RA 4			-2.26	0	12.61	-0.0011	-0.0114	-0.0002
244	SLE RA 5			-2.2	0	12.36	-0.001	-0.0104	-0.0002
244	SLE RA 6			-2.13	0	12.04	-0.001	-0.009	-0.0001
244	SLE RA 7			-2.13	0	12.05	-0.001	-0.009	-0.0001
244	SLE RA 8			-2.08	0	11.78	-0.0009	-0.0079	-0.0001
244	SLE RA 9			-2.08	0	11.79	-0.0009	-0.008	-0.0001
244	SLE RA 10			-2.46	0	13.97	-0.0013	-0.0091	-0.0002
244	SLE RA 11			-2.39	0	13.65	-0.0012	-0.0077	-0.0002
244	SLE RA 12			-2.39	0	13.65	-0.0012	-0.0077	-0.0002
244	SLE RA 13			-2.34	0	13.4	-0.0012	-0.0067	-0.0002
244	SLE RA 14			-2.27	0	13.08	-0.0011	-0.0053	-0.0002
244	SLE RA 15			-2.27	0	13.09	-0.0011	-0.0053	-0.0002
244	SLE RA 16			-2.21	0	12.82	-0.0011	-0.0042	-0.0002
244	SLE RA 17			-2.21	0	12.83	-0.0011	-0.0042	-0.0002
244	SLE RA 18			-2.52	0	14.4	-0.0013	-0.0074	-0.0002
244	SLE RA 19			-2.52	0	14.41	-0.0013	-0.0075	-0.0002
244	SLE RA 20			-2.39	0	13.83	-0.0012	-0.005	-0.0002
244	SLE RA 21			-2.39	0	13.84	-0.0012	-0.0051	-0.0002
244	SLE FR 1			-2.32	0	12.91	-0.0011	-0.0127	-0.0002
244	SLE FR 2			-2.32	0	12.92	-0.0011	-0.0128	-0.0002
244	SLE FR 3			-2.27	0	12.69	-0.0011	-0.0118	-0.0002
244	SLE FR 4			-2.38	0	13.36	-0.0012	-0.0112	-0.0002
244	SLE FR 5			-2.33	0	13.13	-0.0012	-0.0102	-0.0002
244	SLE FR 6			-2.42	0	13.66	-0.0012	-0.0101	-0.0002
244	SLE QP 1			-2.32	0	12.91	-0.0011	-0.0127	-0.0002
244	SLE QP 2			-2.38	0	13.36	-0.0012	-0.0112	-0.0002
244	SLD 1			-3.91	-0.05	18.91	0.0052	-0.0635	0.0013
244	SLD 2			-3.91	-0.05	18.91	0.0052	-0.0635	0.0013
244	SLD 3			-3.28	-0.09	16.07	0.0105	-0.0509	0.0025



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
244	SLD 4			-3.28	-0.09	16.07	0.0105	-0.0509	0.0025
244	SLD 5			-3.8	0.05	19.32	-0.0073	-0.0459	-0.0015
244	SLD 6			-3.8	0.05	19.32	-0.0073	-0.0459	-0.0015
244	SLD 7			-1.69	-0.09	9.87	0.0103	-0.0041	0.0024
244	SLD 8			-1.69	-0.09	9.87	0.0103	-0.0041	0.0024
244	SLD 9			-3.07	0.09	16.84	-0.0127	-0.0182	-0.0027
244	SLD 10			-3.07	0.09	16.84	-0.0127	-0.0182	-0.0027
244	SLD 11			-0.96	-0.04	7.39	0.0049	0.0236	0.0011
244	SLD 12			-0.96	-0.04	7.39	0.0049	0.0236	0.0011
244	SLD 13			-1.49	0.1	10.64	-0.0129	0.0286	-0.0029
244	SLD 14			-1.49	0.1	10.64	-0.0129	0.0286	-0.0029
244	SLD 15			-0.85	0.06	7.81	-0.0076	0.0412	-0.0017
244	SLD 16			-0.85	0.06	7.81	-0.0076	0.0412	-0.0017
244	SLV 1			-5.96	-0.13	26.42	0.0145	-0.1335	0.0036
244	SLV 2			-5.96	-0.13	26.42	0.0145	-0.1335	0.0036
244	SLV 3			-4.45	-0.24	19.6	0.0278	-0.1035	0.0065
244	SLV 4			-4.45	-0.24	19.6	0.0278	-0.1035	0.0065
244	SLV 5			-5.76	0.12	27.61	-0.0166	-0.0934	-0.0035
244	SLV 6			-5.76	0.12	27.61	-0.0166	-0.0934	-0.0035
244	SLV 7			-0.7	-0.23	4.9	0.0277	0.0066	0.0063
244	SLV 8			-0.7	-0.23	4.9	0.0277	0.0066	0.0063
244	SLV 9			-4.06	0.23	21.82	-0.0301	-0.029	-0.0067
244	SLV 10			-4.06	0.23	21.82	-0.0301	-0.029	-0.0067
244	SLV 11			0.99	-0.11	-0.89	0.0143	0.0711	0.0032
244	SLV 12			0.99	-0.11	-0.89	0.0143	0.0711	0.0032
244	SLV 13			-0.31	0.24	7.11	-0.0302	0.0812	-0.0069
244	SLV 14			-0.31	0.24	7.11	-0.0302	0.0812	-0.0069
244	SLV 15			1.2	0.14	0.3	-0.0169	0.1112	-0.0039
244	SLV 16			1.2	0.14	0.3	-0.0169	0.1112	-0.0039
245	SLU 1			4.01	0.01	14.23	0.0057	0.1261	-0.0007
245	SLU 2			4.01	0.01	14.25	0.0058	0.1264	-0.0008
245	SLU 3			4.05	0.01	14.36	0.0059	0.1278	-0.0008
245	SLU 4			4.05	0.01	14.38	0.0059	0.1279	-0.0008
245	SLU 5			4	0.01	14.21	0.0058	0.1262	-0.0008
245	SLU 6			4.04	0.01	14.32	0.0059	0.1275	-0.0008
245	SLU 7			4.04	0.01	14.34	0.006	0.1277	-0.0008
245	SLU 8			3.99	0.01	14.15	0.0058	0.1257	-0.0008
245	SLU 9			3.99	0.01	14.16	0.0058	0.1258	-0.0008
245	SLU 10			4.86	0.01	17.38	0.0068	0.1524	-0.0009
245	SLU 11			4.9	0.01	17.49	0.0069	0.1537	-0.0009
245	SLU 12			4.91	0.01	17.51	0.007	0.1539	-0.0009
245	SLU 13			4.85	0.01	17.34	0.0068	0.1521	-0.0009
245	SLU 14			4.89	0.01	17.45	0.007	0.1535	-0.0009
245	SLU 15			4.9	0.01	17.47	0.007	0.1537	-0.0009
245	SLU 16			4.84	0.01	17.28	0.0068	0.1516	-0.0009
245	SLU 17			4.84	0.01	17.29	0.0069	0.1518	-0.0009
245	SLU 18			5.22	0.01	18.7	0.0072	0.1632	-0.0009
245	SLU 19			5.22	0.01	18.72	0.0072	0.1634	-0.0009
245	SLU 20			5.21	0.01	18.66	0.0072	0.163	-0.0009
245	SLU 21			5.22	0.01	18.68	0.0073	0.1631	-0.0009
245	SLU 22			4.68	0.01	16.69	0.0066	0.1471	-0.0009
245	SLU 23			4.69	0.01	16.71	0.0067	0.1473	-0.0009
245	SLU 24			4.73	0.01	16.82	0.0068	0.1487	-0.0009
245	SLU 25			4.73	0.01	16.84	0.0068	0.1489	-0.0009
245	SLU 26			4.68	0.01	16.67	0.0067	0.1471	-0.0009
245	SLU 27			4.72	0.01	16.78	0.0068	0.1485	-0.0009
245	SLU 28			4.72	0.01	16.8	0.0069	0.1486	-0.0009
245	SLU 29			4.66	0.01	16.61	0.0067	0.1466	-0.0009
245	SLU 30			4.67	0.01	16.62	0.0067	0.1468	-0.0009
245	SLU 31			5.54	0.01	19.85	0.0077	0.1733	-0.001
245	SLU 32			5.58	0.01	19.95	0.0078	0.1747	-0.001
245	SLU 33			5.58	0.01	19.97	0.0079	0.1748	-0.001
245	SLU 34			5.53	0.01	19.81	0.0078	0.1731	-0.001
245	SLU 35			5.57	0.01	19.91	0.0079	0.1744	-0.001
245	SLU 36			5.57	0.01	19.93	0.0079	0.1746	-0.001
245	SLU 37			5.51	0.01	19.74	0.0078	0.1726	-0.001
245	SLU 38			5.52	0.01	19.76	0.0078	0.1727	-0.001
245	SLU 39			5.9	0.01	21.16	0.0081	0.1841	-0.0011
245	SLU 40			5.9	0.01	21.18	0.0081	0.1843	-0.0011
245	SLU 41			5.89	0.01	21.12	0.0082	0.1839	-0.0011
245	SLU 42			5.89	0.01	21.14	0.0082	0.1841	-0.0011
245	SLU 43			4.97	0.01	17.65	0.0071	0.1568	-0.0009
245	SLU 44			4.98	0.01	17.68	0.0072	0.1571	-0.0009
245	SLU 45			5.02	0.01	17.79	0.0073	0.1584	-0.001
245	SLU 46			5.02	0.01	17.8	0.0073	0.1586	-0.001
245	SLU 47			4.97	0.01	17.64	0.0072	0.1568	-0.0009
245	SLU 48			5.01	0.01	17.75	0.0073	0.1582	-0.001
245	SLU 49			5.01	0.01	17.76	0.0074	0.1584	-0.001
245	SLU 50			4.95	0.01	17.57	0.0072	0.1563	-0.0009
245	SLU 51			4.96	0.01	17.59	0.0072	0.1565	-0.0009
245	SLU 52			5.83	0.01	20.81	0.0082	0.183	-0.0011
245	SLU 53			5.87	0.01	20.92	0.0083	0.1844	-0.0011
245	SLU 54			5.87	0.01	20.93	0.0084	0.1846	-0.0011
245	SLU 55			5.82	0.01	20.77	0.0083	0.1828	-0.0011
245	SLU 56			5.86	0.01	20.88	0.0084	0.1842	-0.0011
245	SLU 57			5.86	0.01	20.89	0.0084	0.1843	-0.0011
245	SLU 58			5.81	0.01	20.7	0.0083	0.1823	-0.0011
245	SLU 59			5.81	0.01	20.72	0.0083	0.1825	-0.0011
245	SLU 60			6.19	0.01	22.13	0.0086	0.1939	-0.0011
245	SLU 61			6.19	0.01	22.14	0.0086	0.194	-0.0011



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
245	SLU 62		6.18	0.01	22.09	0.0087	0.1936	-0.0011
245	SLU 63		6.18	0.01	22.1	0.0087	0.1938	-0.0011
245	SLU 64		5.65	0.01	20.11	0.008	0.1777	-0.001
245	SLU 65		5.66	0.01	20.14	0.0081	0.178	-0.0011
245	SLU 66		5.7	0.01	20.25	0.0082	0.1794	-0.0011
245	SLU 67		5.7	0.01	20.26	0.0082	0.1795	-0.0011
245	SLU 68		5.65	0.01	20.1	0.0081	0.1778	-0.0011
245	SLU 69		5.69	0.01	20.21	0.0083	0.1791	-0.0011
245	SLU 70		5.69	0.01	20.22	0.0083	0.1793	-0.0011
245	SLU 71		5.63	0.01	20.03	0.0081	0.1773	-0.0011
245	SLU 72		5.64	0.01	20.05	0.0081	0.1774	-0.0011
245	SLU 73		6.51	0.01	23.27	0.0091	0.204	-0.0012
245	SLU 74		6.55	0.01	23.38	0.0093	0.2053	-0.0012
245	SLU 75		6.55	0.01	23.39	0.0093	0.2055	-0.0012
245	SLU 76		6.5	0.01	23.23	0.0092	0.2037	-0.0012
245	SLU 77		6.54	0.01	23.34	0.0093	0.2051	-0.0012
245	SLU 78		6.54	0.01	23.35	0.0093	0.2053	-0.0012
245	SLU 79		6.48	0.01	23.17	0.0092	0.2032	-0.0012
245	SLU 80		6.49	0.01	23.18	0.0092	0.2034	-0.0012
245	SLU 81		6.87	0.01	24.59	0.0095	0.2148	-0.0012
245	SLU 82		6.87	0.01	24.6	0.0096	0.215	-0.0012
245	SLU 83		6.86	0.01	24.55	0.0096	0.2146	-0.0012
245	SLU 84		6.86	0.01	24.56	0.0096	0.2147	-0.0012
245	SLE RA 1		4.2	0.01	14.93	0.006	0.1321	-0.0008
245	SLE RA 2		4.2	0.01	14.95	0.006	0.1323	-0.0008
245	SLE RA 3		4.23	0.01	15.02	0.0061	0.1332	-0.0008
245	SLE RA 4		4.23	0.01	15.03	0.0061	0.1333	-0.0008
245	SLE RA 5		4.2	0.01	14.92	0.006	0.1321	-0.0008
245	SLE RA 6		4.22	0.01	14.99	0.0061	0.133	-0.0008
245	SLE RA 7		4.23	0.01	15	0.0061	0.1332	-0.0008
245	SLE RA 8		4.19	0.01	14.88	0.006	0.1318	-0.0008
245	SLE RA 9		4.19	0.01	14.89	0.0061	0.1319	-0.0008
245	SLE RA 10		4.77	0.01	17.04	0.0067	0.1496	-0.0009
245	SLE RA 11		4.8	0.01	17.11	0.0068	0.1505	-0.0009
245	SLE RA 12		4.8	0.01	17.12	0.0068	0.1506	-0.0009
245	SLE RA 13		4.76	0.01	17.01	0.0067	0.1494	-0.0009
245	SLE RA 14		4.79	0.01	17.08	0.0068	0.1504	-0.0009
245	SLE RA 15		4.79	0.01	17.09	0.0068	0.1505	-0.0009
245	SLE RA 16		4.75	0.01	16.97	0.0067	0.1491	-0.0009
245	SLE RA 17		4.76	0.01	16.98	0.0067	0.1492	-0.0009
245	SLE RA 18		5.01	0.01	17.91	0.007	0.1568	-0.0009
245	SLE RA 19		5.01	0.01	17.92	0.007	0.1569	-0.0009
245	SLE RA 20		5	0.01	17.89	0.007	0.1567	-0.0009
245	SLE RA 21		5.01	0.01	17.9	0.007	0.1568	-0.0009
245	SLE FR 1		4.2	0.01	14.93	0.006	0.1321	-0.0008
245	SLE FR 2		4.2	0.01	14.93	0.006	0.1321	-0.0008
245	SLE FR 3		4.2	0.01	14.92	0.006	0.132	-0.0008
245	SLE FR 4		4.44	0.01	15.83	0.0063	0.1396	-0.0008
245	SLE FR 5		4.44	0.01	15.82	0.0063	0.1395	-0.0008
245	SLE FR 6		4.6	0.01	16.42	0.0065	0.1445	-0.0008
245	SLE QP 1		4.2	0.01	14.93	0.006	0.1321	-0.0008
245	SLE QP 2		4.44	0.01	15.83	0.0063	0.1395	-0.0008
245	SLD 1		7.04	0.12	23.05	-0.0472	0.2382	0.008
245	SLD 2		7.04	0.12	23.05	-0.0472	0.2382	0.008
245	SLD 3		7.73	0.05	25.12	-0.0142	0.2625	0.0025
245	SLD 4		7.73	0.05	25.12	-0.0142	0.2625	0.0025
245	SLD 5		4.18	0.16	14.86	-0.0599	0.1323	0.0102
245	SLD 6		4.18	0.16	14.86	-0.0599	0.1323	0.0102
245	SLD 7		6.47	-0.1	21.75	0.0502	0.2133	-0.0082
245	SLD 8		6.47	-0.1	21.75	0.0502	0.2133	-0.0082
245	SLD 9		2.42	0.12	9.91	-0.0377	0.0658	0.0065
245	SLD 10		2.42	0.12	9.91	-0.0377	0.0658	0.0065
245	SLD 11		4.7	-0.14	16.79	0.0724	0.1468	-0.0118
245	SLD 12		4.7	-0.14	16.79	0.0724	0.1468	-0.0118
245	SLD 13		1.16	-0.03	6.53	0.0268	0.0166	-0.0042
245	SLD 14		1.16	-0.03	6.53	0.0268	0.0166	-0.0042
245	SLD 15		1.84	-0.11	8.6	0.0598	0.0408	-0.0097
245	SLD 16		1.84	-0.11	8.6	0.0598	0.0408	-0.0097
245	SLV 1		10.51	0.3	32.7	-0.1293	0.3699	0.0217
245	SLV 2		10.51	0.3	32.7	-0.1293	0.3699	0.0217
245	SLV 3		12.12	0.11	37.55	-0.0477	0.427	0.008
245	SLV 4		12.12	0.11	37.55	-0.0477	0.427	0.008
245	SLV 5		3.82	0.39	13.52	-0.1582	0.122	0.0267
245	SLV 6		3.82	0.39	13.52	-0.1582	0.122	0.0267
245	SLV 7		9.19	-0.26	29.71	0.1139	0.3124	-0.019
245	SLV 8		9.19	-0.26	29.71	0.1139	0.3124	-0.019
245	SLV 9		-0.3	0.28	1.94	-0.1013	-0.0334	0.0173
245	SLV 10		-0.3	0.28	1.94	-0.1013	-0.0334	0.0173
245	SLV 11		5.06	-0.37	18.13	0.1708	0.1571	-0.0283
245	SLV 12		5.06	-0.37	18.13	0.1708	0.1571	-0.0283
245	SLV 13		-3.24	-0.09	-5.9	0.0603	-0.1479	-0.0096
245	SLV 14		-3.24	-0.09	-5.9	0.0603	-0.1479	-0.0096
245	SLV 15		-1.63	-0.28	-1.04	0.1419	-0.0908	-0.0233
245	SLV 16		-1.63	-0.28	-1.04	0.1419	-0.0908	-0.0233
246	SLU 1		2.84	-0.02	23.57	0.0162	0.1497	-0.0002
246	SLU 2		2.85	-0.02	23.61	0.0163	0.15	-0.0002
246	SLU 3		2.88	-0.02	23.73	0.0166	0.1528	-0.0002
246	SLU 4		2.88	-0.02	23.75	0.0167	0.153	-0.0002
246	SLU 5		2.84	-0.02	23.48	0.0164	0.1511	-0.0002
246	SLU 6		2.87	-0.02	23.59	0.0167	0.154	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
246	SLU 7		2.87	-0.02	23.61	0.0168	0.1542	-0.0002
246	SLU 8		2.82	-0.02	23.3	0.0163	0.1519	-0.0002
246	SLU 9		2.83	-0.02	23.32	0.0164	0.1521	-0.0002
246	SLU 10		3.37	-0.03	28.76	0.0192	0.1798	-0.0002
246	SLU 11		3.4	-0.03	28.87	0.0196	0.1827	-0.0002
246	SLU 12		3.41	-0.03	28.89	0.0196	0.1829	-0.0002
246	SLU 13		3.36	-0.03	28.62	0.0193	0.1809	-0.0002
246	SLU 14		3.4	-0.03	28.73	0.0196	0.1838	-0.0002
246	SLU 15		3.4	-0.03	28.76	0.0197	0.184	-0.0002
246	SLU 16		3.35	-0.03	28.44	0.0192	0.1817	-0.0002
246	SLU 17		3.35	-0.03	28.47	0.0193	0.1819	-0.0002
246	SLU 18		3.59	-0.03	30.92	0.0204	0.1923	-0.0003
246	SLU 19		3.6	-0.03	30.94	0.0205	0.1925	-0.0003
246	SLU 20		3.58	-0.03	30.78	0.0204	0.1934	-0.0003
246	SLU 21		3.59	-0.03	30.81	0.0205	0.1936	-0.0003
246	SLU 22		3.27	-0.03	27.57	0.0187	0.1745	-0.0002
246	SLU 23		3.27	-0.03	27.61	0.0189	0.1749	-0.0002
246	SLU 24		3.31	-0.03	27.72	0.0192	0.1777	-0.0002
246	SLU 25		3.31	-0.03	27.74	0.0193	0.1779	-0.0002
246	SLU 26		3.27	-0.03	27.47	0.0189	0.176	-0.0002
246	SLU 27		3.3	-0.03	27.58	0.0192	0.1788	-0.0002
246	SLU 28		3.3	-0.03	27.61	0.0193	0.179	-0.0002
246	SLU 29		3.25	-0.03	27.29	0.0189	0.1768	-0.0002
246	SLU 30		3.25	-0.03	27.32	0.0189	0.177	-0.0002
246	SLU 31		3.8	-0.03	32.75	0.0218	0.2047	-0.0003
246	SLU 32		3.83	-0.03	32.86	0.0221	0.2076	-0.0003
246	SLU 33		3.84	-0.03	32.89	0.0222	0.2078	-0.0003
246	SLU 34		3.79	-0.03	32.61	0.0219	0.2058	-0.0003
246	SLU 35		3.82	-0.03	32.73	0.0222	0.2087	-0.0003
246	SLU 36		3.83	-0.03	32.75	0.0223	0.2089	-0.0003
246	SLU 37		3.78	-0.03	32.44	0.0218	0.2066	-0.0003
246	SLU 38		3.78	-0.03	32.46	0.0219	0.2068	-0.0003
246	SLU 39		4.02	-0.03	34.92	0.0229	0.2172	-0.0003
246	SLU 40		4.02	-0.03	34.94	0.023	0.2174	-0.0003
246	SLU 41		4.01	-0.03	34.78	0.023	0.2183	-0.0003
246	SLU 42		4.02	-0.03	34.8	0.0231	0.2185	-0.0003
246	SLU 43		3.54	-0.03	29.27	0.0201	0.186	-0.0002
246	SLU 44		3.55	-0.03	29.31	0.0203	0.1864	-0.0003
246	SLU 45		3.58	-0.03	29.43	0.0206	0.1892	-0.0003
246	SLU 46		3.59	-0.03	29.45	0.0207	0.1894	-0.0003
246	SLU 47		3.54	-0.03	29.18	0.0203	0.1875	-0.0003
246	SLU 48		3.57	-0.03	29.29	0.0207	0.1903	-0.0003
246	SLU 49		3.58	-0.03	29.31	0.0207	0.1905	-0.0003
246	SLU 50		3.53	-0.03	29	0.0203	0.1883	-0.0002
246	SLU 51		3.53	-0.03	29.02	0.0204	0.1885	-0.0003
246	SLU 52		4.08	-0.03	34.46	0.0232	0.2162	-0.0003
246	SLU 53		4.11	-0.03	34.57	0.0235	0.219	-0.0003
246	SLU 54		4.11	-0.03	34.59	0.0236	0.2192	-0.0003
246	SLU 55		4.07	-0.03	34.32	0.0233	0.2173	-0.0003
246	SLU 56		4.1	-0.03	34.43	0.0236	0.2202	-0.0003
246	SLU 57		4.1	-0.03	34.46	0.0237	0.2204	-0.0003
246	SLU 58		4.05	-0.03	34.14	0.0232	0.2181	-0.0003
246	SLU 59		4.06	-0.03	34.17	0.0233	0.2183	-0.0003
246	SLU 60		4.3	-0.03	36.62	0.0244	0.2287	-0.0003
246	SLU 61		4.3	-0.03	36.65	0.0244	0.2289	-0.0003
246	SLU 62		4.29	-0.03	36.49	0.0244	0.2298	-0.0003
246	SLU 63		4.29	-0.03	36.51	0.0245	0.23	-0.0003
246	SLU 64		3.97	-0.03	33.27	0.0227	0.2109	-0.0003
246	SLU 65		3.98	-0.03	33.31	0.0228	0.2112	-0.0003
246	SLU 66		4.01	-0.03	33.42	0.0232	0.2141	-0.0003
246	SLU 67		4.01	-0.03	33.45	0.0232	0.2143	-0.0003
246	SLU 68		3.97	-0.03	33.17	0.0229	0.2124	-0.0003
246	SLU 69		4	-0.03	33.29	0.0232	0.2152	-0.0003
246	SLU 70		4.01	-0.03	33.31	0.0233	0.2154	-0.0003
246	SLU 71		3.95	-0.03	33	0.0228	0.2131	-0.0003
246	SLU 72		3.96	-0.03	33.02	0.0229	0.2133	-0.0003
246	SLU 73		4.51	-0.04	38.45	0.0258	0.2411	-0.0003
246	SLU 74		4.54	-0.04	38.57	0.0261	0.2439	-0.0003
246	SLU 75		4.54	-0.04	38.59	0.0262	0.2441	-0.0003
246	SLU 76		4.5	-0.04	38.32	0.0258	0.2422	-0.0003
246	SLU 77		4.53	-0.04	38.43	0.0262	0.245	-0.0003
246	SLU 78		4.53	-0.04	38.45	0.0262	0.2452	-0.0003
246	SLU 79		4.48	-0.04	38.14	0.0258	0.243	-0.0003
246	SLU 80		4.49	-0.04	38.16	0.0259	0.2432	-0.0003
246	SLU 81		4.72	-0.04	40.62	0.0269	0.2535	-0.0003
246	SLU 82		4.73	-0.04	40.64	0.027	0.2537	-0.0003
246	SLU 83		4.72	-0.04	40.48	0.027	0.2546	-0.0003
246	SLU 84		4.72	-0.04	40.5	0.0271	0.2548	-0.0003
246	SLE RA 1		2.96	-0.02	24.71	0.0169	0.1568	-0.0002
246	SLE RA 2		2.97	-0.02	24.74	0.017	0.157	-0.0002
246	SLE RA 3		2.99	-0.02	24.82	0.0172	0.1589	-0.0002
246	SLE RA 4		2.99	-0.02	24.83	0.0173	0.159	-0.0002
246	SLE RA 5		2.96	-0.02	24.65	0.017	0.1577	-0.0002
246	SLE RA 6		2.98	-0.02	24.72	0.0172	0.1596	-0.0002
246	SLE RA 7		2.98	-0.02	24.74	0.0173	0.1598	-0.0002
246	SLE RA 8		2.95	-0.02	24.53	0.017	0.1583	-0.0002
246	SLE RA 9		2.95	-0.02	24.55	0.017	0.1584	-0.0002
246	SLE RA 10		3.32	-0.03	28.17	0.019	0.1769	-0.0002
246	SLE RA 11		3.34	-0.03	28.24	0.0192	0.1788	-0.0002
246	SLE RA 12		3.34	-0.03	28.26	0.0192	0.1789	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
246	SLE RA 13		3.31	-0.03	28.08	0.019	0.1776	-0.0002
246	SLE RA 14		3.33	-0.03	28.15	0.0192	0.1795	-0.0002
246	SLE RA 15		3.33	-0.03	28.17	0.0193	0.1797	-0.0002
246	SLE RA 16		3.3	-0.03	27.96	0.019	0.1781	-0.0002
246	SLE RA 17		3.3	-0.03	27.98	0.019	0.1783	-0.0002
246	SLE RA 18		3.46	-0.03	29.61	0.0197	0.1852	-0.0002
246	SLE RA 19		3.47	-0.03	29.63	0.0198	0.1853	-0.0002
246	SLE RA 20		3.46	-0.03	29.52	0.0197	0.1859	-0.0002
246	SLE RA 21		3.46	-0.03	29.54	0.0198	0.1861	-0.0002
246	SLE FR 1		2.96	-0.02	24.71	0.0169	0.1568	-0.0002
246	SLE FR 2		2.96	-0.02	24.72	0.0169	0.1568	-0.0002
246	SLE FR 3		2.96	-0.02	24.68	0.0169	0.1571	-0.0002
246	SLE FR 4		3.11	-0.03	26.19	0.0178	0.1653	-0.0002
246	SLE FR 5		3.11	-0.03	26.15	0.0178	0.1656	-0.0002
246	SLE FR 6		3.21	-0.03	27.16	0.0183	0.171	-0.0002
246	SLE QP 1		2.96	-0.02	24.71	0.0169	0.1568	-0.0002
246	SLE QP 2		3.11	-0.03	26.18	0.0177	0.1653	-0.0002
246	SLD 1		5.63	0.1	34.82	0.0519	0.3434	0.0018
246	SLD 2		5.63	0.1	34.82	0.0519	0.3434	0.0018
246	SLD 3		6.23	0.02	37.77	0.1056	0.3823	0.0007
246	SLD 4		6.23	0.02	37.77	0.1056	0.3823	0.0007
246	SLD 5		2.94	0.12	24.3	-0.0535	0.1599	0.0019
246	SLD 6		2.94	0.12	24.3	-0.0535	0.1599	0.0019
246	SLD 7		4.97	-0.12	34.14	0.1256	0.2893	-0.0015
246	SLD 8		4.97	-0.12	34.14	0.1256	0.2893	-0.0015
246	SLD 9		1.25	0.07	18.23	-0.0901	0.0413	0.0011
246	SLD 10		1.25	0.07	18.23	-0.0901	0.0413	0.0011
246	SLD 11		3.28	-0.17	28.07	0.089	0.1707	-0.0024
246	SLD 12		3.28	-0.17	28.07	0.089	0.1707	-0.0024
246	SLD 13		-0.01	-0.07	14.59	-0.0702	-0.0517	-0.0012
246	SLD 14		-0.01	-0.07	14.59	-0.0702	-0.0517	-0.0012
246	SLD 15		0.6	-0.15	17.55	-0.0164	-0.0129	-0.0022
246	SLD 16		0.6	-0.15	17.55	-0.0164	-0.0129	-0.0022
246	SLV 1		8.98	0.28	46.34	0.1088	0.5811	0.0048
246	SLV 2		8.98	0.28	46.34	0.1088	0.5811	0.0048
246	SLV 3		10.41	0.11	53.3	0.2389	0.6723	0.0023
246	SLV 4		10.41	0.11	53.3	0.2389	0.6723	0.0023
246	SLV 5		2.71	0.33	21.68	-0.1524	0.1518	0.0051
246	SLV 6		2.71	0.33	21.68	-0.1524	0.1518	0.0051
246	SLV 7		7.47	-0.25	44.86	0.2815	0.4557	-0.0032
246	SLV 8		7.47	-0.25	44.86	0.2815	0.4557	-0.0032
246	SLV 9		-1.25	0.2	7.5	-0.2461	-0.1251	0.0028
246	SLV 10		-1.25	0.2	7.5	-0.2461	-0.1251	0.0028
246	SLV 11		3.52	-0.39	30.68	0.1879	0.1788	-0.0055
246	SLV 12		3.52	-0.39	30.68	0.1879	0.1788	-0.0055
246	SLV 13		-4.19	-0.16	-0.93	-0.2035	-0.3417	-0.0027
246	SLV 14		-4.19	-0.16	-0.93	-0.2035	-0.3417	-0.0027
246	SLV 15		-2.76	-0.33	6.03	-0.0733	-0.2505	-0.0052
246	SLV 16		-2.76	-0.33	6.03	-0.0733	-0.2505	-0.0052
247	SLU 1		1.88	-0.03	22.22	0.0203	0.0707	-0.0006
247	SLU 2		1.89	-0.03	22.26	0.0205	0.0709	-0.0006
247	SLU 3		1.93	-0.03	22.29	0.0208	0.0726	-0.0006
247	SLU 4		1.93	-0.03	22.31	0.0209	0.0727	-0.0006
247	SLU 5		1.9	-0.03	22.03	0.0205	0.0715	-0.0006
247	SLU 6		1.94	-0.03	22.06	0.0209	0.0732	-0.0006
247	SLU 7		1.95	-0.03	22.08	0.021	0.0733	-0.0006
247	SLU 8		1.91	-0.03	21.76	0.0204	0.072	-0.0006
247	SLU 9		1.91	-0.03	21.79	0.0205	0.0721	-0.0006
247	SLU 10		2.19	-0.03	26.96	0.0242	0.0827	-0.0007
247	SLU 11		2.23	-0.04	26.99	0.0245	0.0844	-0.0007
247	SLU 12		2.23	-0.04	27.01	0.0246	0.0846	-0.0007
247	SLU 13		2.2	-0.03	26.73	0.0242	0.0834	-0.0007
247	SLU 14		2.24	-0.04	26.76	0.0246	0.0851	-0.0007
247	SLU 15		2.25	-0.04	26.78	0.0247	0.0852	-0.0007
247	SLU 16		2.21	-0.03	26.46	0.0241	0.0838	-0.0007
247	SLU 17		2.21	-0.03	26.49	0.0242	0.0839	-0.0007
247	SLU 18		2.31	-0.04	28.94	0.0256	0.0876	-0.0008
247	SLU 19		2.31	-0.04	28.96	0.0257	0.0877	-0.0008
247	SLU 20		2.32	-0.04	28.71	0.0256	0.0883	-0.0008
247	SLU 21		2.33	-0.04	28.73	0.0257	0.0884	-0.0008
247	SLU 22		2.15	-0.03	25.82	0.0235	0.0812	-0.0007
247	SLU 23		2.15	-0.03	25.86	0.0237	0.0814	-0.0007
247	SLU 24		2.2	-0.03	25.89	0.024	0.0831	-0.0007
247	SLU 25		2.2	-0.03	25.92	0.0241	0.0832	-0.0007
247	SLU 26		2.17	-0.03	25.63	0.0237	0.082	-0.0007
247	SLU 27		2.21	-0.03	25.66	0.0241	0.0838	-0.0007
247	SLU 28		2.21	-0.03	25.69	0.0242	0.0839	-0.0007
247	SLU 29		2.17	-0.03	25.37	0.0236	0.0825	-0.0007
247	SLU 30		2.18	-0.03	25.39	0.0237	0.0826	-0.0007
247	SLU 31		2.45	-0.04	30.57	0.0274	0.0933	-0.0008
247	SLU 32		2.49	-0.04	30.59	0.0277	0.095	-0.0008
247	SLU 33		2.5	-0.04	30.62	0.0278	0.0951	-0.0008
247	SLU 34		2.47	-0.04	30.34	0.0274	0.0939	-0.0008
247	SLU 35		2.51	-0.04	30.36	0.0278	0.0956	-0.0008
247	SLU 36		2.51	-0.04	30.39	0.0279	0.0957	-0.0008
247	SLU 37		2.47	-0.04	30.07	0.0273	0.0944	-0.0008
247	SLU 38		2.48	-0.04	30.09	0.0274	0.0945	-0.0008
247	SLU 39		2.58	-0.04	32.54	0.0288	0.0981	-0.0009
247	SLU 40		2.58	-0.04	32.56	0.0289	0.0983	-0.0009
247	SLU 41		2.59	-0.04	32.31	0.0288	0.0988	-0.0009



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
247	SLU 42		2.59	-0.04	32.33	0.0289	0.0989	-0.0009
247	SLU 43		2.36	-0.04	27.65	0.0253	0.0883	-0.0008
247	SLU 44		2.36	-0.04	27.69	0.0255	0.0885	-0.0008
247	SLU 45		2.4	-0.04	27.72	0.0258	0.0902	-0.0008
247	SLU 46		2.41	-0.04	27.74	0.0259	0.0903	-0.0008
247	SLU 47		2.37	-0.04	27.46	0.0255	0.0891	-0.0008
247	SLU 48		2.42	-0.04	27.49	0.0259	0.0908	-0.0008
247	SLU 49		2.42	-0.04	27.51	0.026	0.0909	-0.0008
247	SLU 50		2.38	-0.04	27.19	0.0254	0.0896	-0.0008
247	SLU 51		2.39	-0.04	27.22	0.0255	0.0897	-0.0008
247	SLU 52		2.66	-0.04	32.39	0.0292	0.1003	-0.0009
247	SLU 53		2.7	-0.04	32.42	0.0295	0.102	-0.0009
247	SLU 54		2.71	-0.04	32.44	0.0296	0.1022	-0.0009
247	SLU 55		2.67	-0.04	32.16	0.0292	0.101	-0.0009
247	SLU 56		2.72	-0.04	32.19	0.0296	0.1027	-0.0009
247	SLU 57		2.72	-0.04	32.21	0.0297	0.1028	-0.0009
247	SLU 58		2.68	-0.04	31.89	0.0291	0.1014	-0.0009
247	SLU 59		2.69	-0.04	31.92	0.0292	0.1015	-0.0009
247	SLU 60		2.78	-0.04	34.37	0.0306	0.1052	-0.0009
247	SLU 61		2.79	-0.04	34.39	0.0307	0.1053	-0.0009
247	SLU 62		2.8	-0.04	34.14	0.0306	0.1059	-0.0009
247	SLU 63		2.8	-0.04	34.16	0.0307	0.106	-0.0009
247	SLU 64		2.62	-0.04	31.25	0.0285	0.0988	-0.0009
247	SLU 65		2.63	-0.04	31.29	0.0287	0.099	-0.0009
247	SLU 66		2.67	-0.04	31.32	0.029	0.1007	-0.0009
247	SLU 67		2.67	-0.04	31.35	0.0291	0.1008	-0.0009
247	SLU 68		2.64	-0.04	31.06	0.0287	0.0996	-0.0009
247	SLU 69		2.68	-0.04	31.09	0.0291	0.1013	-0.0009
247	SLU 70		2.69	-0.04	31.12	0.0292	0.1015	-0.0009
247	SLU 71		2.65	-0.04	30.8	0.0286	0.1001	-0.0008
247	SLU 72		2.65	-0.04	30.82	0.0287	0.1002	-0.0008
247	SLU 73		2.93	-0.05	36	0.0324	0.1109	-0.001
247	SLU 74		2.97	-0.05	36.02	0.0327	0.1126	-0.001
247	SLU 75		2.97	-0.05	36.05	0.0328	0.1127	-0.001
247	SLU 76		2.94	-0.05	35.77	0.0324	0.1115	-0.001
247	SLU 77		2.98	-0.05	35.79	0.0328	0.1132	-0.001
247	SLU 78		2.98	-0.05	35.82	0.0329	0.1133	-0.001
247	SLU 79		2.95	-0.05	35.5	0.0323	0.1119	-0.001
247	SLU 80		2.95	-0.05	35.52	0.0324	0.1121	-0.001
247	SLU 81		3.05	-0.05	37.97	0.0338	0.1157	-0.001
247	SLU 82		3.05	-0.05	37.99	0.0339	0.1159	-0.001
247	SLU 83		3.06	-0.05	37.74	0.0338	0.1164	-0.001
247	SLU 84		3.07	-0.05	37.77	0.0339	0.1165	-0.001
247	SLE RA 1		1.96	-0.03	23.25	0.0212	0.0737	-0.0006
247	SLE RA 2		1.96	-0.03	23.28	0.0213	0.0738	-0.0006
247	SLE RA 3		1.99	-0.03	23.29	0.0216	0.075	-0.0006
247	SLE RA 4		1.99	-0.03	23.31	0.0216	0.075	-0.0006
247	SLE RA 5		1.97	-0.03	23.12	0.0214	0.0742	-0.0006
247	SLE RA 6		2	-0.03	23.14	0.0216	0.0754	-0.0006
247	SLE RA 7		2	-0.03	23.16	0.0217	0.0755	-0.0006
247	SLE RA 8		1.98	-0.03	22.94	0.0213	0.0745	-0.0006
247	SLE RA 9		1.98	-0.03	22.96	0.0213	0.0746	-0.0006
247	SLE RA 10		2.16	-0.03	26.41	0.0238	0.0817	-0.0007
247	SLE RA 11		2.19	-0.03	26.43	0.024	0.0829	-0.0007
247	SLE RA 12		2.19	-0.03	26.45	0.0241	0.0829	-0.0007
247	SLE RA 13		2.17	-0.03	26.26	0.0238	0.0822	-0.0007
247	SLE RA 14		2.2	-0.03	26.28	0.0241	0.0833	-0.0007
247	SLE RA 15		2.2	-0.03	26.29	0.0241	0.0834	-0.0007
247	SLE RA 16		2.18	-0.03	26.08	0.0237	0.0824	-0.0007
247	SLE RA 17		2.18	-0.03	26.09	0.0238	0.0825	-0.0007
247	SLE RA 18		2.24	-0.04	27.73	0.0247	0.085	-0.0007
247	SLE RA 19		2.25	-0.04	27.74	0.0248	0.0851	-0.0007
247	SLE RA 20		2.25	-0.04	27.57	0.0248	0.0854	-0.0007
247	SLE RA 21		2.25	-0.04	27.59	0.0248	0.0855	-0.0007
247	SLE FR 1		1.96	-0.03	23.25	0.0212	0.0737	-0.0006
247	SLE FR 2		1.96	-0.03	23.25	0.0212	0.0737	-0.0006
247	SLE FR 3		1.96	-0.03	23.19	0.0212	0.0739	-0.0006
247	SLE FR 4		2.04	-0.03	24.6	0.0223	0.0771	-0.0007
247	SLE FR 5		2.05	-0.03	24.53	0.0223	0.0772	-0.0007
247	SLE FR 6		2.1	-0.03	25.49	0.023	0.0793	-0.0007
247	SLE QP 1		1.96	-0.03	23.25	0.0212	0.0737	-0.0006
247	SLE QP 2		2.04	-0.03	24.59	0.0223	0.0771	-0.0007
247	SLD 1		5.5	-0.04	29.37	0.0386	0.2115	-0.0009
247	SLD 2		5.5	-0.04	29.37	0.0386	0.2115	-0.0009
247	SLD 3		6.12	-0.12	31.8	0.0832	0.2353	-0.0026
247	SLD 4		6.12	-0.12	31.8	0.0832	0.2353	-0.0026
247	SLD 5		2.14	0.09	22.35	-0.0404	0.0813	0.0019
247	SLD 6		2.14	0.09	22.35	-0.0404	0.0813	0.0019
247	SLD 7		4.21	-0.18	30.43	0.1082	0.1606	-0.0039
247	SLD 8		4.21	-0.18	30.43	0.1082	0.1606	-0.0039
247	SLD 9		-0.12	0.12	18.75	-0.0636	-0.0065	0.0025
247	SLD 10		-0.12	0.12	18.75	-0.0636	-0.0065	0.0025
247	SLD 11		1.95	-0.16	26.84	0.085	0.0728	-0.0032
247	SLD 12		1.95	-0.16	26.84	0.085	0.0728	-0.0032
247	SLD 13		-2.03	0.06	17.38	-0.0387	-0.0812	0.0013
247	SLD 14		-2.03	0.06	17.38	-0.0387	-0.0812	0.0013
247	SLD 15		-1.41	-0.03	19.81	0.0059	-0.0574	-0.0004
247	SLD 16		-1.41	-0.03	19.81	0.0059	-0.0574	-0.0004
247	SLV 1		10.11	-0.05	35.76	0.0678	0.3909	-0.0014
247	SLV 2		10.11	-0.05	35.76	0.0678	0.3909	-0.0014



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
247	SLV 3		11.56	-0.25	41.48	0.173	0.4469	-0.0055
247	SLV 4		11.56	-0.25	41.48	0.173	0.4469	-0.0055
247	SLV 5		2.25	0.27	19.26	-0.1235	0.0864	0.0053
247	SLV 6		2.25	0.27	19.26	-0.1235	0.0864	0.0053
247	SLV 7		7.11	-0.4	38.34	0.2269	0.2728	-0.0084
247	SLV 8		7.11	-0.4	38.34	0.2269	0.2728	-0.0084
247	SLV 9		-3.02	0.34	10.84	-0.1824	-0.1187	0.007
247	SLV 10		-3.02	0.34	10.84	-0.1824	-0.1187	0.007
247	SLV 11		1.83	-0.33	29.93	0.1681	0.0677	-0.0067
247	SLV 12		1.83	-0.33	29.93	0.1681	0.0677	-0.0067
247	SLV 13		-7.47	0.18	7.7	-0.1284	-0.2927	0.0042
247	SLV 14		-7.47	0.18	7.7	-0.1284	-0.2927	0.0042
247	SLV 15		-6.02	-0.02	13.43	-0.0233	-0.2368	0.0001
247	SLV 16		-6.02	-0.02	13.43	-0.0233	-0.2368	0.0001
248	SLU 1		0.65	-0.03	22.01	0.0222	0.0207	-0.0003
248	SLU 2		0.65	-0.03	22.05	0.0224	0.0208	-0.0003
248	SLU 3		0.69	-0.03	22.02	0.0228	0.022	-0.0003
248	SLU 4		0.69	-0.03	22.05	0.0229	0.0221	-0.0003
248	SLU 5		0.68	-0.03	21.74	0.0224	0.0218	-0.0003
248	SLU 6		0.71	-0.03	21.71	0.0228	0.023	-0.0003
248	SLU 7		0.71	-0.03	21.74	0.0229	0.0231	-0.0003
248	SLU 8		0.7	-0.03	21.39	0.0223	0.0227	-0.0003
248	SLU 9		0.7	-0.03	21.42	0.0224	0.0228	-0.0003
248	SLU 10		0.71	-0.04	26.53	0.0264	0.0233	-0.0004
248	SLU 11		0.74	-0.04	26.5	0.0268	0.0245	-0.0004
248	SLU 12		0.75	-0.04	26.53	0.0269	0.0246	-0.0004
248	SLU 13		0.74	-0.04	26.22	0.0265	0.0243	-0.0004
248	SLU 14		0.77	-0.04	26.2	0.0268	0.0255	-0.0004
248	SLU 15		0.77	-0.04	26.22	0.0269	0.0256	-0.0004
248	SLU 16		0.76	-0.04	25.87	0.0263	0.0252	-0.0004
248	SLU 17		0.76	-0.04	25.9	0.0264	0.0253	-0.0004
248	SLU 18		0.73	-0.04	28.41	0.028	0.0243	-0.0004
248	SLU 19		0.74	-0.04	28.43	0.0281	0.0243	-0.0004
248	SLU 20		0.76	-0.04	28.1	0.028	0.0253	-0.0004
248	SLU 21		0.76	-0.04	28.13	0.0281	0.0253	-0.0004
248	SLU 22		0.72	-0.04	25.41	0.0257	0.0236	-0.0004
248	SLU 23		0.72	-0.04	25.45	0.0259	0.0237	-0.0004
248	SLU 24		0.76	-0.04	25.43	0.0263	0.0249	-0.0004
248	SLU 25		0.76	-0.04	25.45	0.0264	0.0249	-0.0004
248	SLU 26		0.75	-0.04	25.15	0.0259	0.0247	-0.0004
248	SLU 27		0.78	-0.04	25.12	0.0263	0.0259	-0.0004
248	SLU 28		0.79	-0.04	25.15	0.0264	0.0259	-0.0004
248	SLU 29		0.77	-0.04	24.8	0.0257	0.0256	-0.0004
248	SLU 30		0.78	-0.04	24.82	0.0258	0.0257	-0.0004
248	SLU 31		0.78	-0.04	29.94	0.0299	0.0262	-0.0005
248	SLU 32		0.82	-0.04	29.91	0.0303	0.0274	-0.0005
248	SLU 33		0.82	-0.04	29.93	0.0304	0.0274	-0.0005
248	SLU 34		0.81	-0.04	29.63	0.0299	0.0272	-0.0004
248	SLU 35		0.84	-0.04	29.6	0.0303	0.0284	-0.0005
248	SLU 36		0.85	-0.04	29.63	0.0304	0.0284	-0.0005
248	SLU 37		0.83	-0.04	29.28	0.0298	0.0281	-0.0004
248	SLU 38		0.84	-0.04	29.3	0.0299	0.0281	-0.0004
248	SLU 39		0.81	-0.04	31.81	0.0315	0.0272	-0.0005
248	SLU 40		0.81	-0.04	31.84	0.0316	0.0272	-0.0005
248	SLU 41		0.83	-0.04	31.51	0.0315	0.0282	-0.0005
248	SLU 42		0.83	-0.04	31.53	0.0316	0.0282	-0.0005
248	SLU 43		0.82	-0.04	27.44	0.0277	0.026	-0.0004
248	SLU 44		0.82	-0.04	27.48	0.0279	0.026	-0.0004
248	SLU 45		0.85	-0.04	27.46	0.0283	0.0273	-0.0004
248	SLU 46		0.86	-0.04	27.48	0.0284	0.0273	-0.0004
248	SLU 47		0.85	-0.04	27.18	0.0279	0.027	-0.0004
248	SLU 48		0.88	-0.04	27.15	0.0283	0.0283	-0.0004
248	SLU 49		0.88	-0.04	27.17	0.0284	0.0283	-0.0004
248	SLU 50		0.87	-0.04	26.83	0.0277	0.028	-0.0004
248	SLU 51		0.87	-0.04	26.85	0.0279	0.028	-0.0004
248	SLU 52		0.88	-0.04	31.96	0.0319	0.0285	-0.0005
248	SLU 53		0.91	-0.04	31.94	0.0323	0.0298	-0.0005
248	SLU 54		0.92	-0.04	31.96	0.0324	0.0298	-0.0005
248	SLU 55		0.91	-0.04	31.66	0.0319	0.0295	-0.0005
248	SLU 56		0.94	-0.04	31.63	0.0323	0.0308	-0.0005
248	SLU 57		0.94	-0.04	31.66	0.0324	0.0308	-0.0005
248	SLU 58		0.93	-0.04	31.31	0.0318	0.0305	-0.0005
248	SLU 59		0.93	-0.04	31.33	0.0319	0.0305	-0.0005
248	SLU 60		0.9	-0.05	33.84	0.0335	0.0295	-0.0005
248	SLU 61		0.9	-0.05	33.87	0.0336	0.0296	-0.0005
248	SLU 62		0.93	-0.05	33.53	0.0335	0.0305	-0.0005
248	SLU 63		0.93	-0.05	33.56	0.0336	0.0306	-0.0005
248	SLU 64		0.89	-0.04	30.85	0.0312	0.0288	-0.0005
248	SLU 65		0.89	-0.04	30.89	0.0314	0.0289	-0.0005
248	SLU 66		0.93	-0.04	30.86	0.0317	0.0301	-0.0005
248	SLU 67		0.93	-0.04	30.89	0.0318	0.0302	-0.0005
248	SLU 68		0.92	-0.04	30.58	0.0314	0.0299	-0.0005
248	SLU 69		0.95	-0.04	30.55	0.0318	0.0311	-0.0005
248	SLU 70		0.96	-0.04	30.58	0.0319	0.0312	-0.0005
248	SLU 71		0.94	-0.04	30.23	0.0312	0.0309	-0.0005
248	SLU 72		0.94	-0.04	30.26	0.0313	0.0309	-0.0005
248	SLU 73		0.95	-0.05	35.37	0.0354	0.0314	-0.0005
248	SLU 74		0.99	-0.05	35.34	0.0358	0.0326	-0.0005
248	SLU 75		0.99	-0.05	35.37	0.0359	0.0327	-0.0005
248	SLU 76		0.98	-0.05	35.06	0.0354	0.0324	-0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
248	SLU 77		1.01	-0.05	35.03	0.0358	0.0336	-0.0005
248	SLU 78		1.02	-0.05	35.06	0.0359	0.0337	-0.0005
248	SLU 79		1	-0.05	34.71	0.0353	0.0333	-0.0005
248	SLU 80		1	-0.05	34.74	0.0354	0.0334	-0.0005
248	SLU 81		0.98	-0.05	37.25	0.037	0.0324	-0.0006
248	SLU 82		0.98	-0.05	37.27	0.0371	0.0324	-0.0006
248	SLU 83		1	-0.05	36.94	0.037	0.0334	-0.0006
248	SLU 84		1	-0.05	36.97	0.0371	0.0334	-0.0006
248	SLE RA 1		0.67	-0.03	22.98	0.0232	0.0216	-0.0004
248	SLE RA 2		0.67	-0.03	23.01	0.0233	0.0216	-0.0004
248	SLE RA 3		0.69	-0.03	22.99	0.0236	0.0224	-0.0004
248	SLE RA 4		0.7	-0.03	23.01	0.0237	0.0224	-0.0004
248	SLE RA 5		0.69	-0.03	22.8	0.0234	0.0223	-0.0004
248	SLE RA 6		0.71	-0.03	22.78	0.0236	0.0231	-0.0004
248	SLE RA 7		0.71	-0.03	22.8	0.0237	0.0231	-0.0004
248	SLE RA 8		0.7	-0.03	22.57	0.0232	0.0229	-0.0003
248	SLE RA 9		0.71	-0.03	22.59	0.0233	0.0229	-0.0003
248	SLE RA 10		0.71	-0.04	26	0.026	0.0233	-0.0004
248	SLE RA 11		0.73	-0.04	25.98	0.0263	0.0241	-0.0004
248	SLE RA 12		0.73	-0.04	25.99	0.0264	0.0241	-0.0004
248	SLE RA 13		0.73	-0.04	25.79	0.026	0.0239	-0.0004
248	SLE RA 14		0.75	-0.04	25.77	0.0263	0.0248	-0.0004
248	SLE RA 15		0.75	-0.04	25.79	0.0264	0.0248	-0.0004
248	SLE RA 16		0.74	-0.04	25.56	0.0259	0.0246	-0.0004
248	SLE RA 17		0.74	-0.04	25.57	0.026	0.0246	-0.0004
248	SLE RA 18		0.73	-0.04	27.25	0.0271	0.0239	-0.0004
248	SLE RA 19		0.73	-0.04	27.26	0.0271	0.0239	-0.0004
248	SLE RA 20		0.74	-0.04	27.04	0.0271	0.0246	-0.0004
248	SLE RA 21		0.74	-0.04	27.06	0.0272	0.0246	-0.0004
248	SLE FR 1		0.67	-0.03	22.98	0.0232	0.0216	-0.0004
248	SLE FR 2		0.67	-0.03	22.98	0.0232	0.0216	-0.0004
248	SLE FR 3		0.68	-0.03	22.9	0.0232	0.0218	-0.0004
248	SLE FR 4		0.69	-0.03	24.27	0.0244	0.0223	-0.0004
248	SLE FR 5		0.69	-0.03	24.18	0.0244	0.0225	-0.0004
248	SLE FR 6		0.7	-0.03	25.11	0.0251	0.0227	-0.0004
248	SLE QP 1		0.67	-0.03	22.98	0.0232	0.0216	-0.0004
248	SLE QP 2		0.69	-0.03	24.26	0.0244	0.0223	-0.0004
248	SLD 1		4.31	-0.11	27.41	0.0192	0.1355	-0.0011
248	SLD 2		4.31	-0.11	27.41	0.0192	0.1355	-0.0011
248	SLD 3		4.77	-0.01	29.67	0.0647	0.1504	-0.0002
248	SLD 4		4.77	-0.01	29.67	0.0647	0.1504	-0.0002
248	SLD 5		1.09	-0.2	21.78	-0.0461	0.0336	-0.0021
248	SLD 6		1.09	-0.2	21.78	-0.0461	0.0336	-0.0021
248	SLD 7		2.6	0.12	29.31	0.1054	0.0834	0.0012
248	SLD 8		2.6	0.12	29.31	0.1054	0.0834	0.0012
248	SLD 9		-1.22	0.12	19.21	-0.0567	-0.0388	-0.0019
248	SLD 10		-1.22	-0.18	19.21	-0.0567	-0.0388	-0.0019
248	SLD 11		0.29	0.13	26.74	0.0949	0.011	0.0013
248	SLD 12		0.29	0.13	26.74	0.0949	0.011	0.0013
248	SLD 13		-3.39	-0.05	18.85	-0.016	-0.1059	-0.0006
248	SLD 14		-3.39	-0.05	18.85	-0.016	-0.1059	-0.0006
248	SLD 15		-2.94	0.04	21.11	0.0295	-0.091	0.0004
248	SLD 16		-2.94	0.04	21.11	0.0295	-0.091	0.0004
248	SLV 1		9.15	-0.21	31.62	0.0131	0.2865	-0.0022
248	SLV 2		9.15	-0.21	31.62	0.0131	0.2865	-0.0022
248	SLV 3		10.21	0.02	36.96	0.1202	0.3216	0.0001
248	SLV 4		10.21	0.02	36.96	0.1202	0.3216	0.0001
248	SLV 5		1.61	-0.44	18.36	-0.1414	0.0483	-0.0045
248	SLV 6		1.61	-0.44	18.36	-0.1414	0.0483	-0.0045
248	SLV 7		5.16	0.34	36.18	0.2155	0.1653	0.0033
248	SLV 8		5.16	0.34	36.18	0.2155	0.1653	0.0033
248	SLV 9		-3.79	-0.4	12.34	-0.1667	-0.1208	-0.0041
248	SLV 10		-3.79	-0.4	12.34	-0.1667	-0.1208	-0.0041
248	SLV 11		-0.23	0.37	30.16	0.1901	-0.0038	0.0037
248	SLV 12		-0.23	0.37	30.16	0.1901	-0.0038	0.0037
248	SLV 13		-8.84	-0.09	11.56	-0.0714	-0.2771	-0.0009
248	SLV 14		-8.84	-0.09	11.56	-0.0714	-0.2771	-0.0009
248	SLV 15		-7.77	0.15	16.9	0.0357	-0.242	0.0015
248	SLV 16		-7.77	0.15	16.9	0.0357	-0.242	0.0015
249	SLU 1		-0.28	-0.03	21.41	0.0214	-0.0064	0
249	SLU 2		-0.29	-0.03	21.46	0.0215	-0.0064	0
249	SLU 3		-0.27	-0.03	21.37	0.0219	-0.0058	0
249	SLU 4		-0.27	-0.03	21.39	0.022	-0.0058	0
249	SLU 5		-0.26	-0.03	21.08	0.0215	-0.0055	0
249	SLU 6		-0.24	-0.03	20.99	0.0219	-0.0049	0
249	SLU 7		-0.24	-0.03	21.02	0.022	-0.0049	0
249	SLU 8		-0.23	-0.03	20.66	0.0214	-0.0046	0
249	SLU 9		-0.23	-0.03	20.68	0.0215	-0.0046	0
249	SLU 10		-0.38	-0.04	25.69	0.0254	-0.0084	0
249	SLU 11		-0.37	-0.04	25.6	0.0258	-0.0078	0
249	SLU 12		-0.37	-0.04	25.62	0.0258	-0.0078	0
249	SLU 13		-0.36	-0.04	25.31	0.0254	-0.0075	0
249	SLU 14		-0.34	-0.04	25.22	0.0258	-0.0069	0
249	SLU 15		-0.34	-0.04	25.25	0.0259	-0.0069	0
249	SLU 16		-0.33	-0.04	24.89	0.0253	-0.0066	0
249	SLU 17		-0.33	-0.04	24.91	0.0254	-0.0066	0
249	SLU 18		-0.42	-0.04	27.45	0.0269	-0.0092	0
249	SLU 19		-0.42	-0.04	27.48	0.027	-0.0092	0
249	SLU 20		-0.4	-0.04	27.08	0.0269	-0.0083	0
249	SLU 21		-0.4	-0.04	27.1	0.027	-0.0084	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
249	SLU 22			-0.35	-0.04	24.59	0.0247	-0.0074	0
249	SLU 23			-0.35	-0.04	24.63	0.0248	-0.0075	0
249	SLU 24			-0.33	-0.04	24.54	0.0252	-0.0069	0
249	SLU 25			-0.33	-0.04	24.57	0.0253	-0.0069	0
249	SLU 26			-0.32	-0.04	24.25	0.0249	-0.0066	0
249	SLU 27			-0.3	-0.04	24.17	0.0252	-0.006	0
249	SLU 28			-0.31	-0.04	24.19	0.0253	-0.006	0
249	SLU 29			-0.29	-0.04	23.83	0.0247	-0.0057	0
249	SLU 30			-0.3	-0.04	23.86	0.0248	-0.0057	0
249	SLU 31			-0.44	-0.04	28.86	0.0287	-0.0095	0
249	SLU 32			-0.43	-0.04	28.77	0.0291	-0.0089	0
249	SLU 33			-0.43	-0.04	28.8	0.0292	-0.0089	0
249	SLU 34			-0.42	-0.04	28.48	0.0287	-0.0086	0
249	SLU 35			-0.4	-0.04	28.4	0.0291	-0.008	0
249	SLU 36			-0.4	-0.04	28.42	0.0292	-0.008	0
249	SLU 37			-0.39	-0.04	28.06	0.0286	-0.0077	0
249	SLU 38			-0.39	-0.04	28.09	0.0287	-0.0077	0
249	SLU 39			-0.48	-0.04	30.63	0.0302	-0.0103	0
249	SLU 40			-0.48	-0.04	30.66	0.0303	-0.0103	0
249	SLU 41			-0.46	-0.04	30.25	0.0302	-0.0094	0
249	SLU 42			-0.46	-0.04	30.28	0.0303	-0.0094	0
249	SLU 43			-0.35	-0.04	26.75	0.0266	-0.0079	0
249	SLU 44			-0.35	-0.04	26.79	0.0268	-0.008	0
249	SLU 45			-0.33	-0.04	26.7	0.0272	-0.0074	0
249	SLU 46			-0.33	-0.04	26.73	0.0272	-0.0074	0
249	SLU 47			-0.33	-0.04	26.41	0.0268	-0.0071	0
249	SLU 48			-0.31	-0.04	26.32	0.0272	-0.0065	0
249	SLU 49			-0.31	-0.04	26.35	0.0273	-0.0065	0
249	SLU 50			-0.3	-0.04	25.99	0.0267	-0.0062	0
249	SLU 51			-0.3	-0.04	26.02	0.0268	-0.0062	0
249	SLU 52			-0.45	-0.04	31.02	0.0306	-0.01	0
249	SLU 53			-0.43	-0.04	30.93	0.031	-0.0093	0
249	SLU 54			-0.43	-0.05	30.96	0.0311	-0.0094	0
249	SLU 55			-0.42	-0.04	30.64	0.0307	-0.0091	0
249	SLU 56			-0.4	-0.04	30.55	0.031	-0.0085	0
249	SLU 57			-0.41	-0.04	30.58	0.0311	-0.0085	0
249	SLU 58			-0.39	-0.04	30.22	0.0305	-0.0081	0
249	SLU 59			-0.4	-0.04	30.25	0.0306	-0.0082	0
249	SLU 60			-0.49	-0.05	32.79	0.0321	-0.0108	0
249	SLU 61			-0.49	-0.05	32.82	0.0322	-0.0108	0
249	SLU 62			-0.46	-0.05	32.41	0.0322	-0.0099	0
249	SLU 63			-0.46	-0.05	32.44	0.0323	-0.0099	0
249	SLU 64			-0.41	-0.04	29.92	0.0299	-0.009	0
249	SLU 65			-0.41	-0.04	29.97	0.0301	-0.009	0
249	SLU 66			-0.39	-0.04	29.88	0.0305	-0.0084	0
249	SLU 67			-0.4	-0.04	29.9	0.0306	-0.0084	0
249	SLU 68			-0.39	-0.04	29.59	0.0301	-0.0081	0
249	SLU 69			-0.37	-0.04	29.5	0.0305	-0.0075	0
249	SLU 70			-0.37	-0.04	29.53	0.0306	-0.0075	0
249	SLU 71			-0.36	-0.04	29.17	0.03	-0.0072	0
249	SLU 72			-0.36	-0.04	29.19	0.0301	-0.0072	0
249	SLU 73			-0.51	-0.05	34.2	0.034	-0.011	0
249	SLU 74			-0.49	-0.05	34.11	0.0343	-0.0104	0
249	SLU 75			-0.49	-0.05	34.13	0.0344	-0.0104	0
249	SLU 76			-0.48	-0.05	33.82	0.034	-0.0101	0
249	SLU 77			-0.46	-0.05	33.73	0.0344	-0.0095	0
249	SLU 78			-0.47	-0.05	33.76	0.0345	-0.0095	0
249	SLU 79			-0.46	-0.05	33.4	0.0339	-0.0092	0
249	SLU 80			-0.46	-0.05	33.42	0.034	-0.0092	0
249	SLU 81			-0.55	-0.05	35.96	0.0355	-0.0118	0
249	SLU 82			-0.55	-0.05	35.99	0.0356	-0.0119	0
249	SLU 83			-0.52	-0.05	35.59	0.0355	-0.011	0
249	SLU 84			-0.52	-0.05	35.61	0.0356	-0.011	0
249	SLE RA 1			-0.3	-0.03	22.32	0.0223	-0.0067	0
249	SLE RA 2			-0.3	-0.03	22.35	0.0224	-0.0067	0
249	SLE RA 3			-0.29	-0.03	22.29	0.0227	-0.0063	0
249	SLE RA 4			-0.29	-0.03	22.31	0.0227	-0.0063	0
249	SLE RA 5			-0.29	-0.03	22.1	0.0224	-0.0061	0
249	SLE RA 6			-0.27	-0.03	22.04	0.0227	-0.0057	0
249	SLE RA 7			-0.28	-0.03	22.06	0.0227	-0.0057	0
249	SLE RA 8			-0.27	-0.03	21.82	0.0223	-0.0055	0
249	SLE RA 9			-0.27	-0.03	21.83	0.0224	-0.0055	0
249	SLE RA 10			-0.37	-0.04	25.17	0.025	-0.008	0
249	SLE RA 11			-0.36	-0.04	25.11	0.0252	-0.0076	0
249	SLE RA 12			-0.36	-0.04	25.13	0.0253	-0.0076	0
249	SLE RA 13			-0.35	-0.04	24.92	0.025	-0.0074	0
249	SLE RA 14			-0.34	-0.04	24.86	0.0253	-0.007	0
249	SLE RA 15			-0.34	-0.04	24.88	0.0253	-0.007	0
249	SLE RA 16			-0.33	-0.04	24.64	0.0249	-0.0068	0
249	SLE RA 17			-0.33	-0.04	24.65	0.025	-0.0068	0
249	SLE RA 18			-0.39	-0.04	26.35	0.026	-0.0086	0
249	SLE RA 19			-0.39	-0.04	26.36	0.026	-0.0086	0
249	SLE RA 20			-0.38	-0.04	26.1	0.026	-0.008	0
249	SLE RA 21			-0.38	-0.04	26.11	0.0261	-0.008	0
249	SLE FR 1			-0.3	-0.03	22.32	0.0223	-0.0067	0
249	SLE FR 2			-0.3	-0.03	22.32	0.0223	-0.0067	0
249	SLE FR 3			-0.3	-0.03	22.22	0.0223	-0.0065	0
249	SLE FR 4			-0.33	-0.03	23.53	0.0234	-0.0073	0
249	SLE FR 5			-0.32	-0.03	23.43	0.0234	-0.007	0
249	SLE FR 6			-0.35	-0.03	24.33	0.0241	-0.0076	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.		x	y	z	
249	SLE QP 1		-0.3	-0.03	22.32	0.0223	-0.0067	0
249	SLE QP 2		-0.33	-0.03	23.53	0.0234	-0.0073	0
249	SLD 1		3.53	-0.12	25.67	0.0224	0.0994	0.0002
249	SLD 2		3.53	-0.12	25.67	0.0224	0.0994	0.0002
249	SLD 3		3.89	-0.03	27.65	0.07	0.1095	0
249	SLD 4		3.89	-0.03	27.65	0.07	0.1095	0
249	SLD 5		0.28	-0.21	21.17	-0.0492	0.0095	0.0002
249	SLD 6		0.28	-0.21	21.17	-0.0492	0.0095	0.0002
249	SLD 7		1.49	0.11	27.77	0.1097	0.043	-0.0001
249	SLD 8		1.49	0.11	27.77	0.1097	0.043	-0.0001
249	SLD 9		-2.15	-0.18	19.29	-0.0629	-0.0576	0.0002
249	SLD 10		-2.15	-0.18	19.29	-0.0629	-0.0576	0.0002
249	SLD 11		-0.94	0.14	25.89	0.0961	-0.024	-0.0002
249	SLD 12		-0.94	0.14	25.89	0.0961	-0.024	-0.0002
249	SLD 13		-4.55	-0.04	19.4	-0.0232	-0.124	0
249	SLD 14		-4.55	-0.04	19.4	-0.0232	-0.124	0
249	SLD 15		-4.19	0.06	21.38	0.0245	-0.114	-0.0001
249	SLD 16		-4.19	0.06	21.38	0.0245	-0.114	-0.0001
249	SLV 1		8.67	-0.25	28.54	0.0236	0.2416	0.0003
249	SLV 2		8.67	-0.25	28.54	0.0236	0.2416	0.0003
249	SLV 3		9.52	-0.02	33.24	0.1355	0.2653	0.0001
249	SLV 4		9.52	-0.02	33.24	0.1355	0.2653	0.0001
249	SLV 5		1.07	-0.45	17.9	-0.1463	0.0314	0.0005
249	SLV 6		1.07	-0.45	17.9	-0.1463	0.0314	0.0005
249	SLV 7		3.93	0.32	33.58	0.2268	0.1105	-0.0004
249	SLV 8		3.93	0.32	33.58	0.2268	0.1105	-0.0004
249	SLV 9		-4.59	-0.39	13.48	-0.18	-0.125	0.0004
249	SLV 10		-4.59	-0.39	13.48	-0.18	-0.125	0.0004
249	SLV 11		-1.73	0.38	29.16	0.1931	-0.0459	-0.0005
249	SLV 12		-1.73	0.38	29.16	0.1931	-0.0459	-0.0005
249	SLV 13		-10.18	-0.05	13.81	-0.0887	-0.2798	0
249	SLV 14		-10.18	-0.05	13.81	-0.0887	-0.2798	0
249	SLV 15		-9.33	0.18	18.51	0.0232	-0.2561	-0.0003
249	SLV 16		-9.33	0.18	18.51	0.0232	-0.2561	-0.0003
250	SLU 1		-0.79	-0.02	20.73	0.0177	-0.0163	0.0002
250	SLU 2		-0.8	-0.02	20.78	0.0178	-0.0163	0.0002
250	SLU 3		-0.81	-0.02	20.61	0.0182	-0.0165	0.0002
250	SLU 4		-0.81	-0.02	20.63	0.0182	-0.0165	0.0002
250	SLU 5		-0.8	-0.02	20.31	0.0178	-0.0162	0.0002
250	SLU 6		-0.81	-0.02	20.14	0.0182	-0.0164	0.0002
250	SLU 7		-0.81	-0.02	20.17	0.0183	-0.0164	0.0002
250	SLU 8		-0.79	-0.02	19.8	0.0178	-0.016	0.0002
250	SLU 9		-0.8	-0.02	19.82	0.0179	-0.0161	0.0002
250	SLU 10		-0.97	-0.03	24.78	0.021	-0.0202	0.0002
250	SLU 11		-0.99	-0.03	24.61	0.0213	-0.0203	0.0002
250	SLU 12		-0.99	-0.03	24.64	0.0214	-0.0204	0.0002
250	SLU 13		-0.97	-0.03	24.31	0.021	-0.0201	0.0002
250	SLU 14		-0.99	-0.03	24.14	0.0214	-0.0202	0.0002
250	SLU 15		-0.99	-0.03	24.17	0.0215	-0.0203	0.0002
250	SLU 16		-0.97	-0.03	23.8	0.021	-0.0199	0.0002
250	SLU 17		-0.97	-0.03	23.83	0.021	-0.0199	0.0002
250	SLU 18		-1.05	-0.03	26.45	0.0222	-0.0218	0.0002
250	SLU 19		-1.05	-0.03	26.48	0.0223	-0.0218	0.0002
250	SLU 20		-1.05	-0.03	25.98	0.0223	-0.0217	0.0002
250	SLU 21		-1.05	-0.03	26.01	0.0224	-0.0217	0.0002
250	SLU 22		-0.94	-0.03	23.68	0.0204	-0.0193	0.0002
250	SLU 23		-0.94	-0.03	23.73	0.0206	-0.0193	0.0002
250	SLU 24		-0.96	-0.03	23.55	0.0209	-0.0195	0.0002
250	SLU 25		-0.96	-0.03	23.58	0.021	-0.0195	0.0002
250	SLU 26		-0.94	-0.03	23.26	0.0206	-0.0192	0.0002
250	SLU 27		-0.96	-0.03	23.09	0.021	-0.0194	0.0002
250	SLU 28		-0.96	-0.03	23.11	0.021	-0.0194	0.0002
250	SLU 29		-0.94	-0.03	22.74	0.0206	-0.0191	0.0002
250	SLU 30		-0.94	-0.03	22.77	0.0206	-0.0191	0.0002
250	SLU 31		-1.12	-0.03	27.73	0.0237	-0.0232	0.0002
250	SLU 32		-1.13	-0.03	27.56	0.0241	-0.0234	0.0003
250	SLU 33		-1.14	-0.03	27.58	0.0242	-0.0234	0.0003
250	SLU 34		-1.12	-0.03	27.26	0.0238	-0.0231	0.0002
250	SLU 35		-1.13	-0.03	27.09	0.0242	-0.0233	0.0003
250	SLU 36		-1.14	-0.03	27.12	0.0242	-0.0233	0.0003
250	SLU 37		-1.12	-0.03	26.75	0.0237	-0.0229	0.0002
250	SLU 38		-1.12	-0.03	26.77	0.0238	-0.0229	0.0002
250	SLU 39		-1.19	-0.03	29.4	0.025	-0.0248	0.0003
250	SLU 40		-1.2	-0.03	29.43	0.0251	-0.0248	0.0003
250	SLU 41		-1.19	-0.03	28.93	0.0251	-0.0247	0.0003
250	SLU 42		-1.2	-0.03	28.96	0.0251	-0.0247	0.0003
250	SLU 43		-0.98	-0.03	25.94	0.022	-0.0201	0.0002
250	SLU 44		-0.98	-0.03	25.99	0.0221	-0.0201	0.0002
250	SLU 45		-1	-0.03	25.82	0.0225	-0.0203	0.0002
250	SLU 46		-1	-0.03	25.84	0.0226	-0.0204	0.0002
250	SLU 47		-0.98	-0.03	25.52	0.0222	-0.02	0.0002
250	SLU 48		-1	-0.03	25.35	0.0226	-0.0202	0.0002
250	SLU 49		-1	-0.03	25.37	0.0226	-0.0202	0.0002
250	SLU 50		-0.98	-0.03	25.01	0.0222	-0.0199	0.0002
250	SLU 51		-0.98	-0.03	25.03	0.0222	-0.0199	0.0002
250	SLU 52		-1.16	-0.03	29.99	0.0253	-0.024	0.0003
250	SLU 53		-1.18	-0.03	29.82	0.0257	-0.0242	0.0003
250	SLU 54		-1.18	-0.03	29.85	0.0258	-0.0242	0.0003
250	SLU 55		-1.16	-0.03	29.52	0.0254	-0.0239	0.0003
250	SLU 56		-1.18	-0.03	29.35	0.0258	-0.0241	0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
250	SLU 57			-1.18	-0.03	29.38	0.0258	-0.0241	0.0003
250	SLU 58			-1.16	-0.03	29.01	0.0253	-0.0237	0.0003
250	SLU 59			-1.16	-0.03	29.03	0.0254	-0.0238	0.0003
250	SLU 60			-1.24	-0.03	31.66	0.0266	-0.0256	0.0003
250	SLU 61			-1.24	-0.03	31.69	0.0267	-0.0256	0.0003
250	SLU 62			-1.24	-0.03	31.19	0.0266	-0.0255	0.0003
250	SLU 63			-1.24	-0.03	31.22	0.0267	-0.0255	0.0003
250	SLU 64			-1.13	-0.03	28.89	0.0248	-0.0231	0.0003
250	SLU 65			-1.13	-0.03	28.93	0.0249	-0.0232	0.0003
250	SLU 66			-1.14	-0.03	28.76	0.0253	-0.0233	0.0003
250	SLU 67			-1.14	-0.03	28.79	0.0253	-0.0234	0.0003
250	SLU 68			-1.13	-0.03	28.47	0.025	-0.0231	0.0003
250	SLU 69			-1.14	-0.03	28.3	0.0253	-0.0232	0.0003
250	SLU 70			-1.15	-0.03	28.32	0.0254	-0.0233	0.0003
250	SLU 71			-1.13	-0.03	27.95	0.0249	-0.0229	0.0003
250	SLU 72			-1.13	-0.03	27.98	0.025	-0.0229	0.0003
250	SLU 73			-1.31	-0.04	32.94	0.0281	-0.027	0.0003
250	SLU 74			-1.32	-0.04	32.77	0.0285	-0.0272	0.0003
250	SLU 75			-1.32	-0.04	32.79	0.0285	-0.0272	0.0003
250	SLU 76			-1.31	-0.04	32.47	0.0282	-0.0269	0.0003
250	SLU 77			-1.32	-0.04	32.3	0.0285	-0.0271	0.0003
250	SLU 78			-1.32	-0.04	32.32	0.0286	-0.0271	0.0003
250	SLU 79			-1.31	-0.04	31.96	0.0281	-0.0268	0.0003
250	SLU 80			-1.31	-0.04	31.98	0.0282	-0.0268	0.0003
250	SLU 81			-1.38	-0.04	34.61	0.0294	-0.0286	0.0003
250	SLU 82			-1.38	-0.04	34.63	0.0294	-0.0287	0.0003
250	SLU 83			-1.38	-0.04	34.14	0.0294	-0.0285	0.0003
250	SLU 84			-1.38	-0.04	34.17	0.0295	-0.0286	0.0003
250	SLE RA 1			-0.83	-0.02	21.58	0.0185	-0.0171	0.0002
250	SLE RA 2			-0.84	-0.02	21.6	0.0185	-0.0172	0.0002
250	SLE RA 3			-0.85	-0.02	21.49	0.0188	-0.0173	0.0002
250	SLE RA 4			-0.85	-0.02	21.51	0.0188	-0.0173	0.0002
250	SLE RA 5			-0.84	-0.02	21.29	0.0186	-0.0171	0.0002
250	SLE RA 6			-0.85	-0.02	21.18	0.0188	-0.0172	0.0002
250	SLE RA 7			-0.85	-0.02	21.2	0.0189	-0.0172	0.0002
250	SLE RA 8			-0.84	-0.02	20.95	0.0185	-0.017	0.0002
250	SLE RA 9			-0.84	-0.02	20.97	0.0186	-0.017	0.0002
250	SLE RA 10			-0.96	-0.03	24.27	0.0207	-0.0197	0.0002
250	SLE RA 11			-0.96	-0.03	24.16	0.0209	-0.0198	0.0002
250	SLE RA 12			-0.97	-0.03	24.18	0.021	-0.0199	0.0002
250	SLE RA 13			-0.96	-0.03	23.96	0.0207	-0.0197	0.0002
250	SLE RA 14			-0.97	-0.03	23.85	0.0209	-0.0198	0.0002
250	SLE RA 15			-0.97	-0.03	23.86	0.021	-0.0198	0.0002
250	SLE RA 16			-0.95	-0.03	23.62	0.0207	-0.0195	0.0002
250	SLE RA 17			-0.96	-0.03	23.64	0.0207	-0.0196	0.0002
250	SLE RA 18			-1	-0.03	25.39	0.0215	-0.0208	0.0002
250	SLE RA 19			-1.01	-0.03	25.4	0.0216	-0.0208	0.0002
250	SLE RA 20			-1.01	-0.03	25.08	0.0215	-0.0207	0.0002
250	SLE RA 21			-1.01	-0.03	25.09	0.0216	-0.0207	0.0002
250	SLE FR 1			-0.83	-0.02	21.58	0.0185	-0.0171	0.0002
250	SLE FR 2			-0.83	-0.02	21.58	0.0185	-0.0171	0.0002
250	SLE FR 3			-0.83	-0.02	21.45	0.0185	-0.0171	0.0002
250	SLE FR 4			-0.89	-0.02	22.73	0.0194	-0.0182	0.0002
250	SLE FR 5			-0.89	-0.02	22.59	0.0194	-0.0182	0.0002
250	SLE FR 6			-0.92	-0.03	23.48	0.02	-0.019	0.0002
250	SLE QP 1			-0.83	-0.02	21.58	0.0185	-0.0171	0.0002
250	SLE QP 2			-0.89	-0.02	22.72	0.0194	-0.0182	0.0002
250	SLD 1			3.45	-0.05	25.81	0.0345	0.1037	0.0009
250	SLD 2			3.45	-0.05	25.81	0.0345	0.1037	0.0009
250	SLD 3			3	-0.13	24.25	0.0847	0.0921	0.0003
250	SLD 4			3	-0.13	24.25	0.0847	0.0921	0.0003
250	SLD 5			1.11	0.1	26.01	-0.0522	0.0359	0.0014
250	SLD 6			1.11	0.1	26.01	-0.0522	0.0359	0.0014
250	SLD 7			-0.41	-0.18	20.82	0.1151	-0.0027	-0.0007
250	SLD 8			-0.41	-0.18	20.82	0.1151	-0.0027	-0.0007
250	SLD 9			-1.36	0.13	24.62	-0.0763	-0.0338	0.0012
250	SLD 10			-1.36	0.13	24.62	-0.0763	-0.0338	0.0012
250	SLD 11			-2.88	-0.14	19.43	0.0909	-0.0724	-0.001
250	SLD 12			-2.88	-0.14	19.43	0.0909	-0.0724	-0.001
250	SLD 13			-4.77	0.08	21.18	-0.0459	-0.1286	0.0001
250	SLD 14			-4.77	0.08	21.18	-0.0459	-0.1286	0.0001
250	SLD 15			-5.22	0	19.63	0.0043	-0.1402	-0.0005
250	SLD 16			-5.22	0	19.63	0.0043	-0.1402	-0.0005
250	SLV 1			9.24	-0.09	30.04	0.0622	0.2665	0.002
250	SLV 2			9.24	-0.09	30.04	0.0622	0.2665	0.002
250	SLV 3			8.16	-0.28	26.29	0.18	0.2391	0.0005
250	SLV 4			8.16	-0.28	26.29	0.18	0.2391	0.0005
250	SLV 5			3.78	0.26	30.59	-0.1464	0.1086	0.0031
250	SLV 6			3.78	0.26	30.59	-0.1464	0.1086	0.0031
250	SLV 7			0.2	-0.4	18.12	0.2462	0.0176	-0.002
250	SLV 8			0.2	-0.4	18.12	0.2462	0.0176	-0.002
250	SLV 9			-1.97	0.35	27.32	-0.2074	-0.054	0.0024
250	SLV 10			-1.97	0.35	27.32	-0.2074	-0.054	0.0024
250	SLV 11			-5.55	-0.3	14.85	0.1851	-0.145	-0.0027
250	SLV 12			-5.55	-0.3	14.85	0.1851	-0.145	-0.0027
250	SLV 13			-9.93	0.24	19.14	-0.1412	-0.2756	-0.0001
250	SLV 14			-9.93	0.24	19.14	-0.1412	-0.2756	-0.0001
250	SLV 15			-11.01	0.04	15.4	-0.0234	-0.3029	-0.0016
250	SLV 16			-11.01	0.04	15.4	-0.0234	-0.3029	-0.0016
251	SLU 1			-1.06	-0.01	20.15	0.0128	-0.035	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
251	SLU 2			-1.06	-0.01	20.19	0.0128	-0.0352	0.0002
251	SLU 3			-1.11	-0.01	19.9	0.0131	-0.0362	0.0002
251	SLU 4			-1.12	-0.01	19.93	0.0132	-0.0363	0.0002
251	SLU 5			-1.1	-0.01	19.59	0.0129	-0.0356	0.0002
251	SLU 6			-1.15	-0.01	19.3	0.0133	-0.0367	0.0002
251	SLU 7			-1.16	-0.01	19.33	0.0133	-0.0367	0.0002
251	SLU 8			-1.14	-0.01	18.95	0.013	-0.036	0.0002
251	SLU 9			-1.14	-0.01	18.97	0.013	-0.036	0.0002
251	SLU 10			-1.28	-0.02	24.01	0.0151	-0.0421	0.0002
251	SLU 11			-1.34	-0.02	23.73	0.0154	-0.0431	0.0002
251	SLU 12			-1.34	-0.02	23.75	0.0155	-0.0432	0.0002
251	SLU 13			-1.32	-0.02	23.41	0.0152	-0.0425	0.0002
251	SLU 14			-1.37	-0.02	23.12	0.0155	-0.0436	0.0002
251	SLU 15			-1.38	-0.02	23.15	0.0156	-0.0436	0.0002
251	SLU 16			-1.36	-0.02	22.77	0.0152	-0.0429	0.0002
251	SLU 17			-1.36	-0.02	22.8	0.0153	-0.043	0.0002
251	SLU 18			-1.38	-0.02	25.61	0.016	-0.0449	0.0002
251	SLU 19			-1.38	-0.02	25.63	0.0161	-0.045	0.0002
251	SLU 20			-1.42	-0.02	25.01	0.0161	-0.0454	0.0002
251	SLU 21			-1.42	-0.02	25.03	0.0162	-0.0454	0.0002
251	SLU 22			-1.26	-0.02	22.88	0.0148	-0.041	0.0002
251	SLU 23			-1.27	-0.02	22.92	0.0148	-0.0411	0.0002
251	SLU 24			-1.32	-0.02	22.63	0.0152	-0.0422	0.0002
251	SLU 25			-1.32	-0.02	22.66	0.0152	-0.0422	0.0002
251	SLU 26			-1.31	-0.02	22.32	0.0149	-0.0416	0.0002
251	SLU 27			-1.36	-0.02	22.03	0.0153	-0.0426	0.0002
251	SLU 28			-1.36	-0.02	22.06	0.0153	-0.0427	0.0002
251	SLU 29			-1.34	-0.02	21.68	0.015	-0.042	0.0002
251	SLU 30			-1.34	-0.02	21.7	0.015	-0.042	0.0002
251	SLU 31			-1.49	-0.02	26.74	0.0171	-0.0481	0.0002
251	SLU 32			-1.54	-0.02	26.46	0.0174	-0.0491	0.0002
251	SLU 33			-1.54	-0.02	26.48	0.0175	-0.0491	0.0002
251	SLU 34			-1.53	-0.02	26.14	0.0172	-0.0485	0.0002
251	SLU 35			-1.58	-0.02	25.86	0.0175	-0.0495	0.0002
251	SLU 36			-1.58	-0.02	25.88	0.0176	-0.0496	0.0002
251	SLU 37			-1.56	-0.02	25.5	0.0173	-0.0489	0.0002
251	SLU 38			-1.56	-0.02	25.53	0.0173	-0.0489	0.0002
251	SLU 39			-1.58	-0.02	28.34	0.018	-0.0509	0.0003
251	SLU 40			-1.58	-0.02	28.37	0.0181	-0.051	0.0003
251	SLU 41			-1.62	-0.02	27.74	0.0181	-0.0514	0.0003
251	SLU 42			-1.62	-0.02	27.77	0.0182	-0.0514	0.0003
251	SLU 43			-1.31	-0.02	25.26	0.0159	-0.0435	0.0002
251	SLU 44			-1.31	-0.02	25.3	0.016	-0.0436	0.0002
251	SLU 45			-1.36	-0.02	25.01	0.0163	-0.0446	0.0002
251	SLU 46			-1.36	-0.02	25.04	0.0163	-0.0447	0.0002
251	SLU 47			-1.35	-0.02	24.7	0.0161	-0.0441	0.0002
251	SLU 48			-1.4	-0.02	24.41	0.0164	-0.0451	0.0002
251	SLU 49			-1.4	-0.02	24.44	0.0164	-0.0452	0.0002
251	SLU 50			-1.39	-0.02	24.05	0.0161	-0.0444	0.0002
251	SLU 51			-1.39	-0.02	24.08	0.0161	-0.0445	0.0002
251	SLU 52			-1.53	-0.02	29.12	0.0182	-0.0505	0.0003
251	SLU 53			-1.58	-0.02	28.83	0.0186	-0.0516	0.0003
251	SLU 54			-1.59	-0.02	28.86	0.0186	-0.0516	0.0003
251	SLU 55			-1.57	-0.02	28.52	0.0183	-0.051	0.0003
251	SLU 56			-1.62	-0.02	28.23	0.0187	-0.052	0.0003
251	SLU 57			-1.63	-0.02	28.26	0.0187	-0.0521	0.0003
251	SLU 58			-1.61	-0.02	27.88	0.0184	-0.0513	0.0003
251	SLU 59			-1.61	-0.02	27.9	0.0184	-0.0514	0.0003
251	SLU 60			-1.63	-0.02	30.72	0.0192	-0.0534	0.0003
251	SLU 61			-1.63	-0.02	30.74	0.0192	-0.0534	0.0003
251	SLU 62			-1.66	-0.02	30.12	0.0193	-0.0538	0.0003
251	SLU 63			-1.67	-0.02	30.14	0.0193	-0.0539	0.0003
251	SLU 64			-1.51	-0.02	27.99	0.0179	-0.0495	0.0003
251	SLU 65			-1.51	-0.02	28.03	0.018	-0.0496	0.0003
251	SLU 66			-1.57	-0.02	27.74	0.0183	-0.0506	0.0003
251	SLU 67			-1.57	-0.02	27.77	0.0183	-0.0507	0.0003
251	SLU 68			-1.55	-0.02	27.43	0.0181	-0.0501	0.0003
251	SLU 69			-1.6	-0.02	27.14	0.0184	-0.0511	0.0003
251	SLU 70			-1.61	-0.02	27.17	0.0184	-0.0512	0.0003
251	SLU 71			-1.59	-0.02	26.79	0.0181	-0.0504	0.0003
251	SLU 72			-1.59	-0.02	26.81	0.0182	-0.0505	0.0003
251	SLU 73			-1.74	-0.02	31.85	0.0203	-0.0565	0.0003
251	SLU 74			-1.79	-0.02	31.56	0.0206	-0.0575	0.0003
251	SLU 75			-1.79	-0.02	31.59	0.0206	-0.0576	0.0003
251	SLU 76			-1.78	-0.02	31.25	0.0204	-0.057	0.0003
251	SLU 77			-1.83	-0.02	30.96	0.0207	-0.058	0.0003
251	SLU 78			-1.83	-0.02	30.99	0.0207	-0.0581	0.0003
251	SLU 79			-1.81	-0.02	30.61	0.0204	-0.0573	0.0003
251	SLU 80			-1.81	-0.02	30.63	0.0204	-0.0574	0.0003
251	SLU 81			-1.83	-0.02	33.45	0.0212	-0.0594	0.0003
251	SLU 82			-1.83	-0.02	33.47	0.0212	-0.0594	0.0003
251	SLU 83			-1.87	-0.02	32.85	0.0213	-0.0598	0.0003
251	SLU 84			-1.87	-0.02	32.87	0.0213	-0.0599	0.0003
251	SLE RA 1			-1.12	-0.02	20.93	0.0133	-0.0368	0.0002
251	SLE RA 2			-1.12	-0.02	20.96	0.0134	-0.0368	0.0002
251	SLE RA 3			-1.15	-0.02	20.76	0.0136	-0.0375	0.0002
251	SLE RA 4			-1.16	-0.02	20.78	0.0136	-0.0376	0.0002
251	SLE RA 5			-1.15	-0.02	20.56	0.0134	-0.0371	0.0002
251	SLE RA 6			-1.18	-0.02	20.36	0.0137	-0.0378	0.0002
251	SLE RA 7			-1.18	-0.02	20.38	0.0137	-0.0379	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
251	SLE RA 8			-1.17	-0.02	20.13	0.0135	-0.0374	0.0002
251	SLE RA 9			-1.17	-0.02	20.14	0.0135	-0.0374	0.0002
251	SLE RA 10			-1.27	-0.02	23.51	0.0149	-0.0414	0.0002
251	SLE RA 11			-1.3	-0.02	23.31	0.0151	-0.0421	0.0002
251	SLE RA 12			-1.3	-0.02	23.33	0.0151	-0.0422	0.0002
251	SLE RA 13			-1.29	-0.02	23.11	0.015	-0.0417	0.0002
251	SLE RA 14			-1.33	-0.02	22.91	0.0152	-0.0424	0.0002
251	SLE RA 15			-1.33	-0.02	22.93	0.0152	-0.0425	0.0002
251	SLE RA 16			-1.32	-0.02	22.68	0.015	-0.042	0.0002
251	SLE RA 17			-1.32	-0.02	22.69	0.015	-0.042	0.0002
251	SLE RA 18			-1.33	-0.02	24.57	0.0155	-0.0433	0.0002
251	SLE RA 19			-1.33	-0.02	24.59	0.0155	-0.0434	0.0002
251	SLE RA 20			-1.36	-0.02	24.17	0.0156	-0.0436	0.0002
251	SLE RA 21			-1.36	-0.02	24.19	0.0156	-0.0437	0.0002
251	SLE FR 1			-1.12	-0.02	20.93	0.0133	-0.0368	0.0002
251	SLE FR 2			-1.12	-0.02	20.93	0.0133	-0.0368	0.0002
251	SLE FR 3			-1.13	-0.02	20.77	0.0134	-0.0369	0.0002
251	SLE FR 4			-1.18	-0.02	22.03	0.014	-0.0387	0.0002
251	SLE FR 5			-1.19	-0.02	21.86	0.014	-0.0389	0.0002
251	SLE FR 6			-1.22	-0.02	22.75	0.0144	-0.04	0.0002
251	SLE QP 1			-1.12	-0.02	20.93	0.0133	-0.0368	0.0002
251	SLE QP 2			-1.18	-0.02	22.02	0.014	-0.0387	0.0002
251	SLD 1			3.31	-0.05	24.21	0.0373	0.0943	0.0005
251	SLD 2			3.31	-0.05	24.21	0.0373	0.0943	0.0005
251	SLD 3			2.66	-0.14	23.12	0.0907	0.0762	0.0015
251	SLD 4			2.66	-0.14	23.12	0.0907	0.0762	0.0015
251	SLD 5			1.15	0.11	24.33	-0.0599	0.0287	-0.0012
251	SLD 6			1.15	0.11	24.33	-0.0599	0.0287	-0.0012
251	SLD 7			-1.01	-0.18	20.7	0.1179	-0.0318	0.0021
251	SLD 8			-1.01	-0.18	20.7	0.1179	-0.0318	0.0021
251	SLD 9			-1.35	0.15	23.34	-0.0899	-0.0456	-0.0017
251	SLD 10			-1.35	0.15	23.34	-0.0899	-0.0456	-0.0017
251	SLD 11			-3.51	-0.14	19.71	0.0879	-0.1062	0.0016
251	SLD 12			-3.51	-0.14	19.71	0.0879	-0.1062	0.0016
251	SLD 13			-5.02	0.11	20.92	-0.0627	-0.1536	-0.0011
251	SLD 14			-5.02	0.11	20.92	-0.0627	-0.1536	-0.0011
251	SLD 15			-5.67	0.02	19.83	-0.0094	-0.1718	-0.0001
251	SLD 16			-5.67	0.02	19.83	-0.0094	-0.1718	-0.0001
251	SLV 1			9.3	-0.11	27.25	0.0774	0.2717	0.0012
251	SLV 2			9.3	-0.11	27.25	0.0774	0.2717	0.0012
251	SLV 3			7.77	-0.31	24.55	0.2043	0.229	0.0034
251	SLV 4			7.77	-0.31	24.55	0.2043	0.229	0.0034
251	SLV 5			4.28	0.27	27.68	-0.1594	0.1192	-0.003
251	SLV 6			4.28	0.27	27.68	-0.1594	0.1192	-0.003
251	SLV 7			-0.81	-0.42	18.68	0.2635	-0.0232	0.0046
251	SLV 8			-0.81	-0.42	18.68	0.2635	-0.0232	0.0046
251	SLV 9			-1.55	0.38	25.36	-0.2355	-0.0543	-0.0042
251	SLV 10			-1.55	0.38	25.36	-0.2355	-0.0543	-0.0042
251	SLV 11			-6.64	-0.3	16.36	0.1874	-0.1967	0.0034
251	SLV 12			-6.64	-0.3	16.36	0.1874	-0.1967	0.0034
251	SLV 13			-10.13	0.28	19.49	-0.1763	-0.3065	-0.003
251	SLV 14			-10.13	0.28	19.49	-0.1763	-0.3065	-0.003
251	SLV 15			-11.66	0.08	16.79	-0.0495	-0.3492	-0.0008
251	SLV 16			-11.66	0.08	16.79	-0.0495	-0.3492	-0.0008
252	SLU 1			-0.82	-0.01	20.27	0.0076	-0.0199	0.0001
252	SLU 2			-0.83	-0.01	20.31	0.0076	-0.0199	0.0001
252	SLU 3			-0.91	-0.01	19.86	0.0079	-0.022	0.0001
252	SLU 4			-0.91	-0.01	19.89	0.0079	-0.022	0.0001
252	SLU 5			-0.92	-0.01	19.51	0.0078	-0.0222	0.0001
252	SLU 6			-1	-0.01	19.05	0.0081	-0.0242	0.0001
252	SLU 7			-1	-0.01	19.08	0.0081	-0.0242	0.0001
252	SLU 8			-1	-0.01	18.66	0.0079	-0.0244	0.0001
252	SLU 9			-1	-0.01	18.69	0.0079	-0.0244	0.0001
252	SLU 10			-1.02	-0.01	24.09	0.009	-0.0248	0.0001
252	SLU 11			-1.1	-0.01	23.64	0.0093	-0.0269	0.0001
252	SLU 12			-1.1	-0.01	23.67	0.0093	-0.0269	0.0001
252	SLU 13			-1.1	-0.01	23.29	0.0091	-0.0271	0.0001
252	SLU 14			-1.19	-0.01	22.84	0.0094	-0.0291	0.0001
252	SLU 15			-1.19	-0.01	22.86	0.0094	-0.0292	0.0001
252	SLU 16			-1.19	-0.01	22.44	0.0093	-0.0293	0.0001
252	SLU 17			-1.19	-0.01	22.47	0.0093	-0.0293	0.0001
252	SLU 18			-1.1	-0.01	25.67	0.0095	-0.0269	0.0002
252	SLU 19			-1.1	-0.01	25.7	0.0095	-0.0269	0.0002
252	SLU 20			-1.18	-0.01	24.86	0.0097	-0.0292	0.0002
252	SLU 21			-1.18	-0.01	24.89	0.0097	-0.0292	0.0002
252	SLU 22			-1.02	-0.01	22.86	0.0088	-0.0248	0.0001
252	SLU 23			-1.02	-0.01	22.91	0.0088	-0.0249	0.0001
252	SLU 24			-1.11	-0.01	22.45	0.0092	-0.0269	0.0001
252	SLU 25			-1.11	-0.01	22.48	0.0092	-0.0269	0.0001
252	SLU 26			-1.11	-0.01	22.1	0.009	-0.0271	0.0001
252	SLU 27			-1.19	-0.01	21.65	0.0093	-0.0292	0.0001
252	SLU 28			-1.2	-0.01	21.68	0.0093	-0.0292	0.0001
252	SLU 29			-1.2	-0.01	21.25	0.0092	-0.0293	0.0001
252	SLU 30			-1.2	-0.01	21.28	0.0092	-0.0294	0.0001
252	SLU 31			-1.21	-0.01	26.69	0.0102	-0.0298	0.0002
252	SLU 32			-1.29	-0.01	26.23	0.0105	-0.0318	0.0002
252	SLU 33			-1.3	-0.01	26.26	0.0105	-0.0318	0.0002
252	SLU 34			-1.3	-0.01	25.88	0.0103	-0.032	0.0002
252	SLU 35			-1.38	-0.01	25.43	0.0106	-0.0341	0.0002
252	SLU 36			-1.38	-0.01	25.46	0.0107	-0.0341	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
252	SLU 37			-1.39	-0.01	25.03	0.0105	-0.0343	0.0002
252	SLU 38			-1.39	-0.01	25.06	0.0105	-0.0343	0.0002
252	SLU 39			-1.29	-0.01	28.26	0.0107	-0.0319	0.0002
252	SLU 40			-1.29	-0.01	28.29	0.0108	-0.0319	0.0002
252	SLU 41			-1.38	-0.01	27.46	0.0109	-0.0341	0.0002
252	SLU 42			-1.38	-0.01	27.48	0.0109	-0.0341	0.0002
252	SLU 43			-1.01	-0.01	25.46	0.0095	-0.0242	0.0002
252	SLU 44			-1.01	-0.01	25.5	0.0095	-0.0242	0.0002
252	SLU 45			-1.09	-0.01	25.05	0.0098	-0.0262	0.0002
252	SLU 46			-1.09	-0.01	25.08	0.0098	-0.0263	0.0002
252	SLU 47			-1.1	-0.01	24.7	0.0096	-0.0264	0.0002
252	SLU 48			-1.18	-0.01	24.24	0.0099	-0.0285	0.0002
252	SLU 49			-1.18	-0.01	24.27	0.0099	-0.0285	0.0002
252	SLU 50			-1.18	-0.01	23.85	0.0098	-0.0287	0.0002
252	SLU 51			-1.18	-0.01	23.88	0.0098	-0.0287	0.0002
252	SLU 52			-1.2	-0.01	29.28	0.0108	-0.0291	0.0002
252	SLU 53			-1.28	-0.01	28.83	0.0111	-0.0312	0.0002
252	SLU 54			-1.28	-0.01	28.86	0.0111	-0.0312	0.0002
252	SLU 55			-1.28	-0.01	28.48	0.011	-0.0314	0.0002
252	SLU 56			-1.37	-0.01	28.03	0.0113	-0.0334	0.0002
252	SLU 57			-1.37	-0.01	28.05	0.0113	-0.0334	0.0002
252	SLU 58			-1.37	-0.01	27.63	0.0111	-0.0336	0.0002
252	SLU 59			-1.37	-0.01	27.66	0.0111	-0.0336	0.0002
252	SLU 60			-1.28	-0.01	30.86	0.0114	-0.0312	0.0002
252	SLU 61			-1.28	-0.01	30.89	0.0114	-0.0312	0.0002
252	SLU 62			-1.36	-0.01	30.05	0.0115	-0.0334	0.0002
252	SLU 63			-1.37	-0.01	30.08	0.0115	-0.0335	0.0002
252	SLU 64			-1.2	-0.01	28.05	0.0107	-0.0291	0.0002
252	SLU 65			-1.2	-0.01	28.1	0.0107	-0.0291	0.0002
252	SLU 66			-1.29	-0.01	27.64	0.011	-0.0312	0.0002
252	SLU 67			-1.29	-0.01	27.67	0.011	-0.0312	0.0002
252	SLU 68			-1.29	-0.01	27.29	0.0109	-0.0314	0.0002
252	SLU 69			-1.37	-0.01	26.84	0.0112	-0.0334	0.0002
252	SLU 70			-1.38	-0.01	26.87	0.0112	-0.0335	0.0002
252	SLU 71			-1.38	-0.01	26.44	0.011	-0.0336	0.0002
252	SLU 72			-1.38	-0.01	26.47	0.011	-0.0336	0.0002
252	SLU 73			-1.39	-0.01	31.88	0.012	-0.034	0.0002
252	SLU 74			-1.48	-0.01	31.42	0.0123	-0.0361	0.0002
252	SLU 75			-1.48	-0.01	31.45	0.0124	-0.0361	0.0002
252	SLU 76			-1.48	-0.01	31.07	0.0122	-0.0363	0.0002
252	SLU 77			-1.56	-0.01	30.62	0.0125	-0.0384	0.0002
252	SLU 78			-1.56	-0.01	30.65	0.0125	-0.0384	0.0002
252	SLU 79			-1.57	-0.01	30.22	0.0124	-0.0385	0.0002
252	SLU 80			-1.57	-0.01	30.25	0.0124	-0.0386	0.0002
252	SLU 81			-1.47	-0.01	33.45	0.0126	-0.0361	0.0002
252	SLU 82			-1.47	-0.01	33.48	0.0126	-0.0362	0.0002
252	SLU 83			-1.56	-0.01	32.65	0.0128	-0.0384	0.0002
252	SLU 84			-1.56	-0.01	32.67	0.0128	-0.0384	0.0002
252	SLE RA 1			-0.88	-0.01	21.01	0.008	-0.0213	0.0001
252	SLE RA 2			-0.88	-0.01	21.04	0.008	-0.0213	0.0001
252	SLE RA 3			-0.94	-0.01	20.73	0.0082	-0.0227	0.0001
252	SLE RA 4			-0.94	-0.01	20.75	0.0082	-0.0227	0.0001
252	SLE RA 5			-0.94	-0.01	20.5	0.0081	-0.0228	0.0001
252	SLE RA 6			-1	-0.01	20.2	0.0083	-0.0242	0.0001
252	SLE RA 7			-1	-0.01	20.22	0.0083	-0.0242	0.0001
252	SLE RA 8			-1	-0.01	19.93	0.0082	-0.0243	0.0001
252	SLE RA 9			-1	-0.01	19.95	0.0082	-0.0243	0.0001
252	SLE RA 10			-1.01	-0.01	23.56	0.0089	-0.0246	0.0001
252	SLE RA 11			-1.06	-0.01	23.26	0.0091	-0.026	0.0001
252	SLE RA 12			-1.06	-0.01	23.27	0.0091	-0.026	0.0001
252	SLE RA 13			-1.07	-0.01	23.02	0.009	-0.0261	0.0001
252	SLE RA 14			-1.12	-0.01	22.72	0.0092	-0.0275	0.0001
252	SLE RA 15			-1.12	-0.01	22.74	0.0092	-0.0275	0.0001
252	SLE RA 16			-1.13	-0.01	22.46	0.0091	-0.0276	0.0001
252	SLE RA 17			-1.13	-0.01	22.47	0.0091	-0.0276	0.0001
252	SLE RA 18			-1.06	-0.01	24.61	0.0092	-0.026	0.0001
252	SLE RA 19			-1.06	-0.01	24.63	0.0092	-0.026	0.0001
252	SLE RA 20			-1.12	-0.01	24.07	0.0093	-0.0275	0.0001
252	SLE RA 21			-1.12	-0.01	24.09	0.0093	-0.0275	0.0001
252	SLE FR 1			-0.88	-0.01	21.01	0.008	-0.0213	0.0001
252	SLE FR 2			-0.88	-0.01	21.01	0.008	-0.0213	0.0001
252	SLE FR 3			-0.9	-0.01	20.79	0.008	-0.0219	0.0001
252	SLE FR 4			-0.94	-0.01	22.09	0.0083	-0.0227	0.0001
252	SLE FR 5			-0.96	-0.01	21.87	0.0084	-0.0233	0.0001
252	SLE FR 6			-0.97	-0.01	22.81	0.0086	-0.0236	0.0001
252	SLE QP 1			-0.88	-0.01	21.01	0.008	-0.0213	0.0001
252	SLE QP 2			-0.93	-0.01	22.09	0.0083	-0.0227	0.0001
252	SLD 1			3.64	0.11	23.88	0.0323	0.1231	-0.0017
252	SLD 2			3.64	0.11	23.88	0.0323	0.1231	-0.0017
252	SLD 3			2.9	0.03	22.78	0.0821	0.1034	-0.0004
252	SLD 4			2.9	0.03	22.78	0.0821	0.1034	-0.0004
252	SLD 5			1.56	0.15	24.28	-0.06	0.0509	-0.0024
252	SLD 6			1.56	0.15	24.28	-0.06	0.0509	-0.0024
252	SLD 7			-0.91	-0.12	20.64	0.106	-0.0147	0.0019
252	SLD 8			-0.91	-0.12	20.64	0.106	-0.0147	0.0019
252	SLD 9			-0.96	0.1	23.54	-0.0893	-0.0307	-0.0017
252	SLD 10			-0.96	0.1	23.54	-0.0893	-0.0307	-0.0017
252	SLD 11			-3.43	-0.16	19.89	0.0767	-0.0963	0.0027
252	SLD 12			-3.43	-0.16	19.89	0.0767	-0.0963	0.0027
252	SLD 13			-4.77	-0.04	21.39	-0.0654	-0.1488	0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
252	SLD 14			-4.77	-0.04	21.39	-0.0654	-0.1488	0.0007
252	SLD 15			-5.51	-0.12	20.3	-0.0156	-0.1685	0.002
252	SLD 16			-5.51	-0.12	20.3	-0.0156	-0.1685	0.002
252	SLV 1			9.75	0.28	26.42	0.0717	0.3177	-0.0044
252	SLV 2			9.75	0.28	26.42	0.0717	0.3177	-0.0044
252	SLV 3			8.01	0.09	23.64	0.192	0.2713	-0.0014
252	SLV 4			8.01	0.09	23.64	0.192	0.2713	-0.0014
252	SLV 5			4.92	0.37	27.6	-0.155	0.1498	-0.0059
252	SLV 6			4.92	0.37	27.6	-0.155	0.1498	-0.0059
252	SLV 7			-0.89	-0.27	18.34	0.2458	-0.0049	0.0044
252	SLV 8			-0.89	-0.27	18.34	0.2458	-0.0049	0.0044
252	SLV 9			-0.97	0.25	25.83	-0.2291	-0.0405	-0.0041
252	SLV 10			-0.97	0.25	25.83	-0.2291	-0.0405	-0.0041
252	SLV 11			-6.79	-0.38	16.57	0.1716	-0.1953	0.0062
252	SLV 12			-6.79	-0.38	16.57	0.1716	-0.1953	0.0062
252	SLV 13			-9.88	-0.1	20.53	-0.1753	-0.3167	0.0016
252	SLV 14			-9.88	-0.1	20.53	-0.1753	-0.3167	0.0016
252	SLV 15			-11.62	-0.29	17.75	-0.0551	-0.3631	0.0047
252	SLV 16			-11.62	-0.29	17.75	-0.0551	-0.3631	0.0047
253	SLU 1			-1.14	0	21.09	0.0032	-0.0528	0
253	SLU 2			-1.14	0	21.14	0.0032	-0.0529	0
253	SLU 3			-1.24	0	20.47	0.0035	-0.0559	0
253	SLU 4			-1.24	0	20.5	0.0035	-0.056	0
253	SLU 5			-1.24	0	20.05	0.0034	-0.0558	0
253	SLU 6			-1.34	0	19.38	0.0037	-0.0588	0
253	SLU 7			-1.34	0	19.41	0.0037	-0.0589	0
253	SLU 8			-1.35	0	18.91	0.0037	-0.0585	0
253	SLU 9			-1.35	0	18.94	0.0037	-0.0586	0
253	SLU 10			-1.39	0	25.02	0.0037	-0.064	0
253	SLU 11			-1.49	0	24.34	0.004	-0.067	0
253	SLU 12			-1.49	0	24.37	0.004	-0.0671	0
253	SLU 13			-1.5	0	23.93	0.004	-0.0669	0
253	SLU 14			-1.59	0	23.26	0.0042	-0.0699	0
253	SLU 15			-1.59	0	23.29	0.0042	-0.07	0
253	SLU 16			-1.6	0	22.79	0.0042	-0.0696	0
253	SLU 17			-1.6	0	22.82	0.0042	-0.0697	0
253	SLU 18			-1.5	0	26.62	0.004	-0.0686	0
253	SLU 19			-1.5	0	26.66	0.004	-0.0687	0
253	SLU 20			-1.6	0	25.54	0.0042	-0.0715	0
253	SLU 21			-1.6	0	25.57	0.0042	-0.0716	0
253	SLU 22			-1.39	0	23.61	0.0038	-0.0631	0
253	SLU 23			-1.39	0	23.67	0.0038	-0.0632	0
253	SLU 24			-1.49	0	22.99	0.0041	-0.0662	0
253	SLU 25			-1.49	0	23.03	0.004	-0.0663	0
253	SLU 26			-1.49	0	22.58	0.004	-0.0661	0
253	SLU 27			-1.59	0	21.91	0.0043	-0.0691	0
253	SLU 28			-1.59	0	21.94	0.0043	-0.0692	0
253	SLU 29			-1.6	0	21.44	0.0043	-0.0689	0
253	SLU 30			-1.6	0	21.47	0.0042	-0.0689	0
253	SLU 31			-1.64	0	27.54	0.0043	-0.0743	0
253	SLU 32			-1.74	0	26.87	0.0046	-0.0773	0
253	SLU 33			-1.74	0	26.9	0.0046	-0.0774	0
253	SLU 34			-1.74	0	26.46	0.0045	-0.0772	0
253	SLU 35			-1.84	0	25.78	0.0048	-0.0802	0
253	SLU 36			-1.84	0	25.82	0.0048	-0.0803	0
253	SLU 37			-1.85	0	25.32	0.0048	-0.0799	0
253	SLU 38			-1.85	0	25.35	0.0048	-0.08	0
253	SLU 39			-1.75	0	29.15	0.0045	-0.0789	0
253	SLU 40			-1.75	0	29.18	0.0045	-0.079	0
253	SLU 41			-1.85	0	28.06	0.0048	-0.0818	0
253	SLU 42			-1.85	0	28.1	0.0048	-0.0819	0
253	SLU 43			-1.39	0	26.55	0.004	-0.0651	0
253	SLU 44			-1.39	0	26.6	0.004	-0.0652	0
253	SLU 45			-1.49	0	25.93	0.0042	-0.0682	0
253	SLU 46			-1.49	0	25.96	0.0042	-0.0683	0
253	SLU 47			-1.5	0	25.51	0.0042	-0.0681	0
253	SLU 48			-1.6	0	24.84	0.0045	-0.0711	0
253	SLU 49			-1.6	0	24.87	0.0045	-0.0712	0
253	SLU 50			-1.6	0	24.37	0.0044	-0.0709	0
253	SLU 51			-1.6	0	24.4	0.0044	-0.0709	0
253	SLU 52			-1.65	0	30.48	0.0045	-0.0763	0
253	SLU 53			-1.74	0	29.8	0.0048	-0.0793	0
253	SLU 54			-1.74	0	29.83	0.0048	-0.0794	0
253	SLU 55			-1.75	0	29.39	0.0047	-0.0792	0
253	SLU 56			-1.85	0	28.72	0.005	-0.0822	0
253	SLU 57			-1.85	0	28.75	0.005	-0.0823	0
253	SLU 58			-1.85	0	28.25	0.005	-0.082	0
253	SLU 59			-1.85	0	28.28	0.005	-0.082	0
253	SLU 60			-1.75	0	32.08	0.0047	-0.0809	0
253	SLU 61			-1.75	0	32.12	0.0047	-0.081	0
253	SLU 62			-1.86	0	31	0.005	-0.0838	0
253	SLU 63			-1.86	0	31.03	0.005	-0.0839	0
253	SLU 64			-1.64	0	29.07	0.0045	-0.0754	0
253	SLU 65			-1.64	0	29.13	0.0045	-0.0755	0
253	SLU 66			-1.74	0	28.45	0.0048	-0.0785	0
253	SLU 67			-1.74	0	28.49	0.0048	-0.0786	0
253	SLU 68			-1.75	0	28.04	0.0048	-0.0784	0
253	SLU 69			-1.85	0	27.37	0.0051	-0.0814	0
253	SLU 70			-1.85	0	27.4	0.005	-0.0815	0
253	SLU 71			-1.85	0	26.9	0.005	-0.0812	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
253	SLU 72			-1.85	0	26.93	0.005	-0.0812	0
253	SLU 73			-1.9	0	33	0.0051	-0.0866	0
253	SLU 74			-1.99	0	32.33	0.0054	-0.0896	0
253	SLU 75			-1.99	0	32.36	0.0053	-0.0897	0
253	SLU 76			-2	0	31.92	0.0053	-0.0895	0
253	SLU 77			-2.1	0	31.24	0.0056	-0.0925	0
253	SLU 78			-2.1	0	31.27	0.0056	-0.0926	0
253	SLU 79			-2.1	0	30.78	0.0056	-0.0923	0
253	SLU 80			-2.1	0	30.81	0.0055	-0.0923	0
253	SLU 81			-2	0	34.61	0.0053	-0.0913	0
253	SLU 82			-2	0	34.64	0.0053	-0.0913	0
253	SLU 83			-2.11	0	33.52	0.0055	-0.0941	0
253	SLU 84			-2.11	0	33.56	0.0055	-0.0942	0
253	SLE RA 1			-1.21	0	21.81	0.0034	-0.0557	0
253	SLE RA 2			-1.21	0	21.84	0.0034	-0.0558	0
253	SLE RA 3			-1.27	0	21.4	0.0036	-0.0578	0
253	SLE RA 4			-1.27	0	21.42	0.0035	-0.0579	0
253	SLE RA 5			-1.28	0	21.12	0.0035	-0.0577	0
253	SLE RA 6			-1.34	0	20.67	0.0037	-0.0597	0
253	SLE RA 7			-1.34	0	20.69	0.0037	-0.0598	0
253	SLE RA 8			-1.35	0	20.36	0.0037	-0.0596	0
253	SLE RA 9			-1.35	0	20.38	0.0037	-0.0596	0
253	SLE RA 10			-1.38	0	24.43	0.0037	-0.0632	0
253	SLE RA 11			-1.44	0	23.98	0.0039	-0.0652	0
253	SLE RA 12			-1.44	0	24	0.0039	-0.0653	0
253	SLE RA 13			-1.45	0	23.7	0.0039	-0.0651	0
253	SLE RA 14			-1.51	0	23.26	0.0041	-0.0671	0
253	SLE RA 15			-1.51	0	23.28	0.0041	-0.0672	0
253	SLE RA 16			-1.52	0	22.94	0.004	-0.067	0
253	SLE RA 17			-1.52	0	22.96	0.004	-0.067	0
253	SLE RA 18			-1.45	0	25.5	0.0039	-0.0663	0
253	SLE RA 19			-1.45	0	25.52	0.0039	-0.0663	0
253	SLE RA 20			-1.52	0	24.78	0.004	-0.0682	0
253	SLE RA 21			-1.52	0	24.8	0.004	-0.0683	0
253	SLE FR 1			-1.21	0	21.81	0.0034	-0.0557	0
253	SLE FR 2			-1.21	0	21.82	0.0034	-0.0557	0
253	SLE FR 3			-1.24	0	21.52	0.0034	-0.0565	0
253	SLE FR 4			-1.28	0	22.92	0.0035	-0.0589	0
253	SLE FR 5			-1.31	0	22.63	0.0036	-0.0597	0
253	SLE FR 6			-1.33	0	23.66	0.0036	-0.061	0
253	SLE QP 1			-1.21	0	21.81	0.0034	-0.0557	0
253	SLE QP 2			-1.28	0	22.92	0.0035	-0.0589	0
253	SLD 1			3.35	0.09	22.46	-0.0516	-0.2055	-0.0018
253	SLD 2			3.35	0.09	22.46	-0.0516	-0.2055	-0.0018
253	SLD 3			2.52	0.04	20.63	-0.016	-0.2362	-0.0007
253	SLD 4			2.52	0.04	20.63	-0.016	-0.2362	-0.0007
253	SLD 5			1.37	0.1	25.56	-0.067	-0.0564	-0.0022
253	SLD 6			1.37	0.1	25.56	-0.067	-0.0564	-0.0022
253	SLD 7			-1.4	-0.06	19.46	0.0517	-0.1586	0.0015
253	SLD 8			-1.4	-0.06	19.46	0.0517	-0.1586	0.0015
253	SLD 9			-1.17	0.06	26.38	-0.0446	0.0408	-0.0015
253	SLD 10			-1.17	0.06	26.38	-0.0446	0.0408	-0.0015
253	SLD 11			-3.93	-0.1	20.28	0.0741	-0.0615	0.0022
253	SLD 12			-3.93	-0.1	20.28	0.0741	-0.0615	0.0022
253	SLD 13			-5.09	-0.04	25.2	0.0231	0.1184	0.0008
253	SLD 14			-5.09	-0.04	25.2	0.0231	0.1184	0.0008
253	SLD 15			-5.91	-0.09	23.37	0.0587	0.0877	0.0019
253	SLD 16			-5.91	-0.09	23.37	0.0587	0.0877	0.0019
253	SLV 1			9.53	0.22	21.94	-0.1336	-0.4005	-0.0045
253	SLV 2			9.53	0.22	21.94	-0.1336	-0.4005	-0.0045
253	SLV 3			7.58	0.1	17.44	-0.0468	-0.4727	-0.0019
253	SLV 4			7.58	0.1	17.44	-0.0468	-0.4727	-0.0019
253	SLV 5			4.92	0.25	29.45	-0.1693	-0.052	-0.0054
253	SLV 6			4.92	0.25	29.45	-0.1693	-0.052	-0.0054
253	SLV 7			-1.58	-0.15	14.45	0.1201	-0.2925	0.0035
253	SLV 8			-1.58	-0.15	14.45	0.1201	-0.2925	0.0035
253	SLV 9			-0.98	0.15	31.39	-0.1131	0.1746	-0.0035
253	SLV 10			-0.98	0.15	31.39	-0.1131	0.1746	-0.0035
253	SLV 11			-7.48	-0.25	16.38	0.1764	-0.0658	0.0054
253	SLV 12			-7.48	-0.25	16.38	0.1764	-0.0658	0.0054
253	SLV 13			-10.15	-0.1	28.39	0.0539	0.3549	0.0019
253	SLV 14			-10.15	-0.1	28.39	0.0539	0.3549	0.0019
253	SLV 15			-12.1	-0.22	23.89	0.1407	0.2827	0.0045
253	SLV 16			-12.1	-0.22	23.89	0.1407	0.2827	0.0045
254	SLU 1			-1.83	0.01	23.03	-0.0005	-0.0905	-0.0004
254	SLU 2			-1.84	0.01	23.09	-0.0006	-0.0906	-0.0004
254	SLU 3			-1.9	0.01	22.17	-0.0002	-0.0912	-0.0004
254	SLU 4			-1.9	0.01	22.21	-0.0003	-0.0913	-0.0004
254	SLU 5			-1.89	0.01	21.66	-0.0002	-0.0905	-0.0004
254	SLU 6			-1.95	0.01	20.74	0.0001	-0.0911	-0.0004
254	SLU 7			-1.95	0.01	20.77	0.0001	-0.0911	-0.0004
254	SLU 8			-1.95	0.01	20.17	0.0002	-0.0903	-0.0004
254	SLU 9			-1.95	0.01	20.2	0.0002	-0.0903	-0.0004
254	SLU 10			-2.23	0.01	27.27	-0.0007	-0.11	-0.0005
254	SLU 11			-2.29	0.01	26.35	-0.0004	-0.1105	-0.0005
254	SLU 12			-2.29	0.01	26.38	-0.0004	-0.1106	-0.0005
254	SLU 13			-2.29	0.01	25.84	-0.0003	-0.1099	-0.0005
254	SLU 14			-2.35	0.01	24.92	0	-0.1104	-0.0005
254	SLU 15			-2.35	0.01	24.95	0	-0.1105	-0.0005
254	SLU 16			-2.34	0.01	24.34	0	-0.1096	-0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
254	SLU 17		-2.34	0.01	24.38	0	-0.1097	-0.0005
254	SLU 18		-2.4	0.01	29	-0.0007	-0.1181	-0.0005
254	SLU 19		-2.4	0.01	29.03	-0.0007	-0.1182	-0.0005
254	SLU 20		-2.45	0.01	27.57	-0.0004	-0.118	-0.0005
254	SLU 21		-2.46	0.01	27.6	-0.0004	-0.1181	-0.0005
254	SLU 22		-2.16	0.01	25.64	-0.0005	-0.1052	-0.0005
254	SLU 23		-2.17	0.01	25.7	-0.0005	-0.1053	-0.0005
254	SLU 24		-2.23	0.01	24.78	-0.0002	-0.1059	-0.0005
254	SLU 25		-2.23	0.01	24.81	-0.0002	-0.106	-0.0005
254	SLU 26		-2.22	0.01	24.27	-0.0001	-0.1052	-0.0005
254	SLU 27		-2.28	0.01	23.34	0.0002	-0.1058	-0.0005
254	SLU 28		-2.28	0.01	23.38	0.0001	-0.1058	-0.0005
254	SLU 29		-2.28	0.01	22.77	0.0002	-0.105	-0.0005
254	SLU 30		-2.28	0.01	22.81	0.0002	-0.105	-0.0005
254	SLU 31		-2.56	0.01	29.88	-0.0006	-0.1247	-0.0005
254	SLU 32		-2.62	0.01	28.95	-0.0003	-0.1252	-0.0005
254	SLU 33		-2.62	0.01	28.99	-0.0003	-0.1253	-0.0005
254	SLU 34		-2.62	0.01	28.44	-0.0003	-0.1246	-0.0005
254	SLU 35		-2.68	0.01	27.52	0	-0.1251	-0.0005
254	SLU 36		-2.68	0.01	27.56	0	-0.1252	-0.0005
254	SLU 37		-2.67	0.01	26.95	0.0001	-0.1243	-0.0005
254	SLU 38		-2.67	0.01	26.99	0.0001	-0.1244	-0.0005
254	SLU 39		-2.73	0.01	31.6	-0.0007	-0.1328	-0.0006
254	SLU 40		-2.73	0.01	31.64	-0.0007	-0.1329	-0.0006
254	SLU 41		-2.78	0.01	30.17	-0.0003	-0.1327	-0.0006
254	SLU 42		-2.79	0.01	30.21	-0.0003	-0.1328	-0.0006
254	SLU 43		-2.27	0.01	29.04	-0.0007	-0.1126	-0.0005
254	SLU 44		-2.27	0.01	29.11	-0.0007	-0.1127	-0.0005
254	SLU 45		-2.33	0.01	28.18	-0.0004	-0.1133	-0.0005
254	SLU 46		-2.33	0.01	28.22	-0.0004	-0.1134	-0.0005
254	SLU 47		-2.33	0.01	27.67	-0.0004	-0.1126	-0.0005
254	SLU 48		-2.39	0.01	26.75	-0.0001	-0.1132	-0.0005
254	SLU 49		-2.39	0.01	26.79	-0.0001	-0.1133	-0.0005
254	SLU 50		-2.39	0.01	26.18	0	-0.1124	-0.0005
254	SLU 51		-2.39	0.01	26.22	0	-0.1125	-0.0005
254	SLU 52		-2.67	0.01	33.28	-0.0009	-0.1321	-0.0006
254	SLU 53		-2.73	0.01	32.36	-0.0005	-0.1326	-0.0006
254	SLU 54		-2.73	0.01	32.4	-0.0006	-0.1327	-0.0006
254	SLU 55		-2.72	0.01	31.85	-0.0005	-0.132	-0.0006
254	SLU 56		-2.78	0.01	30.93	-0.0002	-0.1325	-0.0006
254	SLU 57		-2.79	0.01	30.97	-0.0002	-0.1326	-0.0006
254	SLU 58		-2.78	0.01	30.36	-0.0001	-0.1317	-0.0006
254	SLU 59		-2.78	0.01	30.4	-0.0001	-0.1318	-0.0006
254	SLU 60		-2.83	0.01	35.01	-0.0009	-0.1403	-0.0006
254	SLU 61		-2.84	0.01	35.05	-0.0009	-0.1403	-0.0006
254	SLU 62		-2.89	0.01	33.58	-0.0005	-0.1401	-0.0006
254	SLU 63		-2.89	0.01	33.62	-0.0006	-0.1402	-0.0006
254	SLU 64		-2.6	0.01	31.65	-0.0006	-0.1273	-0.0005
254	SLU 65		-2.6	0.01	31.71	-0.0007	-0.1274	-0.0006
254	SLU 66		-2.66	0.01	30.79	-0.0004	-0.128	-0.0006
254	SLU 67		-2.66	0.01	30.83	-0.0004	-0.1281	-0.0006
254	SLU 68		-2.66	0.01	30.28	-0.0003	-0.1273	-0.0006
254	SLU 69		-2.72	0.01	29.36	0	-0.1279	-0.0006
254	SLU 70		-2.72	0.01	29.4	0	-0.1279	-0.0006
254	SLU 71		-2.71	0.01	28.79	0.0001	-0.1271	-0.0005
254	SLU 72		-2.72	0.01	28.82	0	-0.1271	-0.0006
254	SLU 73		-3	0.01	35.89	-0.0008	-0.1468	-0.0006
254	SLU 74		-3.06	0.01	34.97	-0.0005	-0.1473	-0.0006
254	SLU 75		-3.06	0.01	35.01	-0.0005	-0.1474	-0.0006
254	SLU 76		-3.05	0.01	34.46	-0.0005	-0.1467	-0.0006
254	SLU 77		-3.11	0.01	33.54	-0.0001	-0.1472	-0.0006
254	SLU 78		-3.12	0.01	33.57	-0.0002	-0.1473	-0.0006
254	SLU 79		-3.11	0.01	32.96	-0.0001	-0.1464	-0.0006
254	SLU 80		-3.11	0.01	33	-0.0001	-0.1465	-0.0006
254	SLU 81		-3.16	0.01	37.62	-0.0008	-0.1549	-0.0006
254	SLU 82		-3.17	0.01	37.66	-0.0008	-0.155	-0.0006
254	SLU 83		-3.22	0.01	36.19	-0.0005	-0.1548	-0.0006
254	SLU 84		-3.22	0.01	36.22	-0.0005	-0.1549	-0.0006
254	SLE RA 1		-1.93	0.01	23.77	-0.0005	-0.0947	-0.0004
254	SLE RA 2		-1.93	0.01	23.81	-0.0005	-0.0948	-0.0004
254	SLE RA 3		-1.97	0.01	23.2	-0.0003	-0.0951	-0.0004
254	SLE RA 4		-1.97	0.01	23.23	-0.0003	-0.0952	-0.0004
254	SLE RA 5		-1.97	0.01	22.86	-0.0003	-0.0947	-0.0004
254	SLE RA 6		-2.01	0.01	22.25	-0.0001	-0.0951	-0.0004
254	SLE RA 7		-2.01	0.01	22.27	-0.0001	-0.0951	-0.0004
254	SLE RA 8		-2	0.01	21.86	0	-0.0945	-0.0004
254	SLE RA 9		-2.01	0.01	21.89	-0.0001	-0.0946	-0.0004
254	SLE RA 10		-2.19	0.01	26.6	-0.0006	-0.1077	-0.0005
254	SLE RA 11		-2.23	0.01	25.99	-0.0004	-0.1081	-0.0005
254	SLE RA 12		-2.23	0.01	26.01	-0.0004	-0.1081	-0.0005
254	SLE RA 13		-2.23	0.01	25.65	-0.0004	-0.1076	-0.0005
254	SLE RA 14		-2.27	0.01	25.03	-0.0002	-0.108	-0.0005
254	SLE RA 15		-2.27	0.01	25.06	-0.0002	-0.108	-0.0005
254	SLE RA 16		-2.27	0.01	24.65	-0.0001	-0.1074	-0.0005
254	SLE RA 17		-2.27	0.01	24.67	-0.0001	-0.1075	-0.0005
254	SLE RA 18		-2.3	0.01	27.75	-0.0006	-0.1131	-0.0005
254	SLE RA 19		-2.3	0.01	27.78	-0.0006	-0.1132	-0.0005
254	SLE RA 20		-2.34	0.01	26.8	-0.0004	-0.1131	-0.0005
254	SLE RA 21		-2.34	0.01	26.82	-0.0004	-0.1131	-0.0005
254	SLE FR 1		-1.93	0.01	23.77	-0.0005	-0.0947	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
254	SLE FR 2		x	-1.93	0.01	23.78	-0.0005	-0.0947	-0.0004
254	SLE FR 3			-1.94	0.01	23.39	-0.0004	-0.0947	-0.0004
254	SLE FR 4			-2.04	0.01	24.98	-0.0006	-0.1002	-0.0004
254	SLE FR 5			-2.06	0.01	24.59	-0.0005	-0.1002	-0.0004
254	SLE FR 6			-2.12	0.01	25.76	-0.0006	-0.1039	-0.0004
254	SLE QP 1			-1.93	0.01	23.77	-0.0005	-0.0947	-0.0004
254	SLE QP 2			-2.04	0.01	24.97	-0.0005	-0.1002	-0.0004
254	SLD 1			2.15	0.06	23.9	-0.0311	0.1138	-0.0012
254	SLD 2			2.15	0.06	23.9	-0.0311	0.1138	-0.0012
254	SLD 3			1.48	0.04	21.04	-0.0126	0.0914	-0.002
254	SLD 4			1.48	0.04	21.04	-0.0126	0.0914	-0.002
254	SLD 5			0.25	0.05	28.98	-0.0378	-0.002	0.0006
254	SLD 6			0.25	0.05	28.98	-0.0378	-0.002	0.0006
254	SLD 7			-2.02	-0.01	19.46	0.0239	-0.0768	-0.0021
254	SLD 8			-2.02	-0.01	19.46	0.0239	-0.0768	-0.0021
254	SLD 9			-2.07	0.03	30.47	-0.025	-0.1237	0.0013
254	SLD 10			-2.07	0.03	30.47	-0.025	-0.1237	0.0013
254	SLD 11			-4.33	-0.04	20.96	0.0367	-0.1985	-0.0014
254	SLD 12			-4.33	-0.04	20.96	0.0367	-0.1985	-0.0014
254	SLD 13			-5.56	-0.03	28.89	0.0115	-0.2918	0.0012
254	SLD 14			-5.56	-0.03	28.89	0.0115	-0.2918	0.0012
254	SLD 15			-6.24	-0.05	26.03	0.03	-0.3143	0.0003
254	SLD 16			-6.24	-0.05	26.03	0.03	-0.3143	0.0003
254	SLV 1			7.75	0.14	22.59	-0.0764	0.3997	-0.0024
254	SLV 2			7.75	0.14	22.59	-0.0764	0.3997	-0.0024
254	SLV 3			6.15	0.09	15.67	-0.031	0.3466	-0.0044
254	SLV 4			6.15	0.09	15.67	-0.031	0.3466	-0.0044
254	SLV 5			3.32	0.12	34.75	-0.0923	0.1303	0.002
254	SLV 6			3.32	0.12	34.75	-0.0923	0.1303	0.002
254	SLV 7			-2.01	-0.04	11.68	0.0593	-0.0467	-0.0046
254	SLV 8			-2.01	-0.04	11.68	0.0593	-0.0467	-0.0046
254	SLV 9			-2.07	0.06	38.25	-0.0603	-0.1537	0.0038
254	SLV 10			-2.07	0.06	38.25	-0.0603	-0.1537	0.0038
254	SLV 11			-7.4	-0.11	15.18	0.0912	-0.3307	-0.0028
254	SLV 12			-7.4	-0.11	15.18	0.0912	-0.3307	-0.0028
254	SLV 13			-10.24	-0.08	34.27	0.0299	-0.547	0.0035
254	SLV 14			-10.24	-0.08	34.27	0.0299	-0.547	0.0035
254	SLV 15			-11.83	-0.13	27.34	0.0754	-0.6001	0.0016
254	SLV 16			-11.83	-0.13	27.34	0.0754	-0.6001	0.0016
255	SLU 1			-3.32	4.12	40.93	-0.2502	-0.0955	-0.0004
255	SLU 2			-3.32	4.12	41.04	-0.2501	-0.0957	-0.0004
255	SLU 3			-3.24	3.99	39.19	-0.2463	-0.0944	-0.0003
255	SLU 4			-3.25	3.99	39.26	-0.2462	-0.0946	-0.0003
255	SLU 5			-3.18	3.88	38.2	-0.2401	-0.093	-0.0003
255	SLU 6			-3.1	3.74	36.35	-0.2362	-0.0917	-0.0003
255	SLU 7			-3.1	3.74	36.42	-0.2362	-0.0918	-0.0003
255	SLU 8			-3.03	3.63	35.25	-0.2301	-0.09	-0.0003
255	SLU 9			-3.03	3.63	35.32	-0.23	-0.0901	-0.0003
255	SLU 10			-3.96	4.82	48.46	-0.2931	-0.1144	-0.0004
255	SLU 11			-3.88	4.69	46.61	-0.2892	-0.1131	-0.0004
255	SLU 12			-3.88	4.69	46.67	-0.2892	-0.1133	-0.0004
255	SLU 13			-3.82	4.58	45.62	-0.283	-0.1116	-0.0004
255	SLU 14			-3.73	4.44	43.76	-0.2792	-0.1103	-0.0004
255	SLU 15			-3.74	4.44	43.83	-0.2791	-0.1105	-0.0004
255	SLU 16			-3.66	4.33	42.66	-0.2731	-0.1086	-0.0004
255	SLU 17			-3.67	4.33	42.73	-0.273	-0.1088	-0.0004
255	SLU 18			-4.22	5.12	51.52	-0.3116	-0.1222	-0.0004
255	SLU 19			-4.23	5.12	51.59	-0.3115	-0.1223	-0.0004
255	SLU 20			-4.08	4.88	48.68	-0.3015	-0.1194	-0.0004
255	SLU 21			-4.08	4.88	48.75	-0.3015	-0.1196	-0.0004
255	SLU 22			-3.74	4.64	45.44	-0.2838	-0.1088	-0.0004
255	SLU 23			-3.75	4.64	45.55	-0.2837	-0.109	-0.0004
255	SLU 24			-3.67	4.5	43.7	-0.2798	-0.1077	-0.0004
255	SLU 25			-3.68	4.5	43.77	-0.2798	-0.1079	-0.0004
255	SLU 26			-3.61	4.39	42.71	-0.2736	-0.1062	-0.0004
255	SLU 27			-3.53	4.26	40.86	-0.2698	-0.1049	-0.0003
255	SLU 28			-3.53	4.26	40.93	-0.2697	-0.1051	-0.0003
255	SLU 29			-3.46	4.15	39.76	-0.2637	-0.1032	-0.0003
255	SLU 30			-3.46	4.15	39.82	-0.2636	-0.1034	-0.0003
255	SLU 31			-4.39	5.34	52.97	-0.3266	-0.1277	-0.0005
255	SLU 32			-4.31	5.21	51.11	-0.3228	-0.1264	-0.0004
255	SLU 33			-4.31	5.21	51.18	-0.3227	-0.1265	-0.0004
255	SLU 34			-4.24	5.09	50.12	-0.3166	-0.1249	-0.0004
255	SLU 35			-4.16	4.96	48.27	-0.3127	-0.1236	-0.0004
255	SLU 36			-4.17	4.96	48.34	-0.3127	-0.1238	-0.0004
255	SLU 37			-4.09	4.85	47.17	-0.3066	-0.1219	-0.0004
255	SLU 38			-4.1	4.85	47.24	-0.3065	-0.1221	-0.0004
255	SLU 39			-4.65	5.64	56.03	-0.3451	-0.1355	-0.0005
255	SLU 40			-4.66	5.64	56.1	-0.3451	-0.1356	-0.0005
255	SLU 41			-4.51	5.39	53.19	-0.3351	-0.1327	-0.0005
255	SLU 42			-4.51	5.39	53.26	-0.335	-0.1328	-0.0005
255	SLU 43			-4.16	5.18	51.66	-0.3138	-0.1196	-0.0004
255	SLU 44			-4.17	5.18	51.78	-0.3137	-0.1198	-0.0004
255	SLU 45			-4.09	5.05	49.93	-0.3099	-0.1185	-0.0004
255	SLU 46			-4.09	5.05	49.99	-0.3098	-0.1187	-0.0004
255	SLU 47			-4.03	4.94	48.94	-0.3036	-0.1171	-0.0004
255	SLU 48			-3.95	4.8	47.08	-0.2998	-0.1158	-0.0004
255	SLU 49			-3.95	4.8	47.15	-0.2997	-0.1159	-0.0004
255	SLU 50			-3.88	4.69	45.98	-0.2937	-0.1141	-0.0004
255	SLU 51			-3.88	4.69	46.05	-0.2936	-0.1142	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
255	SLU 52			-4.81	5.88	59.19	-0.3566	-0.1385	-0.0005
255	SLU 53			-4.72	5.75	57.34	-0.3528	-0.1372	-0.0005
255	SLU 54			-4.73	5.75	57.41	-0.3528	-0.1374	-0.0005
255	SLU 55			-4.66	5.64	56.35	-0.3466	-0.1357	-0.0005
255	SLU 56			-4.58	5.5	54.5	-0.3428	-0.1344	-0.0005
255	SLU 57			-4.59	5.5	54.57	-0.3427	-0.1346	-0.0005
255	SLU 58			-4.51	5.39	53.39	-0.3366	-0.1327	-0.0004
255	SLU 59			-4.52	5.39	53.46	-0.3366	-0.1329	-0.0004
255	SLU 60			-5.07	6.18	62.25	-0.3752	-0.1463	-0.0005
255	SLU 61			-5.08	6.18	62.32	-0.3751	-0.1464	-0.0005
255	SLU 62			-4.93	5.94	59.41	-0.3651	-0.1435	-0.0005
255	SLU 63			-4.93	5.94	59.48	-0.365	-0.1437	-0.0005
255	SLU 64			-4.59	5.7	56.17	-0.3473	-0.1329	-0.0005
255	SLU 65			-4.6	5.7	56.29	-0.3472	-0.1331	-0.0005
255	SLU 66			-4.52	5.56	54.43	-0.3434	-0.1318	-0.0005
255	SLU 67			-4.52	5.56	54.5	-0.3433	-0.132	-0.0005
255	SLU 68			-4.46	5.45	53.44	-0.3372	-0.1303	-0.0005
255	SLU 69			-4.37	5.32	51.59	-0.3333	-0.129	-0.0004
255	SLU 70			-4.38	5.32	51.66	-0.3333	-0.1292	-0.0004
255	SLU 71			-4.31	5.2	50.49	-0.3272	-0.1273	-0.0004
255	SLU 72			-4.31	5.21	50.56	-0.3272	-0.1275	-0.0004
255	SLU 73			-5.24	6.4	63.7	-0.3902	-0.1518	-0.0005
255	SLU 74			-5.15	6.27	61.85	-0.3864	-0.1505	-0.0005
255	SLU 75			-5.16	6.27	61.92	-0.3863	-0.1506	-0.0005
255	SLU 76			-5.09	6.15	60.86	-0.3801	-0.149	-0.0005
255	SLU 77			-5.01	6.02	59.01	-0.3763	-0.1477	-0.0005
255	SLU 78			-5.01	6.02	59.07	-0.3762	-0.1479	-0.0005
255	SLU 79			-4.94	5.91	57.9	-0.3702	-0.146	-0.0005
255	SLU 80			-4.95	5.91	57.97	-0.3701	-0.1462	-0.0005
255	SLU 81			-5.5	6.7	66.76	-0.4087	-0.1596	-0.0006
255	SLU 82			-5.5	6.7	66.83	-0.4086	-0.1597	-0.0006
255	SLU 83			-5.36	6.45	63.92	-0.3986	-0.1568	-0.0005
255	SLU 84			-5.36	6.45	63.99	-0.3986	-0.1569	-0.0005
255	SLE RA 1			-3.44	4.27	42.22	-0.2598	-0.0993	-0.0004
255	SLE RA 2			-3.44	4.27	42.29	-0.2597	-0.0995	-0.0004
255	SLE RA 3			-3.39	4.18	41.06	-0.2572	-0.0986	-0.0004
255	SLE RA 4			-3.39	4.18	41.11	-0.2571	-0.0987	-0.0004
255	SLE RA 5			-3.35	4.11	40.4	-0.253	-0.0976	-0.0003
255	SLE RA 6			-3.29	4.02	39.17	-0.2505	-0.0967	-0.0003
255	SLE RA 7			-3.3	4.02	39.21	-0.2504	-0.0968	-0.0003
255	SLE RA 8			-3.25	3.94	38.43	-0.2464	-0.0956	-0.0003
255	SLE RA 9			-3.25	3.94	38.48	-0.2464	-0.0957	-0.0003
255	SLE RA 10			-3.87	4.74	47.24	-0.2884	-0.1119	-0.0004
255	SLE RA 11			-3.81	4.65	46	-0.2858	-0.1111	-0.0004
255	SLE RA 12			-3.82	4.65	46.05	-0.2858	-0.1111	-0.0004
255	SLE RA 13			-3.77	4.57	45.34	-0.2817	-0.1101	-0.0004
255	SLE RA 14			-3.72	4.48	44.11	-0.2791	-0.1092	-0.0004
255	SLE RA 15			-3.72	4.48	44.15	-0.2791	-0.1093	-0.0004
255	SLE RA 16			-3.67	4.41	43.37	-0.275	-0.1081	-0.0004
255	SLE RA 17			-3.67	4.41	43.42	-0.275	-0.1082	-0.0004
255	SLE RA 18			-4.04	4.94	49.28	-0.3007	-0.1171	-0.0004
255	SLE RA 19			-4.05	4.94	49.32	-0.3007	-0.1172	-0.0004
255	SLE RA 20			-3.95	4.77	47.38	-0.294	-0.1152	-0.0004
255	SLE RA 21			-3.95	4.77	47.43	-0.294	-0.1153	-0.0004
255	SLE FR 1			-3.44	4.27	42.22	-0.2598	-0.0993	-0.0004
255	SLE FR 2			-3.44	4.27	42.23	-0.2598	-0.0993	-0.0004
255	SLE FR 3			-3.4	4.2	41.46	-0.2571	-0.0986	-0.0004
255	SLE FR 4			-3.62	4.47	44.35	-0.2721	-0.1047	-0.0004
255	SLE FR 5			-3.58	4.4	43.58	-0.2694	-0.1039	-0.0004
255	SLE FR 6			-3.74	4.6	45.75	-0.2803	-0.1082	-0.0004
255	SLE QP 1			-3.44	4.27	42.22	-0.2598	-0.0993	-0.0004
255	SLE QP 2			-3.62	4.47	44.34	-0.2721	-0.1046	-0.0004
255	SLD 1			-1.36	5.46	40.91	-0.3122	-0.0067	-0.0004
255	SLD 2			-1.36	5.46	40.91	-0.3122	-0.0067	-0.0004
255	SLD 3			-1.09	1.89	34.58	-0.1542	0.005	0
255	SLD 4			-1.09	1.89	34.58	-0.1542	0.005	0
255	SLD 5			-3.35	10.18	52.91	-0.5236	-0.093	-0.001
255	SLD 6			-3.35	10.18	52.91	-0.5236	-0.093	-0.001
255	SLD 7			-2.46	-1.72	31.81	0.0028	-0.054	0.0004
255	SLD 8			-2.46	-1.72	31.81	0.0028	-0.054	0.0004
255	SLD 9			-4.78	10.66	56.86	-0.547	-0.1553	-0.0011
255	SLD 10			-4.78	10.66	56.86	-0.547	-0.1553	-0.0011
255	SLD 11			-3.89	-1.24	35.76	-0.0205	-0.1163	0.0003
255	SLD 12			-3.89	-1.24	35.76	-0.0205	-0.1163	0.0003
255	SLD 13			-6.15	7.06	54.09	-0.39	-0.2143	-0.0008
255	SLD 14			-6.15	7.06	54.09	-0.39	-0.2143	-0.0008
255	SLD 15			-5.88	3.49	47.76	-0.232	-0.2026	-0.0004
255	SLD 16			-5.88	3.49	47.76	-0.232	-0.2026	-0.0004
255	SLV 1			1.63	6.76	36.58	-0.3648	0.1234	-0.0004
255	SLV 2			1.63	6.76	36.58	-0.3648	0.1234	-0.0004
255	SLV 3			2.29	-1.62	21.33	0.0059	0.1512	0.0006
255	SLV 4			2.29	-1.62	21.33	0.0059	0.1512	0.0006
255	SLV 5			-3.04	17.87	65.14	-0.8622	-0.0784	-0.0019
255	SLV 6			-3.04	17.87	65.14	-0.8622	-0.0784	-0.0019
255	SLV 7			-0.85	-10.07	14.3	0.3736	0.0143	0.0014
255	SLV 8			-0.85	-10.07	14.3	0.3736	0.0143	0.0014
255	SLV 9			-6.39	19.01	74.37	-0.9178	-0.2236	-0.0022
255	SLV 10			-6.39	19.01	74.37	-0.9178	-0.2236	-0.0022
255	SLV 11			-4.2	-8.93	23.53	0.3181	-0.1308	0.0011
255	SLV 12			-4.2	-8.93	23.53	0.3181	-0.1308	0.0011



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
255	SLV 13			-9.53	10.56	67.35	-0.5501	-0.3605	-0.0014
255	SLV 14			-9.53	10.56	67.35	-0.5501	-0.3605	-0.0014
255	SLV 15			-8.87	2.18	52.09	-0.1793	-0.3327	-0.0004
255	SLV 16			-8.87	2.18	52.09	-0.1793	-0.3327	-0.0004
256	SLU 1			0.02	-1.42	52.81	0.0413	0.0153	-0.0002
256	SLU 2			0.01	-0.88	51.86	0.0227	0.0006	-0.0001
256	SLU 3			0.02	-1.53	53.87	0.0444	0.0158	-0.0002
256	SLU 4			0.01	-1.2	53.3	0.0333	0.007	-0.0001
256	SLU 5			0.01	-0.95	52.25	0.0248	0.001	-0.0001
256	SLU 6			0.02	-1.6	54.27	0.0465	0.0162	-0.0002
256	SLU 7			0.01	-1.28	53.69	0.0354	0.0074	-0.0001
256	SLU 8			0.02	-1.57	53.61	0.0454	0.0161	-0.0002
256	SLU 9			0.01	-1.25	53.03	0.0343	0.0072	-0.0001
256	SLU 10			0.01	-1.23	57.87	0.0334	0.0026	-0.0001
256	SLU 11			0.02	-1.87	59.89	0.055	0.0178	-0.0002
256	SLU 12			0.01	-1.55	59.31	0.0439	0.009	-0.0001
256	SLU 13			0.01	-1.3	58.27	0.0355	0.003	-0.0001
256	SLU 14			0.02	-1.95	60.28	0.0571	0.0182	-0.0002
256	SLU 15			0.01	-1.63	59.71	0.046	0.0094	-0.0001
256	SLU 16			0.02	-1.92	59.62	0.056	0.0181	-0.0002
256	SLU 17			0.01	-1.59	59.05	0.0449	0.0092	-0.0001
256	SLU 18			0.02	-1.91	61.41	0.0565	0.0182	-0.0002
256	SLU 19			0.01	-1.59	60.83	0.0453	0.0094	-0.0001
256	SLU 20			0.02	-1.99	61.8	0.0585	0.0185	-0.0002
256	SLU 21			0.01	-1.67	61.23	0.0474	0.0097	-0.0001
256	SLU 22			0.02	-1.77	58.59	0.0519	0.0174	-0.0002
256	SLU 23			0.01	-1.23	57.64	0.0334	0.0027	-0.0001
256	SLU 24			0.02	-1.88	59.65	0.0551	0.0179	-0.0002
256	SLU 25			0.01	-1.56	59.08	0.044	0.0091	-0.0001
256	SLU 26			0.01	-1.31	58.03	0.0355	0.0031	-0.0001
256	SLU 27			0.02	-1.96	60.05	0.0571	0.0183	-0.0002
256	SLU 28			0.01	-1.63	59.47	0.046	0.0095	-0.0001
256	SLU 29			0.02	-1.92	59.39	0.0561	0.0182	-0.0002
256	SLU 30			0.01	-1.6	58.81	0.045	0.0093	-0.0001
256	SLU 31			0.01	-1.58	63.65	0.0441	0.0047	-0.0001
256	SLU 32			0.02	-2.23	65.67	0.0657	0.0199	-0.0002
256	SLU 33			0.02	-1.91	65.09	0.0546	0.0111	-0.0002
256	SLU 34			0.01	-1.66	64.05	0.0461	0.0051	-0.0001
256	SLU 35			0.02	-2.3	66.06	0.0678	0.0203	-0.0002
256	SLU 36			0.02	-1.98	65.49	0.0567	0.0115	-0.0002
256	SLU 37			0.02	-2.27	65.4	0.0667	0.0202	-0.0002
256	SLU 38			0.02	-1.95	64.83	0.0556	0.0113	-0.0002
256	SLU 39			0.02	-2.27	67.19	0.0671	0.0203	-0.0002
256	SLU 40			0.02	-1.94	66.61	0.056	0.0114	-0.0002
256	SLU 41			0.02	-2.34	67.58	0.0692	0.0206	-0.0002
256	SLU 42			0.02	-2.02	67.01	0.0581	0.0118	-0.0002
256	SLU 43			0.02	-1.72	66.68	0.05	0.0192	-0.0002
256	SLU 44			0.01	-1.18	65.72	0.0315	0.0045	-0.0001
256	SLU 45			0.02	-1.83	67.73	0.0531	0.0197	-0.0002
256	SLU 46			0.02	-1.51	67.16	0.042	0.0109	-0.0002
256	SLU 47			0.01	-1.26	66.12	0.0335	0.0049	-0.0001
256	SLU 48			0.02	-1.91	68.13	0.0552	0.0201	-0.0002
256	SLU 49			0.02	-1.58	67.55	0.0441	0.0113	-0.0002
256	SLU 50			0.02	-1.87	67.47	0.0541	0.0199	-0.0002
256	SLU 51			0.02	-1.55	66.89	0.043	0.0111	-0.0002
256	SLU 52			0.01	-1.53	71.73	0.0421	0.0065	-0.0001
256	SLU 53			0.02	-2.18	73.75	0.0637	0.0217	-0.0003
256	SLU 54			0.02	-1.85	73.17	0.0526	0.0129	-0.0002
256	SLU 55			0.01	-1.61	72.13	0.0442	0.0069	-0.0001
256	SLU 56			0.02	-2.25	74.14	0.0658	0.0221	-0.0003
256	SLU 57			0.02	-1.93	73.57	0.0547	0.0133	-0.0002
256	SLU 58			0.02	-2.22	73.48	0.0648	0.0219	-0.0003
256	SLU 59			0.02	-1.9	72.91	0.0536	0.0131	-0.0002
256	SLU 60			0.02	-2.22	75.27	0.0652	0.022	-0.0003
256	SLU 61			0.02	-1.89	74.7	0.0541	0.0132	-0.0002
256	SLU 62			0.02	-2.29	75.67	0.0672	0.0224	-0.0003
256	SLU 63			0.02	-1.97	75.09	0.0561	0.0136	-0.0002
256	SLU 64			0.02	-2.08	72.46	0.0607	0.0213	-0.0003
256	SLU 65			0.01	-1.54	71.5	0.0421	0.0066	-0.0001
256	SLU 66			0.02	-2.19	73.51	0.0638	0.0218	-0.0003
256	SLU 67			0.02	-1.86	72.94	0.0527	0.013	-0.0002
256	SLU 68			0.01	-1.61	71.9	0.0442	0.007	-0.0001
256	SLU 69			0.02	-2.26	73.91	0.0659	0.0222	-0.0003
256	SLU 70			0.02	-1.94	73.34	0.0548	0.0134	-0.0002
256	SLU 71			0.02	-2.23	73.25	0.0648	0.022	-0.0003
256	SLU 72			0.02	-1.9	72.68	0.0537	0.0132	-0.0002
256	SLU 73			0.02	-1.88	77.52	0.0528	0.0086	-0.0002
256	SLU 74			0.03	-2.53	79.53	0.0744	0.0238	-0.0003
256	SLU 75			0.02	-2.21	78.95	0.0633	0.015	-0.0002
256	SLU 76			0.02	-1.96	77.91	0.0549	0.009	-0.0002
256	SLU 77			0.03	-2.61	79.92	0.0765	0.0242	-0.0003
256	SLU 78			0.02	-2.28	79.35	0.0654	0.0154	-0.0002
256	SLU 79			0.03	-2.57	79.26	0.0754	0.024	-0.0003
256	SLU 80			0.02	-2.25	78.69	0.0643	0.0152	-0.0002
256	SLU 81			0.03	-2.57	81.05	0.0759	0.0241	-0.0003
256	SLU 82			0.02	-2.25	80.48	0.0647	0.0153	-0.0002
256	SLU 83			0.03	-2.65	81.45	0.0779	0.0245	-0.0003
256	SLU 84			0.02	-2.32	80.87	0.0668	0.0157	-0.0002
256	SLE RA 1			0.02	-1.52	54.46	0.0443	0.0159	-0.0002
256	SLE RA 2			0.01	-1.16	53.83	0.032	0.0061	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
256	SLE RA 3		0.02	-1.59	55.17	0.0464	0.0163	-0.0002
256	SLE RA 4		0.01	-1.38	54.79	0.039	0.0104	-0.0001
256	SLE RA 5		0.01	-1.21	54.09	0.0334	0.0064	-0.0001
256	SLE RA 6		0.02	-1.64	55.43	0.0478	0.0165	-0.0002
256	SLE RA 7		0.01	-1.43	55.05	0.0404	0.0106	-0.0001
256	SLE RA 8		0.02	-1.62	54.99	0.0471	0.0164	-0.0002
256	SLE RA 9		0.01	-1.4	54.61	0.0397	0.0105	-0.0001
256	SLE RA 10		0.01	-1.39	57.84	0.0391	0.0074	-0.0001
256	SLE RA 11		0.02	-1.82	59.18	0.0535	0.0176	-0.0002
256	SLE RA 12		0.02	-1.61	58.8	0.0461	0.0117	-0.0002
256	SLE RA 13		0.01	-1.44	58.1	0.0404	0.0077	-0.0001
256	SLE RA 14		0.02	-1.87	59.44	0.0549	0.0178	-0.0002
256	SLE RA 15		0.02	-1.66	59.06	0.0475	0.012	-0.0002
256	SLE RA 16		0.02	-1.85	59	0.0542	0.0177	-0.0002
256	SLE RA 17		0.02	-1.64	58.62	0.0468	0.0119	-0.0002
256	SLE RA 18		0.02	-1.85	60.19	0.0544	0.0178	-0.0002
256	SLE RA 19		0.02	-1.63	59.81	0.047	0.0119	-0.0002
256	SLE RA 20		0.02	-1.9	60.46	0.0558	0.0181	-0.0002
256	SLE RA 21		0.02	-1.68	60.08	0.0484	0.0122	-0.0002
256	SLE FR 1		0.02	-1.52	54.46	0.0443	0.0159	-0.0002
256	SLE FR 2		0.02	-1.45	54.34	0.0418	0.014	-0.0002
256	SLE FR 3		0.02	-1.54	54.57	0.0449	0.016	-0.0002
256	SLE FR 4		0.02	-1.55	56.06	0.0449	0.0145	-0.0002
256	SLE FR 5		0.02	-1.64	56.29	0.0479	0.0166	-0.0002
256	SLE FR 6		0.02	-1.68	57.33	0.0494	0.0169	-0.0002
256	SLE QP 1		0.02	-1.52	54.46	0.0443	0.0159	-0.0002
256	SLE QP 2		0.02	-1.62	56.18	0.0473	0.0165	-0.0002
256	SLD 1		0.27	0.87	40.35	-0.0332	0.2375	-0.0033
256	SLD 2		0.27	0.87	40.35	-0.0332	0.2375	-0.0033
256	SLD 3		0.37	-2.47	43.67	0.0757	0.3518	-0.0047
256	SLD 4		0.37	-2.47	43.67	0.0757	0.3518	-0.0047
256	SLD 5		-0.07	4.2	46.4	-0.1419	-0.0905	0.001
256	SLD 6		-0.07	4.2	46.4	-0.1419	-0.0905	0.001
256	SLD 7		0.29	-6.94	57.46	0.221	0.2904	-0.0036
256	SLD 8		0.29	-6.94	57.46	0.221	0.2904	-0.0036
256	SLD 9		-0.25	3.71	54.91	-0.1263	-0.2574	0.0032
256	SLD 10		-0.25	3.71	54.91	-0.1263	-0.2574	0.0032
256	SLD 11		0.1	-7.43	65.96	0.2366	0.1235	-0.0014
256	SLD 12		0.1	-7.43	65.96	0.2366	0.1235	-0.0014
256	SLD 13		-0.34	-0.76	68.7	0.019	-0.3188	0.0043
256	SLD 14		-0.34	-0.76	68.7	0.019	-0.3188	0.0043
256	SLD 15		-0.23	-4.1	72.01	0.1279	-0.2046	0.0029
256	SLD 16		-0.23	-4.1	72.01	0.1279	-0.2046	0.0029
256	SLV 1		0.61	4.2	19.08	-0.141	0.5447	-0.0076
256	SLV 2		0.61	4.2	19.08	-0.141	0.5447	-0.0076
256	SLV 3		0.88	-3.57	26.93	0.1123	0.8354	-0.0111
256	SLV 4		0.88	-3.57	26.93	0.1123	0.8354	-0.0111
256	SLV 5		-0.21	11.91	33.14	-0.3933	-0.2659	0.0029
256	SLV 6		-0.21	11.91	33.14	-0.3933	-0.2659	0.0029
256	SLV 7		0.69	-13.99	59.32	0.451	0.703	-0.0088
256	SLV 8		0.69	-13.99	59.32	0.451	0.703	-0.0088
256	SLV 9		-0.65	10.76	53.04	-0.3563	-0.67	0.0084
256	SLV 10		-0.65	10.76	53.04	-0.3563	-0.67	0.0084
256	SLV 11		0.25	-15.15	79.23	0.488	0.2989	-0.0033
256	SLV 12		0.25	-15.15	79.23	0.488	0.2989	-0.0033
256	SLV 13		-0.85	0.34	85.43	-0.0176	-0.8024	0.0107
256	SLV 14		-0.85	0.34	85.43	-0.0176	-0.8024	0.0107
256	SLV 15		-0.58	-7.43	93.29	0.2357	-0.5118	0.0072
256	SLV 16		-0.58	-7.43	93.29	0.2357	-0.5118	0.0072
257	SLU 1		-0.25	0.03	50.57	-0.0861	-0.1926	0.0011
257	SLU 2		-0.24	0.61	49.46	-0.1078	-0.1733	0.0011
257	SLU 3		-0.26	0.05	51.87	-0.0888	-0.198	0.0012
257	SLU 4		-0.25	0.4	51.21	-0.1018	-0.1864	0.0011
257	SLU 5		-0.24	0.66	50.26	-0.1107	-0.1765	0.0011
257	SLU 6		-0.27	0.1	52.67	-0.0917	-0.2012	0.0012
257	SLU 7		-0.25	0.45	52.01	-0.1047	-0.1896	0.0011
257	SLU 8		-0.26	0.13	52.15	-0.0919	-0.1989	0.0012
257	SLU 9		-0.25	0.48	51.49	-0.105	-0.1873	0.0011
257	SLU 10		-0.27	0.49	54.94	-0.1128	-0.198	0.0012
257	SLU 11		-0.29	-0.07	57.35	-0.0939	-0.2227	0.0013
257	SLU 12		-0.28	0.28	56.69	-0.1069	-0.2111	0.0013
257	SLU 13		-0.27	0.54	55.73	-0.1158	-0.2012	0.0012
257	SLU 14		-0.3	-0.02	58.14	-0.0968	-0.2259	0.0013
257	SLU 15		-0.29	0.33	57.48	-0.1098	-0.2143	0.0013
257	SLU 16		-0.29	0.01	57.63	-0.097	-0.2236	0.0013
257	SLU 17		-0.28	0.36	56.97	-0.11	-0.212	0.0013
257	SLU 18		-0.3	-0.14	58.39	-0.0933	-0.2279	0.0013
257	SLU 19		-0.29	0.21	57.73	-0.1063	-0.2163	0.0013
257	SLU 20		-0.3	-0.09	59.18	-0.0963	-0.231	0.0014
257	SLU 21		-0.29	0.26	58.52	-0.1093	-0.2195	0.0013
257	SLU 22		-0.29	-0.07	56.04	-0.0918	-0.217	0.0013
257	SLU 23		-0.27	0.51	54.94	-0.1135	-0.1977	0.0012
257	SLU 24		-0.29	-0.05	57.34	-0.0945	-0.2224	0.0013
257	SLU 25		-0.28	0.3	56.68	-0.1075	-0.2108	0.0013
257	SLU 26		-0.27	0.56	55.73	-0.1164	-0.2008	0.0012
257	SLU 27		-0.3	0	58.14	-0.0975	-0.2255	0.0013
257	SLU 28		-0.29	0.35	57.48	-0.1105	-0.214	0.0013
257	SLU 29		-0.29	0.03	57.62	-0.0977	-0.2233	0.0013
257	SLU 30		-0.28	0.38	56.96	-0.1107	-0.2117	0.0013
257	SLU 31		-0.3	0.4	60.41	-0.1186	-0.2224	0.0014



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
257	SLU 32	-0.33	-0.17	62.82	-0.0996	-0.2471	0.0015
257	SLU 33	-0.31	0.18	62.16	-0.1126	-0.2355	0.0014
257	SLU 34	-0.3	0.45	61.2	-0.1215	-0.2255	0.0014
257	SLU 35	-0.33	-0.12	63.61	-0.1025	-0.2502	0.0015
257	SLU 36	-0.32	0.23	62.95	-0.1156	-0.2387	0.0014
257	SLU 37	-0.33	-0.09	63.1	-0.1028	-0.248	0.0015
257	SLU 38	-0.32	0.26	62.44	-0.1158	-0.2364	0.0014
257	SLU 39	-0.33	-0.24	63.86	-0.099	-0.2522	0.0015
257	SLU 40	-0.32	0.11	63.2	-0.1121	-0.2407	0.0014
257	SLU 41	-0.34	-0.19	64.65	-0.102	-0.2554	0.0015
257	SLU 42	-0.33	0.16	63.99	-0.115	-0.2438	0.0015
257	SLU 43	-0.32	0.07	63.86	-0.1099	-0.242	0.0014
257	SLU 44	-0.3	0.65	62.76	-0.1316	-0.2227	0.0014
257	SLU 45	-0.33	0.09	65.17	-0.1126	-0.2474	0.0015
257	SLU 46	-0.32	0.44	64.51	-0.1257	-0.2359	0.0014
257	SLU 47	-0.3	0.7	63.55	-0.1345	-0.2259	0.0014
257	SLU 48	-0.33	0.14	65.96	-0.1156	-0.2506	0.0015
257	SLU 49	-0.32	0.49	65.3	-0.1286	-0.239	0.0014
257	SLU 50	-0.33	0.17	65.45	-0.1158	-0.2483	0.0015
257	SLU 51	-0.32	0.52	64.79	-0.1288	-0.2367	0.0014
257	SLU 52	-0.33	0.53	68.23	-0.1367	-0.2474	0.0015
257	SLU 53	-0.36	-0.03	70.64	-0.1177	-0.2721	0.0016
257	SLU 54	-0.35	0.32	69.98	-0.1307	-0.2606	0.0016
257	SLU 55	-0.34	0.58	69.03	-0.1396	-0.2506	0.0015
257	SLU 56	-0.36	0.02	71.43	-0.1207	-0.2753	0.0016
257	SLU 57	-0.35	0.37	70.77	-0.1337	-0.2637	0.0016
257	SLU 58	-0.36	0.05	70.92	-0.1209	-0.273	0.0016
257	SLU 59	-0.35	0.4	70.26	-0.1339	-0.2614	0.0016
257	SLU 60	-0.37	-0.1	71.68	-0.1172	-0.2773	0.0016
257	SLU 61	-0.35	0.25	71.02	-0.1302	-0.2657	0.0016
257	SLU 62	-0.37	-0.05	72.47	-0.1201	-0.2804	0.0017
257	SLU 63	-0.36	0.3	71.81	-0.1331	-0.2689	0.0016
257	SLU 64	-0.35	-0.03	69.33	-0.1156	-0.2664	0.0016
257	SLU 65	-0.33	0.56	68.23	-0.1373	-0.2471	0.0015
257	SLU 66	-0.36	-0.01	70.64	-0.1184	-0.2718	0.0016
257	SLU 67	-0.35	0.34	69.98	-0.1314	-0.2602	0.0016
257	SLU 68	-0.34	0.61	69.02	-0.1403	-0.2503	0.0015
257	SLU 69	-0.36	0.04	71.43	-0.1213	-0.275	0.0016
257	SLU 70	-0.35	0.39	70.77	-0.1343	-0.2634	0.0016
257	SLU 71	-0.36	0.07	70.92	-0.1215	-0.2727	0.0016
257	SLU 72	-0.35	0.42	70.26	-0.1345	-0.2611	0.0016
257	SLU 73	-0.37	0.44	73.7	-0.1424	-0.2718	0.0016
257	SLU 74	-0.39	-0.12	76.11	-0.1234	-0.2965	0.0018
257	SLU 75	-0.38	0.22	75.45	-0.1365	-0.2849	0.0017
257	SLU 76	-0.37	0.49	74.5	-0.1454	-0.275	0.0017
257	SLU 77	-0.39	-0.07	76.91	-0.1264	-0.2997	0.0018
257	SLU 78	-0.38	0.27	76.24	-0.1394	-0.2881	0.0017
257	SLU 79	-0.39	-0.04	76.39	-0.1266	-0.2974	0.0018
257	SLU 80	-0.38	0.3	75.73	-0.1396	-0.2858	0.0017
257	SLU 81	-0.4	-0.19	77.15	-0.1229	-0.3017	0.0018
257	SLU 82	-0.39	0.15	76.49	-0.1359	-0.2901	0.0017
257	SLU 83	-0.4	-0.14	77.94	-0.1258	-0.3048	0.0018
257	SLU 84	-0.39	0.2	77.28	-0.1389	-0.2932	0.0018
257	SLE RA 1	-0.26	0	52.13	-0.0877	-0.1995	0.0012
257	SLE RA 2	-0.25	0.39	51.39	-0.1022	-0.1867	0.0011
257	SLE RA 3	-0.27	0.01	53	-0.0895	-0.2032	0.0012
257	SLE RA 4	-0.26	0.25	52.56	-0.0982	-0.1955	0.0012
257	SLE RA 5	-0.25	0.42	51.92	-0.1041	-0.1888	0.0011
257	SLE RA 6	-0.27	0.05	53.53	-0.0915	-0.2053	0.0012
257	SLE RA 7	-0.26	0.28	53.09	-0.1002	-0.1976	0.0012
257	SLE RA 8	-0.27	0.07	53.19	-0.0916	-0.2037	0.0012
257	SLE RA 9	-0.26	0.3	52.75	-0.1003	-0.196	0.0012
257	SLE RA 10	-0.27	0.31	55.04	-0.1055	-0.2032	0.0012
257	SLE RA 11	-0.29	-0.06	56.65	-0.0929	-0.2196	0.0013
257	SLE RA 12	-0.28	0.17	56.21	-0.1016	-0.2119	0.0013
257	SLE RA 13	-0.28	0.34	55.57	-0.1075	-0.2053	0.0012
257	SLE RA 14	-0.29	-0.03	57.18	-0.0949	-0.2217	0.0013
257	SLE RA 15	-0.28	0.2	56.74	-0.1035	-0.214	0.0013
257	SLE RA 16	-0.29	-0.01	56.84	-0.095	-0.2202	0.0013
257	SLE RA 17	-0.28	0.22	56.4	-0.1037	-0.2125	0.0013
257	SLE RA 18	-0.29	-0.11	57.34	-0.0925	-0.2231	0.0013
257	SLE RA 19	-0.29	0.12	56.9	-0.1012	-0.2154	0.0013
257	SLE RA 20	-0.3	-0.08	57.87	-0.0945	-0.2252	0.0013
257	SLE RA 21	-0.29	0.15	57.43	-0.1032	-0.2175	0.0013
257	SLE FR 1	-0.26	0	52.13	-0.0877	-0.1995	0.0012
257	SLE FR 2	-0.26	0.08	51.98	-0.0906	-0.197	0.0012
257	SLE FR 3	-0.26	0.01	52.34	-0.0885	-0.2004	0.0012
257	SLE FR 4	-0.27	0.05	53.55	-0.092	-0.204	0.0012
257	SLE FR 5	-0.27	-0.02	53.9	-0.0899	-0.2074	0.0012
257	SLE FR 6	-0.28	-0.05	54.74	-0.0901	-0.2113	0.0013
257	SLE QP 1	-0.26	0	52.13	-0.0877	-0.1995	0.0012
257	SLE QP 2	-0.27	-0.03	53.69	-0.0891	-0.2066	0.0012
257	SLD 1	-0.57	2.87	66.47	-0.2235	0.1378	0.0025
257	SLD 2	-0.57	2.87	66.47	-0.2235	0.1378	0.0025
257	SLD 3	-0.7	-0.78	69.48	-0.0614	0.0271	0.003
257	SLD 4	-0.7	-0.78	69.48	-0.0614	0.0271	0.003
257	SLD 5	-0.16	6.37	52.96	-0.3752	0.0645	0.0008
257	SLD 6	-0.16	6.37	52.96	-0.3752	0.0645	0.0008
257	SLD 7	-0.6	-5.79	62.99	0.1649	-0.3043	0.0026
257	SLD 8	-0.6	-5.79	62.99	0.1649	-0.3043	0.0026



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
257	SLD 9		0.05	5.72	44.39	-0.3432	-0.1089	-0.0001
257	SLD 10		0.05	5.72	44.39	-0.3432	-0.1089	-0.0001
257	SLD 11		-0.38	-6.43	54.42	0.1969	-0.4777	0.0017
257	SLD 12		-0.38	-6.43	54.42	0.1969	-0.4777	0.0017
257	SLD 13		0.16	0.71	37.9	-0.1169	-0.4403	-0.0006
257	SLD 14		0.16	0.71	37.9	-0.1169	-0.4403	-0.0006
257	SLD 15		0.03	-2.93	40.91	0.0452	-0.551	0
257	SLD 16		0.03	-2.93	40.91	0.0452	-0.551	0
257	SLV 1		-0.97	6.88	83.55	-0.408	0.6171	0.0041
257	SLV 2		-0.97	6.88	83.55	-0.408	0.6171	0.0041
257	SLV 3		-1.29	-1.64	90.7	-0.0304	0.3456	0.0054
257	SLV 4		-1.29	-1.64	90.7	-0.0304	0.3456	0.0054
257	SLV 5		0	14.96	51.8	-0.7575	0.4523	0.0001
257	SLV 6		0	14.96	51.8	-0.7575	0.4523	0.0001
257	SLV 7		-1.06	-13.43	75.64	0.5011	-0.4528	0.0045
257	SLV 8		-1.06	-13.43	75.64	0.5011	-0.4528	0.0045
257	SLV 9		0.51	13.36	31.74	-0.6794	0.0396	-0.002
257	SLV 10		0.51	13.36	31.74	-0.6794	0.0396	-0.002
257	SLV 11		-0.54	-15.02	55.58	0.5792	-0.8655	0.0023
257	SLV 12		-0.54	-15.02	55.58	0.5792	-0.8655	0.0023
257	SLV 13		0.75	1.57	16.69	-0.1479	-0.7588	-0.003
257	SLV 14		0.75	1.57	16.69	-0.1479	-0.7588	-0.003
257	SLV 15		0.43	-6.94	23.84	0.2297	-1.0303	-0.0017
257	SLV 16		0.43	-6.94	23.84	0.2297	-1.0303	-0.0017
258	SLU 1		0	1.6	44.74	-0.0466	-0.0009	0
258	SLU 2		0	1.71	44.22	-0.0499	-0.0005	0
258	SLU 3		0	1.62	46.86	-0.0468	-0.001	0
258	SLU 4		0	1.69	46.55	-0.0488	-0.0007	0
258	SLU 5		0	1.74	45.99	-0.0504	-0.0004	0
258	SLU 6		0	1.65	48.63	-0.0473	-0.0009	0
258	SLU 7		0	1.72	48.32	-0.0493	-0.0006	0
258	SLU 8		0	1.66	48.28	-0.0475	-0.0009	0
258	SLU 9		0	1.73	47.96	-0.0495	-0.0006	0
258	SLU 10		0	1.79	51.79	-0.0523	-0.0006	0
258	SLU 11		0	1.7	54.43	-0.0492	-0.0011	0
258	SLU 12		0	1.77	54.12	-0.0512	-0.0008	0
258	SLU 13		0	1.82	53.56	-0.0528	-0.0006	0
258	SLU 14		0	1.73	56.2	-0.0497	-0.0011	0
258	SLU 15		0	1.8	55.89	-0.0517	-0.0008	0
258	SLU 16		0	1.74	55.85	-0.0499	-0.0011	0
258	SLU 17		0	1.81	55.54	-0.0519	-0.0008	0
258	SLU 18		0	1.71	55.55	-0.05	-0.0012	0
258	SLU 19		0	1.78	55.24	-0.052	-0.0009	0
258	SLU 20		0	1.74	57.32	-0.0505	-0.0012	0
258	SLU 21		0	1.81	57.01	-0.0525	-0.0009	0
258	SLU 22		0	1.69	52.24	-0.0491	-0.0011	0
258	SLU 23		0	1.8	51.72	-0.0525	-0.0006	0
258	SLU 24		0	1.71	54.36	-0.0494	-0.0011	0
258	SLU 25		0	1.78	54.05	-0.0514	-0.0008	0
258	SLU 26		0	1.83	53.49	-0.0529	-0.0006	0
258	SLU 27		0	1.74	56.13	-0.0498	-0.0011	0
258	SLU 28		0	1.81	55.82	-0.0518	-0.0008	0
258	SLU 29		0	1.75	55.77	-0.05	-0.001	0
258	SLU 30		0	1.82	55.46	-0.052	-0.0008	0
258	SLU 31		0	1.88	59.29	-0.0549	-0.0008	0
258	SLU 32		0	1.79	61.93	-0.0518	-0.0013	0
258	SLU 33		0	1.86	61.62	-0.0538	-0.001	0
258	SLU 34		0	1.91	61.06	-0.0554	-0.0008	0
258	SLU 35		0	1.82	63.7	-0.0522	-0.0012	0
258	SLU 36		0	1.89	63.39	-0.0543	-0.001	0
258	SLU 37		0	1.83	63.34	-0.0525	-0.0012	0
258	SLU 38		0	1.9	63.03	-0.0545	-0.0009	0
258	SLU 39		0	1.8	63.05	-0.0526	-0.0013	0
258	SLU 40		0	1.87	62.74	-0.0546	-0.0011	0
258	SLU 41		0	1.83	64.82	-0.053	-0.0013	0
258	SLU 42		0	1.9	64.51	-0.0551	-0.001	0
258	SLU 43		0	2.05	55.59	-0.0597	-0.0012	0
258	SLU 44		0	2.16	55.07	-0.063	-0.0007	0
258	SLU 45		0	2.07	57.71	-0.0599	-0.0012	0
258	SLU 46		0	2.14	57.4	-0.0619	-0.0009	0
258	SLU 47		0	2.19	56.84	-0.0635	-0.0007	0
258	SLU 48		0	2.1	59.48	-0.0604	-0.0012	0
258	SLU 49		0	2.17	59.17	-0.0624	-0.0009	0
258	SLU 50		0	2.11	59.13	-0.0606	-0.0011	0
258	SLU 51		0	2.18	58.82	-0.0626	-0.0008	0
258	SLU 52		0	2.24	62.64	-0.0654	-0.0009	0
258	SLU 53		0	2.15	65.28	-0.0623	-0.0014	0
258	SLU 54		0	2.22	64.97	-0.0643	-0.0011	0
258	SLU 55		0	2.27	64.41	-0.0659	-0.0008	0
258	SLU 56		0	2.18	67.05	-0.0628	-0.0013	0
258	SLU 57		0	2.25	66.74	-0.0648	-0.001	0
258	SLU 58		0	2.19	66.7	-0.063	-0.0013	0
258	SLU 59		0	2.26	66.39	-0.065	-0.001	0
258	SLU 60		0	2.16	66.41	-0.0631	-0.0014	0
258	SLU 61		0	2.23	66.1	-0.0651	-0.0011	0
258	SLU 62		0	2.19	68.17	-0.0636	-0.0014	0
258	SLU 63		0	2.26	67.86	-0.0656	-0.0011	0
258	SLU 64		0	2.14	63.09	-0.0622	-0.0013	0
258	SLU 65		0	2.25	62.57	-0.0656	-0.0008	0
258	SLU 66		0	2.16	65.21	-0.0625	-0.0013	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
258	SLU 67		0	2.23	64.9	-0.0645	-0.001	0
258	SLU 68		0	2.28	64.34	-0.066	-0.0008	0
258	SLU 69		0	2.19	66.98	-0.0629	-0.0013	0
258	SLU 70		0	2.26	66.67	-0.0649	-0.001	0
258	SLU 71		0	2.2	66.62	-0.0631	-0.0013	0
258	SLU 72		0	2.27	66.31	-0.0651	-0.001	0
258	SLU 73		0	2.33	70.14	-0.068	-0.001	0
258	SLU 74		0	2.24	72.78	-0.0649	-0.0015	0
258	SLU 75		0	2.31	72.47	-0.0669	-0.0012	0
258	SLU 76		0	2.36	71.91	-0.0684	-0.001	0
258	SLU 77		0	2.27	74.55	-0.0653	-0.0015	0
258	SLU 78		0	2.34	74.24	-0.0673	-0.0012	0
258	SLU 79		0	2.28	74.19	-0.0655	-0.0014	0
258	SLU 80		0	2.35	73.88	-0.0676	-0.0012	0
258	SLU 81		0	2.25	73.9	-0.0657	-0.0016	0
258	SLU 82		0	2.32	73.59	-0.0677	-0.0013	0
258	SLU 83		0	2.28	75.67	-0.0661	-0.0015	0
258	SLU 84		0	2.35	75.36	-0.0681	-0.0013	0
258	SLE RA 1		0	1.62	46.88	-0.0473	-0.001	0
258	SLE RA 2		0	1.7	46.54	-0.0495	-0.0007	0
258	SLE RA 3		0	1.64	48.3	-0.0475	-0.001	0
258	SLE RA 4		0	1.69	48.09	-0.0488	-0.0008	0
258	SLE RA 5		0	1.72	47.72	-0.0498	-0.0007	0
258	SLE RA 6		0	1.66	49.47	-0.0478	-0.001	0
258	SLE RA 7		0	1.71	49.27	-0.0491	-0.0008	0
258	SLE RA 8		0	1.67	49.24	-0.0479	-0.001	0
258	SLE RA 9		0	1.71	49.03	-0.0492	-0.0008	0
258	SLE RA 10		0	1.75	51.58	-0.0511	-0.0008	0
258	SLE RA 11		0	1.69	53.34	-0.0491	-0.0011	0
258	SLE RA 12		0	1.74	53.14	-0.0504	-0.0009	0
258	SLE RA 13		0	1.77	52.76	-0.0514	-0.0008	0
258	SLE RA 14		0	1.71	54.52	-0.0494	-0.0011	0
258	SLE RA 15		0	1.76	54.31	-0.0507	-0.0009	0
258	SLE RA 16		0	1.72	54.29	-0.0495	-0.0011	0
258	SLE RA 17		0	1.76	54.08	-0.0509	-0.0009	0
258	SLE RA 18		0	1.7	54.09	-0.0496	-0.0012	0
258	SLE RA 19		0	1.74	53.88	-0.0509	-0.001	0
258	SLE RA 20		0	1.72	55.27	-0.0499	-0.0011	0
258	SLE RA 21		0	1.76	55.06	-0.0512	-0.0009	0
258	SLE FR 1		0	1.62	46.88	-0.0473	-0.001	0
258	SLE FR 2		0	1.64	46.81	-0.0477	-0.0009	0
258	SLE FR 3		0	1.63	47.35	-0.0474	-0.001	0
258	SLE FR 4		0	1.66	48.98	-0.0484	-0.001	0
258	SLE FR 5		0	1.65	49.52	-0.0481	-0.001	0
258	SLE FR 6		0	1.66	50.49	-0.0485	-0.0011	0
258	SLE QP 1		0	1.62	46.88	-0.0473	-0.001	0
258	SLE QP 2		0	1.65	49.04	-0.048	-0.001	0
258	SLD 1		0.23	4.91	49.95	-0.1535	0.2315	-0.0012
258	SLD 2		0.23	4.91	49.95	-0.1535	0.2315	-0.0012
258	SLD 3		0.29	1.1	51.65	-0.0292	0.2884	-0.0015
258	SLD 4		0.29	1.1	51.65	-0.0292	0.2884	-0.0015
258	SLD 5		-0.02	8.4	46.74	-0.2681	-0.0175	0.0001
258	SLD 6		-0.02	8.4	46.74	-0.2681	-0.0175	0.0001
258	SLD 7		0.17	-4.29	52.4	0.1461	0.172	-0.0009
258	SLD 8		0.17	-4.29	52.4	0.1461	0.172	-0.0009
258	SLD 9		-0.17	7.58	45.69	-0.2421	-0.1741	0.0009
258	SLD 10		-0.17	7.58	45.69	-0.2421	-0.1741	0.0009
258	SLD 11		0.02	-5.1	51.35	0.1721	0.0154	-0.0001
258	SLD 12		0.02	-5.1	51.35	0.1721	0.0154	-0.0001
258	SLD 13		-0.29	2.19	46.44	-0.0668	-0.2904	0.0015
258	SLD 14		-0.29	2.19	46.44	-0.0668	-0.2904	0.0015
258	SLD 15		-0.23	-1.62	48.14	0.0575	-0.2336	0.0012
258	SLD 16		-0.23	-1.62	48.14	0.0575	-0.2336	0.0012
258	SLV 1		0.58	9.37	51.18	-0.2978	0.592	-0.0031
258	SLV 2		0.58	9.37	51.18	-0.2978	0.592	-0.0031
258	SLV 3		0.73	0.43	55.21	-0.0055	0.7372	-0.0039
258	SLV 4		0.73	0.43	55.21	-0.0055	0.7372	-0.0039
258	SLV 5		-0.04	17.53	43.57	-0.5662	-0.0433	0.0002
258	SLV 6		-0.04	17.53	43.57	-0.5662	-0.0433	0.0002
258	SLV 7		0.44	-12.28	57.01	0.408	0.4406	-0.0023
258	SLV 8		0.44	-12.28	57.01	0.408	0.4406	-0.0023
258	SLV 9		-0.44	15.58	41.08	-0.504	-0.4427	0.0023
258	SLV 10		-0.44	15.58	41.08	-0.504	-0.4427	0.0023
258	SLV 11		0.04	-14.24	54.52	0.4703	0.0412	-0.0002
258	SLV 12		0.04	-14.24	54.52	0.4703	0.0412	-0.0002
258	SLV 13		-0.73	2.86	42.88	-0.0904	-0.7392	0.0039
258	SLV 14		-0.73	2.86	42.88	-0.0904	-0.7392	0.0039
258	SLV 15		-0.58	-6.08	46.91	0.2018	-0.5941	0.0031
258	SLV 16		-0.58	-6.08	46.91	0.2018	-0.5941	0.0031
259	SLU 1		0	-0.08	46.59	0.0016	-0.0006	0
259	SLU 2		0	0.07	46.21	-0.0039	-0.001	0
259	SLU 3		0	-0.03	48.39	-0.0007	-0.0005	0
259	SLU 4		0	0.06	48.16	-0.0004	-0.0008	0
259	SLU 5		0	0.18	47.52	-0.0087	-0.0009	0
259	SLU 6		0	0.09	49.7	-0.0055	-0.0004	0
259	SLU 7		0	0.17	49.47	-0.0088	-0.0007	0
259	SLU 8		0	0.15	49.22	-0.0081	-0.0004	0
259	SLU 9		0	0.24	48.99	-0.0113	-0.0006	0
259	SLU 10		0	-0.2	54.09	0.0059	-0.0012	0
259	SLU 11		0	-0.29	56.27	0.009	-0.0007	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
259	SLU 12		0	-0.21	56.04	0.0057	-0.0009	0
259	SLU 13		0	-0.08	55.4	0.001	-0.0011	0
259	SLU 14		0	-0.18	57.59	0.0042	-0.0006	0
259	SLU 15		0	-0.09	57.35	0.0009	-0.0009	0
259	SLU 16		0	-0.12	57.1	0.0017	-0.0006	0
259	SLU 17		0	-0.03	56.87	-0.0016	-0.0008	0
259	SLU 18		0	-0.46	57.86	0.0155	-0.0008	0
259	SLU 19		0	-0.37	57.62	0.0122	-0.0011	0
259	SLU 20		0	-0.35	59.17	0.0107	-0.0007	0
259	SLU 21		0	-0.26	58.94	0.0074	-0.001	0
259	SLU 22		0	-0.23	54.14	0.0069	-0.0007	0
259	SLU 23		0	-0.08	53.75	0.0014	-0.0011	0
259	SLU 24		0	-0.18	55.94	0.0046	-0.0006	0
259	SLU 25		0	-0.09	55.7	0.0013	-0.0009	0
259	SLU 26		0	0.03	55.07	-0.0034	-0.001	0
259	SLU 27		0	-0.07	57.25	-0.0002	-0.0005	0
259	SLU 28		0	0.02	57.02	-0.0035	-0.0008	0
259	SLU 29		0	0	56.77	-0.0028	-0.0005	0
259	SLU 30		0	0.09	56.54	-0.0061	-0.0007	0
259	SLU 31		0	-0.35	61.64	0.0112	-0.0013	0
259	SLU 32		0	-0.45	63.82	0.0143	-0.0008	0
259	SLU 33		0	-0.36	63.59	0.011	-0.0011	0
259	SLU 34		0	-0.24	62.95	0.0063	-0.0012	0
259	SLU 35		0	-0.33	65.13	0.0095	-0.0007	0
259	SLU 36		0	-0.25	64.9	0.0062	-0.001	0
259	SLU 37		0	-0.27	64.65	0.007	-0.0007	0
259	SLU 38		0	-0.18	64.42	0.0037	-0.0009	0
259	SLU 39		0	-0.61	65.4	0.0208	-0.0009	0
259	SLU 40		0	-0.52	65.17	0.0175	-0.0012	0
259	SLU 41		0	-0.5	66.72	0.016	-0.0009	0
259	SLU 42		0	-0.41	66.48	0.0127	-0.0011	0
259	SLU 43		0	-0.05	57.98	0.0003	-0.0007	0
259	SLU 44		0	0.1	57.6	-0.0052	-0.0011	0
259	SLU 45		0	0	59.78	-0.002	-0.0006	0
259	SLU 46		0	0.09	59.55	-0.0053	-0.0009	0
259	SLU 47		0	0.21	58.91	-0.01	-0.001	0
259	SLU 48		0	0.12	61.09	-0.0069	-0.0005	0
259	SLU 49		0	0.2	60.86	-0.0102	-0.0008	0
259	SLU 50		0	0.18	60.61	-0.0094	-0.0005	0
259	SLU 51		0	0.27	60.38	-0.0127	-0.0008	0
259	SLU 52		0	-0.17	65.48	0.0045	-0.0013	0
259	SLU 53		0	-0.26	67.66	0.0077	-0.0008	0
259	SLU 54		0	-0.18	67.43	0.0044	-0.0011	0
259	SLU 55		0	-0.05	66.79	-0.0003	-0.0012	0
259	SLU 56		0	-0.15	68.98	0.0029	-0.0007	0
259	SLU 57		0	-0.06	68.74	-0.0004	-0.001	0
259	SLU 58		0	-0.09	68.49	0.0004	-0.0007	0
259	SLU 59		0	0	68.26	-0.0029	-0.001	0
259	SLU 60		0	-0.43	69.25	0.0142	-0.001	0
259	SLU 61		0	-0.34	69.01	0.0109	-0.0012	0
259	SLU 62		0	-0.32	70.56	0.0094	-0.0009	0
259	SLU 63		0	-0.23	70.33	0.0061	-0.0011	0
259	SLU 64		0	-0.2	65.53	0.0056	-0.0008	0
259	SLU 65		0	-0.05	65.14	0.0001	-0.0012	0
259	SLU 66		0	-0.15	67.33	0.0033	-0.0007	0
259	SLU 67		0	-0.06	67.09	0	-0.001	0
259	SLU 68		0	0.06	66.46	-0.0047	-0.0011	0
259	SLU 69		0	-0.04	68.64	-0.0016	-0.0006	0
259	SLU 70		0	0.05	68.41	-0.0049	-0.0009	0
259	SLU 71		0	0.03	68.16	-0.0041	-0.0006	0
259	SLU 72		0	0.11	67.93	-0.0074	-0.0009	0
259	SLU 73		0	-0.32	73.03	0.0098	-0.0014	0
259	SLU 74		0	-0.42	75.21	0.013	-0.0009	0
259	SLU 75		0	-0.33	74.98	0.0097	-0.0012	0
259	SLU 76		0	-0.21	74.34	0.005	-0.0013	0
259	SLU 77		0	-0.3	76.52	0.0082	-0.0008	0
259	SLU 78		0	-0.22	76.29	0.0049	-0.0011	0
259	SLU 79		0	-0.24	76.04	0.0056	-0.0008	0
259	SLU 80		0	-0.15	75.81	0.0024	-0.0011	0
259	SLU 81		0	-0.58	76.79	0.0195	-0.0011	0
259	SLU 82		0	-0.5	76.56	0.0162	-0.0013	0
259	SLU 83		0	-0.47	78.11	0.0147	-0.001	0
259	SLU 84		0	-0.38	77.87	0.0114	-0.0012	0
259	SLE RA 1		0	-0.12	48.75	0.0031	-0.0006	0
259	SLE RA 2		0	-0.02	48.49	-0.0005	-0.0009	0
259	SLE RA 3		0	-0.09	49.95	0.0016	-0.0005	0
259	SLE RA 4		0	-0.03	49.79	-0.0006	-0.0007	0
259	SLE RA 5		0	0.05	49.37	-0.0038	-0.0008	0
259	SLE RA 6		0	-0.01	50.82	-0.0016	-0.0005	0
259	SLE RA 7		0	0.05	50.67	-0.0038	-0.0007	0
259	SLE RA 8		0	0.03	50.5	-0.0033	-0.0005	0
259	SLE RA 9		0	0.09	50.35	-0.0055	-0.0006	0
259	SLE RA 10		0	-0.2	53.75	0.006	-0.001	0
259	SLE RA 11		0	-0.27	55.2	0.0081	-0.0007	0
259	SLE RA 12		0	-0.21	55.05	0.0059	-0.0008	0
259	SLE RA 13		0	-0.13	54.62	0.0027	-0.0009	0
259	SLE RA 14		0	-0.19	56.08	0.0049	-0.0006	0
259	SLE RA 15		0	-0.13	55.92	0.0027	-0.0008	0
259	SLE RA 16		0	-0.15	55.76	0.0032	-0.0006	0
259	SLE RA 17		0	-0.09	55.6	0.001	-0.0008	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
259	SLE RA 18	0	-0.38	56.26	0.0124	-0.0008	0
259	SLE RA 19	0	-0.32	56.1	0.0102	-0.0009	0
259	SLE RA 20	0	-0.3	57.13	0.0092	-0.0007	0
259	SLE RA 21	0	-0.24	56.98	0.007	-0.0009	0
259	SLE FR 1	0	-0.12	48.75	0.0031	-0.0006	0
259	SLE FR 2	0	-0.1	48.7	0.0024	-0.0006	0
259	SLE FR 3	0	-0.09	49.1	0.0018	-0.0006	0
259	SLE FR 4	0	-0.18	50.95	0.0052	-0.0007	0
259	SLE FR 5	0	-0.17	51.35	0.0046	-0.0006	0
259	SLE FR 6	0	-0.25	52.5	0.0078	-0.0007	0
259	SLE QP 1	0	-0.12	48.75	0.0031	-0.0006	0
259	SLE QP 2	0	-0.2	51	0.0059	-0.0006	0
259	SLD 1	0.31	-0.5	52.86	0.0161	0.2882	-0.0004
259	SLD 2	0.31	-0.5	52.86	0.0161	0.2882	-0.0004
259	SLD 3	0.27	-5.37	55.33	0.2097	0.2503	-0.0003
259	SLD 4	0.27	-5.37	55.33	0.2097	0.2503	-0.0003
259	SLD 5	0.15	7.1	47.81	-0.2847	0.1436	-0.0002
259	SLD 6	0.15	7.1	47.81	-0.2847	0.1436	-0.0002
259	SLD 7	0.02	-9.14	56.05	0.3607	0.0171	0
259	SLD 8	0.02	-9.14	56.05	0.3607	0.0171	0
259	SLD 9	-0.02	8.74	45.96	-0.3489	-0.0184	0
259	SLD 10	-0.02	8.74	45.96	-0.3489	-0.0184	0
259	SLD 11	-0.15	-7.49	54.19	0.2965	-0.1448	0.0002
259	SLD 12	-0.15	-7.49	54.19	0.2965	-0.1448	0.0002
259	SLD 13	-0.27	4.98	46.67	-0.1979	-0.2516	0.0003
259	SLD 14	-0.27	4.98	46.67	-0.1979	-0.2516	0.0003
259	SLD 15	-0.31	0.11	49.14	-0.0043	-0.2895	0.0004
259	SLD 16	-0.31	0.11	49.14	-0.0043	-0.2895	0.0004
259	SLV 1	0.78	-0.93	55.32	0.0305	0.7361	-0.001
259	SLV 2	0.78	-0.93	55.32	0.0305	0.7361	-0.001
259	SLV 3	0.68	-12.42	61.18	0.4872	0.6396	-0.0009
259	SLV 4	0.68	-12.42	61.18	0.4872	0.6396	-0.0009
259	SLV 5	0.39	17.01	43.4	-0.6793	0.3668	-0.0005
259	SLV 6	0.39	17.01	43.4	-0.6793	0.3668	-0.0005
259	SLV 7	0.04	-21.29	62.95	0.8429	0.045	-0.0001
259	SLV 8	0.04	-21.29	62.95	0.8429	0.045	-0.0001
259	SLV 9	-0.04	20.89	39.05	-0.8311	-0.0463	0.0001
259	SLV 10	-0.04	20.89	39.05	-0.8311	-0.0463	0.0001
259	SLV 11	-0.39	-17.4	58.6	0.6911	-0.3681	0.0005
259	SLV 12	-0.39	-17.4	58.6	0.6911	-0.3681	0.0005
259	SLV 13	-0.68	12.02	40.82	-0.4753	-0.6409	0.0009
259	SLV 14	-0.68	12.02	40.82	-0.4753	-0.6409	0.0009
259	SLV 15	-0.78	0.54	46.69	-0.0187	-0.7374	0.001
259	SLV 16	-0.78	0.54	46.69	-0.0187	-0.7374	0.001
260	SLU 1	0.01	1.76	33.03	-0.0423	0.0009	0
260	SLU 2	0.01	1.76	33.03	-0.0423	0.0009	0
260	SLU 3	0.01	1.56	32.57	-0.0325	0.0011	0
260	SLU 4	0.01	1.56	32.57	-0.0325	0.0011	0
260	SLU 5	0.01	1.48	31.91	-0.0296	0.0011	0
260	SLU 6	0.01	1.28	31.43	-0.0197	0.0013	0
260	SLU 7	0.01	1.28	31.44	-0.0198	0.0013	0
260	SLU 8	0.01	1.2	30.75	-0.0167	0.0014	0
260	SLU 9	0.01	1.2	30.76	-0.0168	0.0014	0
260	SLU 10	0.01	2	38.81	-0.0487	0.0018	0
260	SLU 11	0.01	1.8	38.33	-0.0388	0.002	0
260	SLU 12	0.01	1.8	38.34	-0.0389	0.002	0
260	SLU 13	0.01	1.72	37.66	-0.0359	0.0021	0
260	SLU 14	0.01	1.52	37.18	-0.026	0.0022	0
260	SLU 15	0.01	1.52	37.2	-0.0261	0.0022	0
260	SLU 16	0.01	1.44	36.5	-0.023	0.0023	0
260	SLU 17	0.01	1.44	36.52	-0.0231	0.0023	0
260	SLU 18	0.01	2.1	41.25	-0.0513	0.0023	0
260	SLU 19	0.01	2.1	41.26	-0.0514	0.0023	0
260	SLU 20	0.01	1.82	40.11	-0.0385	0.0025	0
260	SLU 21	0.01	1.82	40.12	-0.0386	0.0025	0
260	SLU 22	0.01	1.88	37.67	-0.0431	0.0016	0
260	SLU 23	0.01	1.87	37.69	-0.0432	0.0016	0
260	SLU 24	0.01	1.68	37.21	-0.0333	0.0018	0
260	SLU 25	0.01	1.68	37.23	-0.0334	0.0018	0
260	SLU 26	0.01	1.59	36.55	-0.0304	0.0018	0
260	SLU 27	0.01	1.4	36.07	-0.0205	0.002	0
260	SLU 28	0.01	1.4	36.08	-0.0206	0.002	0
260	SLU 29	0.01	1.32	35.39	-0.0175	0.0021	0
260	SLU 30	0.01	1.32	35.4	-0.0175	0.0021	0
260	SLU 31	0.01	2.12	43.45	-0.0495	0.0026	0
260	SLU 32	0.01	1.92	42.97	-0.0396	0.0027	0
260	SLU 33	0.01	1.92	42.98	-0.0397	0.0027	0
260	SLU 34	0.01	1.84	42.31	-0.0367	0.0028	0
260	SLU 35	0.01	1.64	41.83	-0.0268	0.003	0
260	SLU 36	0.01	1.64	41.84	-0.0269	0.0029	0
260	SLU 37	0.01	1.56	41.15	-0.0238	0.003	0
260	SLU 38	0.01	1.56	41.16	-0.0238	0.003	0
260	SLU 39	0.01	2.22	45.9	-0.0521	0.003	0
260	SLU 40	0.01	2.22	45.91	-0.0522	0.003	0
260	SLU 41	0.01	1.94	44.75	-0.0393	0.0032	0
260	SLU 42	0.01	1.94	44.77	-0.0394	0.0032	0
260	SLU 43	0.01	2.24	41.35	-0.0548	0.001	0
260	SLU 44	0.01	2.24	41.37	-0.0549	0.0009	0
260	SLU 45	0.01	2.04	40.89	-0.045	0.0011	0
260	SLU 46	0.01	2.04	40.9	-0.045	0.0011	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
260	SLU 47	0.01	1.96	40.23	-0.0421	0.0012	0
260	SLU 48	0.01	1.76	39.75	-0.0322	0.0013	0
260	SLU 49	0.01	1.76	39.76	-0.0322	0.0013	0
260	SLU 50	0.01	1.68	39.06	-0.0292	0.0014	0
260	SLU 51	0.01	1.68	39.08	-0.0292	0.0014	0
260	SLU 52	0.01	2.48	47.12	-0.0612	0.0019	0
260	SLU 53	0.01	2.29	46.64	-0.0513	0.0021	0
260	SLU 54	0.01	2.28	46.65	-0.0513	0.002	0
260	SLU 55	0.01	2.2	45.98	-0.0484	0.0021	0
260	SLU 56	0.01	2.01	45.5	-0.0385	0.0023	0
260	SLU 57	0.01	2	45.51	-0.0385	0.0023	0
260	SLU 58	0.01	1.92	44.82	-0.0355	0.0024	0
260	SLU 59	0.01	1.92	44.83	-0.0355	0.0024	0
260	SLU 60	0.01	2.59	49.57	-0.0638	0.0023	0.0001
260	SLU 61	0.01	2.59	49.58	-0.0638	0.0023	0.0001
260	SLU 62	0.01	2.31	48.43	-0.051	0.0026	0.0001
260	SLU 63	0.01	2.31	48.44	-0.051	0.0025	0.0001
260	SLU 64	0.01	2.36	45.99	-0.0556	0.0017	0
260	SLU 65	0.01	2.36	46.01	-0.0556	0.0016	0
260	SLU 66	0.01	2.16	45.53	-0.0458	0.0018	0
260	SLU 67	0.01	2.16	45.54	-0.0458	0.0018	0
260	SLU 68	0.01	2.08	44.87	-0.0428	0.0019	0
260	SLU 69	0.01	1.88	44.39	-0.0329	0.002	0
260	SLU 70	0.01	1.88	44.4	-0.033	0.002	0
260	SLU 71	0.01	1.8	43.71	-0.0299	0.0021	0
260	SLU 72	0.01	1.8	43.72	-0.03	0.0021	0
260	SLU 73	0.01	2.6	51.77	-0.0619	0.0026	0.0001
260	SLU 74	0.01	2.4	51.29	-0.0521	0.0028	0.0001
260	SLU 75	0.01	2.4	51.3	-0.0521	0.0027	0.0001
260	SLU 76	0.01	2.32	50.63	-0.0491	0.0028	0.0001
260	SLU 77	0.01	2.12	50.14	-0.0392	0.003	0.0001
260	SLU 78	0.01	2.12	50.16	-0.0393	0.003	0.0001
260	SLU 79	0.01	2.04	49.46	-0.0362	0.0031	0.0001
260	SLU 80	0.01	2.04	49.48	-0.0363	0.0031	0.0001
260	SLU 81	0.01	2.71	54.21	-0.0646	0.003	0.0001
260	SLU 82	0.01	2.7	54.22	-0.0646	0.003	0.0001
260	SLU 83	0.01	2.43	53.07	-0.0517	0.0033	0.0001
260	SLU 84	0.01	2.42	53.08	-0.0518	0.0032	0.0001
260	SLE RA 1	0.01	1.79	34.36	-0.0426	0.0011	0
260	SLE RA 2	0.01	1.79	34.37	-0.0426	0.0011	0
260	SLE RA 3	0.01	1.66	34.05	-0.036	0.0012	0
260	SLE RA 4	0.01	1.66	34.06	-0.0361	0.0012	0
260	SLE RA 5	0.01	1.6	33.61	-0.0341	0.0013	0
260	SLE RA 6	0.01	1.47	33.29	-0.0275	0.0014	0
260	SLE RA 7	0.01	1.47	33.3	-0.0275	0.0014	0
260	SLE RA 8	0.01	1.42	32.83	-0.0255	0.0014	0
260	SLE RA 9	0.01	1.42	32.84	-0.0255	0.0014	0
260	SLE RA 10	0.01	1.95	38.21	-0.0468	0.0017	0
260	SLE RA 11	0.01	1.82	37.89	-0.0402	0.0019	0
260	SLE RA 12	0.01	1.82	37.9	-0.0403	0.0018	0
260	SLE RA 13	0.01	1.76	37.45	-0.0383	0.0019	0
260	SLE RA 14	0.01	1.63	37.13	-0.0317	0.002	0
260	SLE RA 15	0.01	1.63	37.13	-0.0317	0.002	0
260	SLE RA 16	0.01	1.58	36.67	-0.0297	0.0021	0
260	SLE RA 17	0.01	1.58	36.68	-0.0297	0.0021	0
260	SLE RA 18	0.01	2.02	39.84	-0.0486	0.002	0
260	SLE RA 19	0.01	2.02	39.85	-0.0486	0.002	0
260	SLE RA 20	0.01	1.83	39.08	-0.04	0.0022	0
260	SLE RA 21	0.01	1.83	39.09	-0.0401	0.0022	0
260	SLE FR 1	0.01	1.79	34.36	-0.0426	0.0011	0
260	SLE FR 2	0.01	1.79	34.36	-0.0426	0.0011	0
260	SLE FR 3	0.01	1.72	34.05	-0.0391	0.0012	0
260	SLE FR 4	0.01	1.86	36	-0.0444	0.0014	0
260	SLE FR 5	0.01	1.78	35.7	-0.0409	0.0015	0
260	SLE FR 6	0.01	1.9	37.1	-0.0456	0.0016	0
260	SLE QP 1	0.01	1.79	34.36	-0.0426	0.0011	0
260	SLE QP 2	0.01	1.86	36	-0.0444	0.0014	0
260	SLD 1	0.05	5.24	40.45	-0.1776	-0.0296	0.0001
260	SLD 2	0.05	5.24	40.45	-0.1776	-0.0296	0.0001
260	SLD 3	0.08	1.22	36.73	-0.0146	-0.0178	0.0001
260	SLD 4	0.08	1.22	36.73	-0.0146	-0.0178	0.0001
260	SLD 5	-0.03	8.97	42.99	-0.3316	-0.0259	0.0001
260	SLD 6	-0.03	8.97	42.99	-0.3316	-0.0259	0.0001
260	SLD 7	0.08	-4.43	30.57	0.2118	0.0136	0
260	SLD 8	0.08	-4.43	30.57	0.2118	0.0136	0
260	SLD 9	-0.06	8.15	41.43	-0.3005	-0.0108	0.0001
260	SLD 10	-0.06	8.15	41.43	-0.3005	-0.0108	0.0001
260	SLD 11	0.04	-5.25	29.01	0.2428	0.0287	0
260	SLD 12	0.04	-5.25	29.01	0.2428	0.0287	0
260	SLD 13	-0.06	2.5	35.27	-0.0741	0.0206	0
260	SLD 14	-0.06	2.5	35.27	-0.0741	0.0206	0
260	SLD 15	-0.03	-1.52	31.55	0.0889	0.0324	0
260	SLD 16	-0.03	-1.52	31.55	0.0889	0.0324	0
260	SLV 1	0.1	9.8	46.6	-0.358	-0.0755	0.0002
260	SLV 2	0.1	9.8	46.6	-0.358	-0.0755	0.0002
260	SLV 3	0.18	0.34	37.6	0.0262	-0.0453	0.0002
260	SLV 4	0.18	0.34	37.6	0.0262	-0.0453	0.0002
260	SLV 5	-0.09	18.6	52.84	-0.7211	-0.0675	0.0002
260	SLV 6	-0.09	18.6	52.84	-0.7211	-0.0675	0.0002
260	SLV 7	0.18	-12.96	22.82	0.5594	0.0332	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
260	SLV 8			0.18	-12.96	22.82	0.5594	0.0332	0
260	SLV 9			-0.17	16.68	49.18	-0.6482	-0.0304	0.0001
260	SLV 10			-0.17	16.68	49.18	-0.6482	-0.0304	0.0001
260	SLV 11			0.1	-14.89	19.16	0.6323	0.0703	-0.0001
260	SLV 12			0.1	-14.89	19.16	0.6323	0.0703	-0.0001
260	SLV 13			-0.16	3.38	34.4	-0.1149	0.0481	-0.0001
260	SLV 14			-0.16	3.38	34.4	-0.1149	0.0481	-0.0001
260	SLV 15			-0.08	-6.09	25.4	0.2692	0.0783	-0.0002
260	SLV 16			-0.08	-6.09	25.4	0.2692	0.0783	-0.0002
261	SLU 1			-0.01	1.77	30.31	0.0601	-0.0038	-0.0001
261	SLU 2			-0.01	1.78	30.36	0.0593	-0.0038	-0.0001
261	SLU 3			-0.01	1.51	29.55	0.0801	-0.0037	-0.0001
261	SLU 4			-0.01	1.51	29.58	0.0796	-0.0037	-0.0001
261	SLU 5			-0.01	1.42	28.88	0.0819	-0.0036	-0.0001
261	SLU 6			-0.01	1.15	28.08	0.1027	-0.0036	-0.0001
261	SLU 7			-0.01	1.15	28.11	0.1023	-0.0036	-0.0001
261	SLU 8			-0.01	1.06	27.36	0.1054	-0.0035	-0.0001
261	SLU 9			-0.01	1.06	27.39	0.1049	-0.0035	-0.0001
261	SLU 10			-0.02	2.08	35.63	0.0676	-0.0045	-0.0001
261	SLU 11			-0.02	1.81	34.83	0.0884	-0.0044	-0.0001
261	SLU 12			-0.02	1.82	34.86	0.0879	-0.0044	-0.0001
261	SLU 13			-0.02	1.73	34.16	0.0902	-0.0043	-0.0001
261	SLU 14			-0.02	1.46	33.35	0.1111	-0.0043	-0.0001
261	SLU 15			-0.02	1.46	33.38	0.1106	-0.0043	-0.0001
261	SLU 16			-0.02	1.37	32.63	0.1137	-0.0042	-0.0001
261	SLU 17			-0.02	1.37	32.66	0.1132	-0.0042	-0.0001
261	SLU 18			-0.02	2.21	37.84	0.072	-0.0048	-0.0001
261	SLU 19			-0.02	2.21	37.87	0.0715	-0.0048	-0.0001
261	SLU 20			-0.02	1.85	36.37	0.0946	-0.0047	-0.0001
261	SLU 21			-0.02	1.86	36.4	0.0941	-0.0046	-0.0001
261	SLU 22			-0.02	1.9	33.85	0.0773	-0.0043	-0.0001
261	SLU 23			-0.02	1.91	33.9	0.0765	-0.0043	-0.0001
261	SLU 24			-0.02	1.64	33.09	0.0973	-0.0042	-0.0001
261	SLU 25			-0.02	1.64	33.12	0.0968	-0.0042	-0.0001
261	SLU 26			-0.02	1.55	32.42	0.0992	-0.0041	-0.0001
261	SLU 27			-0.02	1.28	31.62	0.12	-0.0041	-0.0001
261	SLU 28			-0.02	1.28	31.65	0.1195	-0.0041	-0.0001
261	SLU 29			-0.02	1.19	30.9	0.1226	-0.004	-0.0001
261	SLU 30			-0.02	1.19	30.93	0.1221	-0.004	-0.0001
261	SLU 31			-0.02	2.22	39.17	0.0848	-0.005	-0.0001
261	SLU 32			-0.02	1.94	38.37	0.1056	-0.0049	-0.0001
261	SLU 33			-0.02	1.95	38.4	0.1051	-0.0049	-0.0001
261	SLU 34			-0.02	1.86	37.7	0.1075	-0.0048	-0.0001
261	SLU 35			-0.02	1.59	36.89	0.1283	-0.0048	-0.0001
261	SLU 36			-0.02	1.59	36.92	0.1278	-0.0048	-0.0001
261	SLU 37			-0.02	1.5	36.17	0.1309	-0.0047	-0.0001
261	SLU 38			-0.02	1.5	36.2	0.1304	-0.0047	-0.0001
261	SLU 39			-0.02	2.34	41.38	0.0892	-0.0053	-0.0001
261	SLU 40			-0.02	2.35	41.41	0.0887	-0.0053	-0.0001
261	SLU 41			-0.02	1.99	39.91	0.1118	-0.0052	-0.0001
261	SLU 42			-0.02	1.99	39.94	0.1113	-0.0052	-0.0001
261	SLU 43			-0.02	2.26	38.19	0.0723	-0.0047	-0.0001
261	SLU 44			-0.02	2.26	38.24	0.0714	-0.0047	-0.0001
261	SLU 45			-0.02	1.99	37.43	0.0922	-0.0047	-0.0001
261	SLU 46			-0.02	1.99	37.46	0.0917	-0.0047	-0.0001
261	SLU 47			-0.02	1.91	36.76	0.0941	-0.0046	-0.0001
261	SLU 48			-0.02	1.64	35.96	0.1149	-0.0045	-0.0001
261	SLU 49			-0.02	1.64	35.99	0.1144	-0.0045	-0.0001
261	SLU 50			-0.02	1.54	35.24	0.1175	-0.0044	-0.0001
261	SLU 51			-0.02	1.55	35.27	0.117	-0.0044	-0.0001
261	SLU 52			-0.02	2.57	43.51	0.0797	-0.0054	-0.0001
261	SLU 53			-0.02	2.3	42.71	0.1005	-0.0054	-0.0001
261	SLU 54			-0.02	2.3	42.74	0.1	-0.0054	-0.0001
261	SLU 55			-0.02	2.21	42.04	0.1024	-0.0053	-0.0001
261	SLU 56			-0.02	1.94	41.23	0.1232	-0.0052	-0.0001
261	SLU 57			-0.02	1.95	41.26	0.1227	-0.0052	-0.0001
261	SLU 58			-0.02	1.85	40.51	0.1258	-0.0052	-0.0001
261	SLU 59			-0.02	1.86	40.54	0.1253	-0.0052	-0.0001
261	SLU 60			-0.02	2.7	45.72	0.0841	-0.0058	-0.0001
261	SLU 61			-0.02	2.7	45.75	0.0836	-0.0058	-0.0001
261	SLU 62			-0.02	2.34	44.25	0.1068	-0.0056	-0.0001
261	SLU 63			-0.02	2.34	44.28	0.1063	-0.0056	-0.0001
261	SLU 64			-0.02	2.39	41.73	0.0895	-0.0052	-0.0001
261	SLU 65			-0.02	2.39	41.78	0.0887	-0.0052	-0.0001
261	SLU 66			-0.02	2.12	40.97	0.1095	-0.0052	-0.0001
261	SLU 67			-0.02	2.13	41	0.109	-0.0052	-0.0001
261	SLU 68			-0.02	2.04	40.3	0.1113	-0.0051	-0.0001
261	SLU 69			-0.02	1.77	39.5	0.1321	-0.005	-0.0001
261	SLU 70			-0.02	1.77	39.53	0.1316	-0.005	-0.0001
261	SLU 71			-0.02	1.68	38.78	0.1348	-0.0049	-0.0001
261	SLU 72			-0.02	1.68	38.81	0.1343	-0.0049	-0.0001
261	SLU 73			-0.02	2.7	47.05	0.097	-0.006	-0.0001
261	SLU 74			-0.02	2.43	46.25	0.1178	-0.0059	-0.0001
261	SLU 75			-0.02	2.43	46.28	0.1173	-0.0059	-0.0001
261	SLU 76			-0.02	2.35	45.58	0.1196	-0.0058	-0.0001
261	SLU 77			-0.02	2.07	44.77	0.1404	-0.0057	-0.0001
261	SLU 78			-0.02	2.08	44.8	0.1399	-0.0057	-0.0001
261	SLU 79			-0.02	1.98	44.05	0.1431	-0.0057	-0.0001
261	SLU 80			-0.02	1.99	44.08	0.1426	-0.0057	-0.0001
261	SLU 81			-0.02	2.83	49.26	0.1013	-0.0063	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
261	SLU 82	-0.02	2.83	49.29	0.1008	-0.0063	-0.0001
261	SLU 83	-0.02	2.47	47.79	0.124	-0.0061	-0.0001
261	SLU 84	-0.02	2.48	47.82	0.1235	-0.0061	-0.0001
261	SLE RA 1	-0.01	1.81	31.32	0.065	-0.0039	-0.0001
261	SLE RA 2	-0.01	1.81	31.36	0.0645	-0.0039	-0.0001
261	SLE RA 3	-0.01	1.63	30.82	0.0784	-0.0039	-0.0001
261	SLE RA 4	-0.01	1.63	30.84	0.078	-0.0039	-0.0001
261	SLE RA 5	-0.01	1.57	30.37	0.0796	-0.0038	-0.0001
261	SLE RA 6	-0.01	1.39	29.83	0.0935	-0.0038	-0.0001
261	SLE RA 7	-0.01	1.4	29.85	0.0931	-0.0038	-0.0001
261	SLE RA 8	-0.01	1.33	29.35	0.0952	-0.0037	-0.0001
261	SLE RA 9	-0.01	1.34	29.37	0.0949	-0.0037	-0.0001
261	SLE RA 10	-0.02	2.02	34.87	0.07	-0.0044	-0.0001
261	SLE RA 11	-0.02	1.84	34.33	0.0839	-0.0044	-0.0001
261	SLE RA 12	-0.02	1.84	34.35	0.0836	-0.0044	-0.0001
261	SLE RA 13	-0.02	1.78	33.89	0.0851	-0.0043	-0.0001
261	SLE RA 14	-0.02	1.6	33.35	0.099	-0.0043	-0.0001
261	SLE RA 15	-0.02	1.6	33.37	0.0987	-0.0043	-0.0001
261	SLE RA 16	-0.02	1.54	32.87	0.1008	-0.0042	-0.0001
261	SLE RA 17	-0.02	1.54	32.89	0.1004	-0.0042	-0.0001
261	SLE RA 18	-0.02	2.1	36.34	0.073	-0.0046	-0.0001
261	SLE RA 19	-0.02	2.1	36.36	0.0726	-0.0046	-0.0001
261	SLE RA 20	-0.02	1.86	35.36	0.088	-0.0045	-0.0001
261	SLE RA 21	-0.02	1.87	35.38	0.0877	-0.0045	-0.0001
261	SLE FR 1	-0.01	1.81	31.32	0.065	-0.0039	-0.0001
261	SLE FR 2	-0.01	1.81	31.33	0.0649	-0.0039	-0.0001
261	SLE FR 3	-0.01	1.71	30.93	0.0711	-0.0039	-0.0001
261	SLE FR 4	-0.02	1.9	32.84	0.0673	-0.0041	-0.0001
261	SLE FR 5	-0.02	1.8	32.43	0.0735	-0.0041	-0.0001
261	SLE FR 6	-0.02	1.95	33.83	0.069	-0.0043	-0.0001
261	SLE QP 1	-0.01	1.81	31.32	0.065	-0.0039	-0.0001
261	SLE QP 2	-0.02	1.9	32.83	0.0674	-0.0041	-0.0001
261	SLD 1	0.06	2.98	31.77	0.0131	-0.022	0
261	SLD 2	0.06	2.98	31.77	0.0131	-0.022	0
261	SLD 3	0.01	-1.16	28.59	0.1956	-0.0364	0
261	SLD 4	0.01	-1.16	28.59	0.1956	-0.0364	0
261	SLD 5	0.07	8.5	37.33	-0.2256	0.0124	-0.0001
261	SLD 6	0.07	8.5	37.33	-0.2256	0.0124	-0.0001
261	SLD 7	-0.07	-5.3	26.73	0.3826	-0.0357	0
261	SLD 8	-0.07	-5.3	26.73	0.3826	-0.0357	0
261	SLD 9	0.04	9.09	38.92	-0.2478	0.0274	-0.0001
261	SLD 10	0.04	9.09	38.92	-0.2478	0.0274	-0.0001
261	SLD 11	-0.1	-4.71	28.32	0.3605	-0.0206	0
261	SLD 12	-0.1	-4.71	28.32	0.3605	-0.0206	0
261	SLD 13	-0.04	4.95	37.07	-0.0607	0.0282	-0.0001
261	SLD 14	-0.04	4.95	37.07	-0.0607	0.0282	-0.0001
261	SLD 15	-0.09	0.81	33.89	0.1217	0.0138	-0.0001
261	SLD 16	-0.09	0.81	33.89	0.1217	0.0138	-0.0001
261	SLV 1	0.16	4.42	30.45	-0.0593	-0.0481	0.0001
261	SLV 2	0.16	4.42	30.45	-0.0593	-0.0481	0.0001
261	SLV 3	0.05	-5.31	22.78	0.3706	-0.0845	0.0001
261	SLV 4	0.05	-5.31	22.78	0.3706	-0.0845	0.0001
261	SLV 5	0.2	17.41	43.75	-0.6226	0.0378	-0.0002
261	SLV 6	0.2	17.41	43.75	-0.6226	0.0378	-0.0002
261	SLV 7	-0.16	-15.02	18.18	0.8103	-0.0833	0.0001
261	SLV 8	-0.16	-15.02	18.18	0.8103	-0.0833	0.0001
261	SLV 9	0.13	18.81	47.48	-0.6755	0.0751	-0.0003
261	SLV 10	0.13	18.81	47.48	-0.6755	0.0751	-0.0003
261	SLV 11	-0.23	-13.62	21.9	0.7574	-0.046	0
261	SLV 12	-0.23	-13.62	21.9	0.7574	-0.046	0
261	SLV 13	-0.08	9.1	42.88	-0.2358	0.0762	-0.0003
261	SLV 14	-0.08	9.1	42.88	-0.2358	0.0762	-0.0003
261	SLV 15	-0.19	-0.63	35.2	0.1941	0.0399	-0.0002
261	SLV 16	-0.19	-0.63	35.2	0.1941	0.0399	-0.0002
262	SLU 1	0.02	-3.07	52.2	0.0916	0.0183	-0.0001
262	SLU 2	0.01	-2.46	50.72	0.0714	0.0058	-0.0001
262	SLU 3	0.02	-3.22	53.16	0.0956	0.019	-0.0001
262	SLU 4	0.02	-2.85	52.27	0.0835	0.0115	-0.0001
262	SLU 5	0.01	-2.55	51.02	0.0737	0.0063	-0.0001
262	SLU 6	0.02	-3.31	53.46	0.098	0.0195	-0.0001
262	SLU 7	0.02	-2.94	52.57	0.0859	0.012	-0.0001
262	SLU 8	0.02	-3.25	52.8	0.0963	0.0193	-0.0001
262	SLU 9	0.02	-2.88	51.91	0.0842	0.0118	-0.0001
262	SLU 10	0.02	-2.98	56.66	0.0869	0.0083	-0.0001
262	SLU 11	0.02	-3.74	59.1	0.1112	0.0215	-0.0002
262	SLU 12	0.02	-3.38	58.22	0.0991	0.014	-0.0001
262	SLU 13	0.02	-3.07	56.96	0.0893	0.0088	-0.0001
262	SLU 14	0.02	-3.83	59.4	0.1136	0.022	-0.0002
262	SLU 15	0.02	-3.47	58.52	0.1015	0.0145	-0.0001
262	SLU 16	0.02	-3.78	58.74	0.1119	0.0218	-0.0002
262	SLU 17	0.02	-3.41	57.85	0.0998	0.0143	-0.0001
262	SLU 18	0.02	-3.82	60.69	0.1138	0.0219	-0.0002
262	SLU 19	0.02	-3.46	59.8	0.1017	0.0144	-0.0001
262	SLU 20	0.02	-3.91	60.99	0.1162	0.0224	-0.0002
262	SLU 21	0.02	-3.55	60.1	0.1041	0.0149	-0.0001
262	SLU 22	0.02	-3.6	57.86	0.1072	0.0209	-0.0002
262	SLU 23	0.02	-2.99	56.39	0.087	0.0084	-0.0001
262	SLU 24	0.02	-3.75	58.82	0.1112	0.0216	-0.0002
262	SLU 25	0.02	-3.38	57.94	0.0991	0.0141	-0.0001
262	SLU 26	0.02	-3.08	56.69	0.0894	0.0089	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
262	SLU 27	0.02	-3.84	59.12	0.1136	0.0221	-0.0002
262	SLU 28	0.02	-3.47	58.24	0.1015	0.0146	-0.0001
262	SLU 29	0.02	-3.78	58.46	0.1119	0.0219	-0.0002
262	SLU 30	0.02	-3.42	57.58	0.0998	0.0144	-0.0001
262	SLU 31	0.02	-3.52	62.33	0.1026	0.0109	-0.0001
262	SLU 32	0.03	-4.28	64.77	0.1268	0.0242	-0.0002
262	SLU 33	0.02	-3.91	63.88	0.1147	0.0166	-0.0002
262	SLU 34	0.02	-3.61	62.63	0.1049	0.0114	-0.0001
262	SLU 35	0.03	-4.37	65.07	0.1292	0.0247	-0.0002
262	SLU 36	0.02	-4	64.18	0.1171	0.0171	-0.0002
262	SLU 37	0.03	-4.31	64.4	0.1275	0.0245	-0.0002
262	SLU 38	0.02	-3.94	63.52	0.1154	0.0169	-0.0002
262	SLU 39	0.03	-4.36	66.35	0.1294	0.0245	-0.0002
262	SLU 40	0.02	-3.99	65.46	0.1173	0.017	-0.0002
262	SLU 41	0.03	-4.45	66.65	0.1318	0.0251	-0.0002
262	SLU 42	0.02	-4.08	65.76	0.1197	0.0175	-0.0002
262	SLU 43	0.02	-3.81	65.92	0.1137	0.0229	-0.0002
262	SLU 44	0.02	-3.2	64.44	0.0935	0.0104	-0.0001
262	SLU 45	0.03	-3.96	66.88	0.1177	0.0236	-0.0002
262	SLU 46	0.02	-3.59	65.99	0.1056	0.0161	-0.0001
262	SLU 47	0.02	-3.29	64.74	0.0959	0.0109	-0.0001
262	SLU 48	0.03	-4.05	67.18	0.1201	0.0241	-0.0002
262	SLU 49	0.02	-3.68	66.29	0.108	0.0166	-0.0001
262	SLU 50	0.03	-3.99	66.52	0.1184	0.0239	-0.0002
262	SLU 51	0.02	-3.62	65.63	0.1063	0.0164	-0.0001
262	SLU 52	0.02	-3.72	70.38	0.109	0.0129	-0.0001
262	SLU 53	0.03	-4.48	72.82	0.1333	0.0261	-0.0002
262	SLU 54	0.02	-4.11	71.94	0.1212	0.0186	-0.0002
262	SLU 55	0.02	-3.81	70.68	0.1114	0.0134	-0.0001
262	SLU 56	0.03	-4.57	73.12	0.1357	0.0266	-0.0002
262	SLU 57	0.02	-4.2	72.23	0.1236	0.0191	-0.0002
262	SLU 58	0.03	-4.52	72.46	0.134	0.0264	-0.0002
262	SLU 59	0.02	-4.15	71.57	0.1219	0.0189	-0.0002
262	SLU 60	0.03	-4.56	74.41	0.1359	0.0265	-0.0002
262	SLU 61	0.02	-4.19	73.52	0.1238	0.019	-0.0002
262	SLU 62	0.03	-4.65	74.71	0.1383	0.027	-0.0002
262	SLU 63	0.03	-4.28	73.82	0.1262	0.0195	-0.0002
262	SLU 64	0.03	-4.34	71.58	0.1293	0.0255	-0.0002
262	SLU 65	0.02	-3.73	70.1	0.1091	0.013	-0.0001
262	SLU 66	0.03	-4.49	72.54	0.1334	0.0262	-0.0002
262	SLU 67	0.02	-4.12	71.66	0.1212	0.0187	-0.0002
262	SLU 68	0.02	-3.82	70.4	0.1115	0.0135	-0.0001
262	SLU 69	0.03	-4.58	72.84	0.1357	0.0267	-0.0002
262	SLU 70	0.02	-4.21	71.96	0.1236	0.0192	-0.0002
262	SLU 71	0.03	-4.52	72.18	0.1341	0.0265	-0.0002
262	SLU 72	0.02	-4.15	71.29	0.1219	0.019	-0.0002
262	SLU 73	0.02	-4.26	76.05	0.1247	0.0155	-0.0002
262	SLU 74	0.03	-5.01	78.48	0.1489	0.0287	-0.0002
262	SLU 75	0.03	-4.65	77.6	0.1368	0.0212	-0.0002
262	SLU 76	0.02	-4.35	76.35	0.127	0.016	-0.0002
262	SLU 77	0.03	-5.1	78.78	0.1513	0.0292	-0.0002
262	SLU 78	0.03	-4.74	77.9	0.1392	0.0217	-0.0002
262	SLU 79	0.03	-5.05	78.12	0.1496	0.0291	-0.0002
262	SLU 80	0.03	-4.68	77.24	0.1375	0.0215	-0.0002
262	SLU 81	0.03	-5.09	80.07	0.1515	0.0291	-0.0002
262	SLU 82	0.03	-4.73	79.18	0.1394	0.0216	-0.0002
262	SLU 83	0.03	-5.18	80.37	0.1539	0.0296	-0.0002
262	SLU 84	0.03	-4.82	79.48	0.1418	0.0221	-0.0002
262	SLE RA 1	0.02	-3.22	53.82	0.096	0.0191	-0.0001
262	SLE RA 2	0.02	-2.81	52.83	0.0826	0.0107	-0.0001
262	SLE RA 3	0.02	-3.32	54.46	0.0987	0.0195	-0.0001
262	SLE RA 4	0.02	-3.08	53.87	0.0907	0.0145	-0.0001
262	SLE RA 5	0.02	-2.87	53.03	0.0841	0.011	-0.0001
262	SLE RA 6	0.02	-3.38	54.66	0.1003	0.0199	-0.0001
262	SLE RA 7	0.02	-3.14	54.07	0.0922	0.0148	-0.0001
262	SLE RA 8	0.02	-3.34	54.22	0.0992	0.0197	-0.0001
262	SLE RA 9	0.02	-3.1	53.63	0.0911	0.0147	-0.0001
262	SLE RA 10	0.02	-3.17	56.79	0.0929	0.0124	-0.0001
262	SLE RA 11	0.02	-3.67	58.42	0.1091	0.0212	-0.0002
262	SLE RA 12	0.02	-3.43	57.83	0.101	0.0162	-0.0001
262	SLE RA 13	0.02	-3.23	56.99	0.0945	0.0127	-0.0001
262	SLE RA 14	0.02	-3.73	58.62	0.1107	0.0215	-0.0002
262	SLE RA 15	0.02	-3.49	58.03	0.1026	0.0165	-0.0001
262	SLE RA 16	0.02	-3.69	58.18	0.1096	0.0214	-0.0002
262	SLE RA 17	0.02	-3.45	57.59	0.1015	0.0164	-0.0001
262	SLE RA 18	0.02	-3.72	59.48	0.1109	0.0215	-0.0002
262	SLE RA 19	0.02	-3.48	58.89	0.1028	0.0165	-0.0001
262	SLE RA 20	0.02	-3.78	59.68	0.1124	0.0218	-0.0002
262	SLE RA 21	0.02	-3.54	59.09	0.1044	0.0168	-0.0001
262	SLE FR 1	0.02	-3.22	53.82	0.096	0.0191	-0.0001
262	SLE FR 2	0.02	-3.14	53.62	0.0933	0.0174	-0.0001
262	SLE FR 3	0.02	-3.25	53.9	0.0967	0.0192	-0.0001
262	SLE FR 4	0.02	-3.29	55.32	0.0978	0.0181	-0.0001
262	SLE FR 5	0.02	-3.4	55.59	0.1011	0.0199	-0.0001
262	SLE FR 6	0.02	-3.47	56.65	0.1034	0.0203	-0.0002
262	SLE QP 1	0.02	-3.22	53.82	0.096	0.0191	-0.0001
262	SLE QP 2	0.02	-3.37	55.51	0.1005	0.0198	-0.0001
262	SLD 1	0.26	-0.56	39.3	0.0139	0.2384	-0.0019
262	SLD 2	0.26	-0.56	39.3	0.0139	0.2384	-0.0019
262	SLD 3	0.37	-4.1	43.4	0.1229	0.3464	-0.0026



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
262	SLD 4			0.37	-4.1	43.4	0.1229	0.3464	-0.0026
262	SLD 5			-0.06	2.84	44.43	-0.0909	-0.0785	0.0005
262	SLD 6			-0.06	2.84	44.43	-0.0909	-0.0785	0.0005
262	SLD 7			0.28	-8.96	58.1	0.2726	0.2816	-0.002
262	SLD 8			0.28	-8.96	58.1	0.2726	0.2816	-0.002
262	SLD 9			-0.24	2.21	52.93	-0.0717	-0.2421	0.0017
262	SLD 10			-0.24	2.21	52.93	-0.0717	-0.2421	0.0017
262	SLD 11			0.1	-9.59	66.6	0.2919	0.1181	-0.0008
262	SLD 12			0.1	-9.59	66.6	0.2919	0.1181	-0.0008
262	SLD 13			-0.32	-2.65	67.62	0.078	-0.3068	0.0023
262	SLD 14			-0.32	-2.65	67.62	0.078	-0.3068	0.0023
262	SLD 15			-0.22	-6.19	71.73	0.1871	-0.1988	0.0016
262	SLD 16			-0.22	-6.19	71.73	0.1871	-0.1988	0.0016
262	SLV 1			0.6	3.21	17.5	-0.1021	0.5429	-0.0042
262	SLV 2			0.6	3.21	17.5	-0.1021	0.5429	-0.0042
262	SLV 3			0.86	-5.03	27.21	0.1518	0.8183	-0.0061
262	SLV 4			0.86	-5.03	27.21	0.1518	0.8183	-0.0061
262	SLV 5			-0.2	11.1	29.38	-0.3454	-0.241	0.0015
262	SLV 6			-0.2	11.1	29.38	-0.3454	-0.241	0.0015
262	SLV 7			0.67	-16.37	61.75	0.501	0.677	-0.0048
262	SLV 8			0.67	-16.37	61.75	0.501	0.677	-0.0048
262	SLV 9			-0.62	9.62	49.28	-0.3001	-0.6375	0.0045
262	SLV 10			-0.62	9.62	49.28	-0.3001	-0.6375	0.0045
262	SLV 11			0.24	-17.85	81.65	0.5464	0.2806	-0.0018
262	SLV 12			0.24	-17.85	81.65	0.5464	0.2806	-0.0018
262	SLV 13			-0.82	-1.72	83.82	0.0491	-0.7787	0.0058
262	SLV 14			-0.82	-1.72	83.82	0.0491	-0.7787	0.0058
262	SLV 15			-0.56	-9.96	93.53	0.3031	-0.5033	0.0039
262	SLV 16			-0.56	-9.96	93.53	0.3031	-0.5033	0.0039
263	SLU 1			-0.24	-3.21	50.32	0.2371	-0.1735	0.0011
263	SLU 2			-0.23	-2.4	48.64	0.1909	-0.1566	0.001
263	SLU 3			-0.25	-3.26	51.54	0.2404	-0.1782	0.0011
263	SLU 4			-0.24	-2.77	50.54	0.2127	-0.1681	0.001
263	SLU 5			-0.23	-2.37	49.35	0.1897	-0.1593	0.001
263	SLU 6			-0.25	-3.23	52.25	0.2392	-0.181	0.0011
263	SLU 7			-0.24	-2.74	51.24	0.2115	-0.1708	0.0011
263	SLU 8			-0.25	-3.16	51.73	0.2347	-0.1789	0.0011
263	SLU 9			-0.24	-2.67	50.72	0.207	-0.1688	0.001
263	SLU 10			-0.26	-2.88	54.12	0.2243	-0.1789	0.0011
263	SLU 11			-0.28	-3.74	57.02	0.2738	-0.2006	0.0012
263	SLU 12			-0.27	-3.25	56.02	0.246	-0.1904	0.0012
263	SLU 13			-0.26	-2.85	54.83	0.2231	-0.1816	0.0011
263	SLU 14			-0.28	-3.71	57.73	0.2725	-0.2033	0.0012
263	SLU 15			-0.27	-3.22	56.72	0.2448	-0.1932	0.0012
263	SLU 16			-0.28	-3.64	57.21	0.2681	-0.2012	0.0012
263	SLU 17			-0.27	-3.15	56.2	0.2403	-0.1911	0.0012
263	SLU 18			-0.29	-3.91	58.15	0.2848	-0.2054	0.0012
263	SLU 19			-0.28	-3.41	57.14	0.2571	-0.1952	0.0012
263	SLU 20			-0.29	-3.88	58.85	0.2836	-0.2081	0.0013
263	SLU 21			-0.28	-3.39	57.85	0.2558	-0.1979	0.0012
263	SLU 22			-0.27	-3.67	55.75	0.2681	-0.1954	0.0012
263	SLU 23			-0.26	-2.85	54.07	0.2219	-0.1785	0.0011
263	SLU 24			-0.28	-3.71	56.97	0.2714	-0.2002	0.0012
263	SLU 25			-0.27	-3.22	55.96	0.2437	-0.19	0.0012
263	SLU 26			-0.26	-2.82	54.77	0.2207	-0.1812	0.0011
263	SLU 27			-0.28	-3.68	57.68	0.2702	-0.2029	0.0012
263	SLU 28			-0.27	-3.19	56.67	0.2425	-0.1927	0.0012
263	SLU 29			-0.28	-3.61	57.16	0.2657	-0.2008	0.0012
263	SLU 30			-0.27	-3.12	56.15	0.238	-0.1907	0.0012
263	SLU 31			-0.29	-3.33	59.55	0.2553	-0.2008	0.0013
263	SLU 32			-0.31	-4.19	62.45	0.3048	-0.2225	0.0014
263	SLU 33			-0.3	-3.7	61.44	0.2771	-0.2123	0.0013
263	SLU 34			-0.29	-3.3	60.25	0.2541	-0.2035	0.0013
263	SLU 35			-0.31	-4.16	63.16	0.3036	-0.2252	0.0014
263	SLU 36			-0.3	-3.67	62.15	0.2759	-0.2151	0.0013
263	SLU 37			-0.31	-4.09	62.64	0.2991	-0.2232	0.0014
263	SLU 38			-0.3	-3.6	61.63	0.2714	-0.213	0.0013
263	SLU 39			-0.32	-4.36	63.58	0.3158	-0.2273	0.0014
263	SLU 40			-0.31	-3.86	62.57	0.2881	-0.2171	0.0013
263	SLU 41			-0.32	-4.33	64.28	0.3146	-0.23	0.0014
263	SLU 42			-0.31	-3.84	63.27	0.2869	-0.2199	0.0014
263	SLU 43			-0.3	-4.03	63.55	0.2976	-0.218	0.0013
263	SLU 44			-0.29	-3.21	61.88	0.2514	-0.2011	0.0013
263	SLU 45			-0.31	-4.07	64.78	0.3009	-0.2228	0.0014
263	SLU 46			-0.3	-3.58	63.77	0.2732	-0.2126	0.0013
263	SLU 47			-0.29	-3.18	62.58	0.2502	-0.2038	0.0013
263	SLU 48			-0.31	-4.04	65.48	0.2997	-0.2255	0.0014
263	SLU 49			-0.3	-3.55	64.48	0.272	-0.2154	0.0013
263	SLU 50			-0.31	-3.97	64.96	0.2952	-0.2235	0.0014
263	SLU 51			-0.3	-3.48	63.96	0.2675	-0.2133	0.0013
263	SLU 52			-0.32	-3.69	67.36	0.2848	-0.2234	0.0014
263	SLU 53			-0.34	-4.55	70.26	0.3342	-0.2451	0.0015
263	SLU 54			-0.33	-4.06	69.25	0.3065	-0.235	0.0014
263	SLU 55			-0.32	-3.66	68.06	0.2836	-0.2262	0.0014
263	SLU 56			-0.35	-4.52	70.96	0.333	-0.2478	0.0015
263	SLU 57			-0.34	-4.03	69.96	0.3053	-0.2377	0.0015
263	SLU 58			-0.34	-4.45	70.44	0.3286	-0.2458	0.0015
263	SLU 59			-0.33	-3.96	69.44	0.3008	-0.2356	0.0015
263	SLU 60			-0.35	-4.72	71.38	0.3453	-0.2499	0.0015
263	SLU 61			-0.34	-4.22	70.38	0.3175	-0.2397	0.0015



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
263	SLU 62			-0.35	-4.69	72.09	0.3441	-0.2526	0.0015
263	SLU 63			-0.34	-4.2	71.08	0.3163	-0.2425	0.0015
263	SLU 64			-0.33	-4.48	68.98	0.3286	-0.2399	0.0015
263	SLU 65			-0.32	-3.66	67.3	0.2824	-0.223	0.0014
263	SLU 66			-0.34	-4.52	70.21	0.3319	-0.2447	0.0015
263	SLU 67			-0.33	-4.03	69.2	0.3042	-0.2346	0.0014
263	SLU 68			-0.32	-3.63	68.01	0.2812	-0.2258	0.0014
263	SLU 69			-0.34	-4.49	70.91	0.3307	-0.2474	0.0015
263	SLU 70			-0.34	-4	69.9	0.303	-0.2373	0.0015
263	SLU 71			-0.34	-4.42	70.39	0.3262	-0.2454	0.0015
263	SLU 72			-0.33	-3.93	69.39	0.2985	-0.2352	0.0015
263	SLU 73			-0.35	-4.14	72.78	0.3158	-0.2453	0.0015
263	SLU 74			-0.37	-5	75.69	0.3653	-0.267	0.0016
263	SLU 75			-0.36	-4.51	74.68	0.3376	-0.2569	0.0016
263	SLU 76			-0.35	-4.11	73.49	0.3146	-0.2481	0.0015
263	SLU 77			-0.38	-4.97	76.39	0.3641	-0.2697	0.0016
263	SLU 78			-0.37	-4.48	75.38	0.3364	-0.2596	0.0016
263	SLU 79			-0.37	-4.9	75.87	0.3596	-0.2677	0.0016
263	SLU 80			-0.36	-4.41	74.87	0.3319	-0.2576	0.0016
263	SLU 81			-0.38	-5.17	76.81	0.3763	-0.2718	0.0016
263	SLU 82			-0.37	-4.67	75.8	0.3486	-0.2617	0.0016
263	SLU 83			-0.38	-5.14	77.52	0.3751	-0.2745	0.0017
263	SLU 84			-0.37	-4.65	76.51	0.3474	-0.2644	0.0016
263	SLE RA 1			-0.25	-3.34	51.87	0.246	-0.1797	0.0011
263	SLE RA 2			-0.24	-2.8	50.75	0.2152	-0.1685	0.001
263	SLE RA 3			-0.26	-3.37	52.69	0.2482	-0.1829	0.0011
263	SLE RA 4			-0.25	-3.05	52.01	0.2297	-0.1762	0.0011
263	SLE RA 5			-0.24	-2.78	51.22	0.2144	-0.1703	0.0011
263	SLE RA 6			-0.26	-3.35	53.16	0.2474	-0.1847	0.0011
263	SLE RA 7			-0.25	-3.03	52.48	0.2289	-0.178	0.0011
263	SLE RA 8			-0.26	-3.31	52.81	0.2444	-0.1834	0.0011
263	SLE RA 9			-0.25	-2.98	52.14	0.2259	-0.1766	0.0011
263	SLE RA 10			-0.26	-3.12	54.4	0.2374	-0.1834	0.0011
263	SLE RA 11			-0.28	-3.69	56.34	0.2704	-0.1978	0.0012
263	SLE RA 12			-0.27	-3.37	55.67	0.2519	-0.191	0.0012
263	SLE RA 13			-0.26	-3.1	54.87	0.2366	-0.1852	0.0011
263	SLE RA 14			-0.28	-3.68	56.81	0.2696	-0.1996	0.0012
263	SLE RA 15			-0.27	-3.35	56.14	0.2511	-0.1929	0.0012
263	SLE RA 16			-0.28	-3.63	56.46	0.2666	-0.1982	0.0012
263	SLE RA 17			-0.27	-3.3	55.79	0.2481	-0.1915	0.0012
263	SLE RA 18			-0.28	-3.8	57.09	0.2777	-0.201	0.0012
263	SLE RA 19			-0.27	-3.48	56.42	0.2593	-0.1942	0.0012
263	SLE RA 20			-0.28	-3.78	57.56	0.2769	-0.2028	0.0012
263	SLE RA 21			-0.28	-3.46	56.89	0.2585	-0.196	0.0012
263	SLE FR 1			-0.25	-3.34	51.87	0.246	-0.1797	0.0011
263	SLE FR 2			-0.25	-3.23	51.65	0.2398	-0.1775	0.0011
263	SLE FR 3			-0.25	-3.34	52.06	0.2457	-0.1805	0.0011
263	SLE FR 4			-0.26	-3.37	53.21	0.2493	-0.1839	0.0011
263	SLE FR 5			-0.26	-3.47	53.62	0.2552	-0.1868	0.0011
263	SLE FR 6			-0.27	-3.57	54.48	0.2619	-0.1904	0.0012
263	SLE QP 1			-0.25	-3.34	51.87	0.246	-0.1797	0.0011
263	SLE QP 2			-0.26	-3.48	53.43	0.2555	-0.1861	0.0011
263	SLD 1			-0.54	-2.88	65.91	0.2414	0.1431	0.0023
263	SLD 2			-0.54	-2.88	65.91	0.2414	0.1431	0.0023
263	SLD 3			-0.67	-6.87	69.69	0.4266	0.0329	0.0028
263	SLD 4			-0.67	-6.87	69.69	0.4266	0.0329	0.0028
263	SLD 5			-0.14	2.75	51.45	-0.0296	0.0798	0.0006
263	SLD 6			-0.14	2.75	51.45	-0.0296	0.0798	0.0006
263	SLD 7			-0.59	-10.55	64.04	0.5878	-0.2875	0.0025
263	SLD 8			-0.59	-10.55	64.04	0.5878	-0.2875	0.0025
263	SLD 9			0.07	3.59	42.83	-0.0767	-0.0847	-0.0002
263	SLD 10			0.07	3.59	42.83	-0.0767	-0.0847	-0.0002
263	SLD 11			-0.38	-9.72	55.42	0.5407	-0.452	0.0016
263	SLD 12			-0.38	-9.72	55.42	0.5407	-0.452	0.0016
263	SLD 13			0.15	-0.09	37.18	0.0844	-0.4051	-0.0006
263	SLD 14			0.15	-0.09	37.18	0.0844	-0.4051	-0.0006
263	SLD 15			0.02	-4.08	40.96	0.2696	-0.5153	0
263	SLD 16			0.02	-4.08	40.96	0.2696	-0.5153	0
263	SLV 1			-0.91	-2.15	82.6	0.2241	0.6027	0.0038
263	SLV 2			-0.91	-2.15	82.6	0.2241	0.6027	0.0038
263	SLV 3			-1.24	-11.5	91.55	0.6587	0.3315	0.0052
263	SLV 4			-1.24	-11.5	91.55	0.6587	0.3315	0.0052
263	SLV 5			0.04	11.1	48.6	-0.4131	0.4618	-0.0001
263	SLV 6			0.04	11.1	48.6	-0.4131	0.4618	-0.0001
263	SLV 7			-1.05	-20.07	78.46	1.0357	-0.4421	0.0044
263	SLV 8			-1.05	-20.07	78.46	1.0357	-0.4421	0.0044
263	SLV 9			0.53	13.1	28.41	-0.5247	0.0699	-0.0022
263	SLV 10			0.53	13.1	28.41	-0.5247	0.0699	-0.0022
263	SLV 11			-0.56	-18.06	58.27	0.9241	-0.834	0.0024
263	SLV 12			-0.56	-18.06	58.27	0.9241	-0.834	0.0024
263	SLV 13			0.72	4.54	15.32	-0.1477	-0.7037	-0.0029
263	SLV 14			0.72	4.54	15.32	-0.1477	-0.7037	-0.0029
263	SLV 15			0.4	-4.81	24.27	0.287	-0.9749	-0.0015
263	SLV 16			0.4	-4.81	24.27	0.287	-0.9749	-0.0015
264	SLU 1			0	1.48	46.61	-0.0403	0.0004	0
264	SLU 2			0	1.59	46.11	-0.0438	0.0007	0
264	SLU 3			0	1.5	48.91	-0.0407	0.0005	0
264	SLU 4			0	1.57	48.61	-0.0428	0.0007	0
264	SLU 5			0	1.62	48.05	-0.0444	0.0008	0
264	SLU 6			0	1.53	50.84	-0.0413	0.0006	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
264	SLU 7	0	1.6	50.55	-0.0434	0.0008	0
264	SLU 8	0	1.54	50.48	-0.0416	0.0006	0
264	SLU 9	0	1.61	50.19	-0.0437	0.0008	0
264	SLU 10	0	1.64	53.87	-0.0451	0.0008	0
264	SLU 11	0	1.55	56.66	-0.042	0.0005	0
264	SLU 12	0	1.62	56.36	-0.0441	0.0007	0
264	SLU 13	0	1.67	55.8	-0.0457	0.0009	0
264	SLU 14	0	1.58	58.6	-0.0426	0.0006	0
264	SLU 15	0	1.65	58.3	-0.0447	0.0008	0
264	SLU 16	0	1.59	58.24	-0.0429	0.0006	0
264	SLU 17	0	1.66	57.94	-0.045	0.0008	0
264	SLU 18	0	1.55	57.68	-0.0422	0.0005	0
264	SLU 19	0	1.62	57.39	-0.0443	0.0007	0
264	SLU 20	0	1.58	59.62	-0.0428	0.0006	0
264	SLU 21	0	1.65	59.32	-0.0449	0.0008	0
264	SLU 22	0	1.54	54.36	-0.0418	0.0005	0
264	SLU 23	0	1.65	53.86	-0.0452	0.0008	0
264	SLU 24	0	1.57	56.66	-0.0421	0.0005	0
264	SLU 25	0	1.63	56.36	-0.0442	0.0008	0
264	SLU 26	0	1.69	55.8	-0.0459	0.0009	0
264	SLU 27	0	1.6	58.59	-0.0427	0.0006	0
264	SLU 28	0	1.67	58.3	-0.0448	0.0009	0
264	SLU 29	0	1.6	58.23	-0.043	0.0007	0
264	SLU 30	0	1.67	57.94	-0.0451	0.0009	0
264	SLU 31	0	1.71	61.62	-0.0465	0.0009	0
264	SLU 32	0	1.62	64.41	-0.0434	0.0006	0
264	SLU 33	0	1.69	64.11	-0.0455	0.0008	0
264	SLU 34	0	1.74	63.55	-0.0471	0.001	0
264	SLU 35	0	1.65	66.35	-0.044	0.0007	0
264	SLU 36	0	1.72	66.05	-0.0461	0.0009	0
264	SLU 37	0	1.66	65.99	-0.0443	0.0007	0
264	SLU 38	0	1.73	65.69	-0.0464	0.0009	0
264	SLU 39	0	1.61	65.43	-0.0436	0.0005	0
264	SLU 40	0	1.68	65.14	-0.0457	0.0007	0
264	SLU 41	0	1.65	67.37	-0.0442	0.0006	0
264	SLU 42	0	1.72	67.07	-0.0463	0.0008	0
264	SLU 43	0	1.9	57.93	-0.052	0.0005	0
264	SLU 44	0	2.01	57.44	-0.0555	0.0008	0
264	SLU 45	0	1.92	60.23	-0.0523	0.0006	0
264	SLU 46	0	1.99	59.93	-0.0544	0.0008	0
264	SLU 47	0	2.04	59.38	-0.0561	0.0009	0
264	SLU 48	0	1.95	62.17	-0.0529	0.0007	0
264	SLU 49	0	2.02	61.87	-0.055	0.0009	0
264	SLU 50	0	1.96	61.81	-0.0532	0.0007	0
264	SLU 51	0	2.03	61.51	-0.0553	0.0009	0
264	SLU 52	0	2.06	65.19	-0.0567	0.0009	0
264	SLU 53	0	1.97	67.98	-0.0536	0.0006	0
264	SLU 54	0	2.04	67.69	-0.0557	0.0008	0
264	SLU 55	0	2.09	67.13	-0.0574	0.001	0
264	SLU 56	0	2.01	69.92	-0.0542	0.0007	0
264	SLU 57	0	2.07	69.63	-0.0563	0.0009	0
264	SLU 58	0	2.01	69.56	-0.0545	0.0007	0
264	SLU 59	0	2.08	69.27	-0.0566	0.0009	0
264	SLU 60	0	1.97	69.01	-0.0538	0.0005	0
264	SLU 61	0	2.04	68.71	-0.0559	0.0008	0
264	SLU 62	0	2	70.95	-0.0544	0.0006	0
264	SLU 63	0	2.07	70.65	-0.0565	0.0009	0
264	SLU 64	0	1.96	65.68	-0.0534	0.0006	0
264	SLU 65	0	2.08	65.19	-0.0569	0.0009	0
264	SLU 66	0	1.99	67.98	-0.0537	0.0006	0
264	SLU 67	0	2.05	67.68	-0.0558	0.0008	0
264	SLU 68	0	2.11	67.13	-0.0575	0.001	0
264	SLU 69	0	2.02	69.92	-0.0543	0.0007	0
264	SLU 70	0	2.09	69.62	-0.0564	0.0009	0
264	SLU 71	0	2.03	69.56	-0.0546	0.0008	0
264	SLU 72	0	2.09	69.26	-0.0567	0.001	0
264	SLU 73	0	2.13	72.94	-0.0582	0.001	0
264	SLU 74	0	2.04	75.73	-0.055	0.0007	0
264	SLU 75	0	2.11	75.44	-0.0571	0.0009	0
264	SLU 76	0	2.16	74.88	-0.0588	0.0011	0
264	SLU 77	0	2.07	77.67	-0.0556	0.0008	0
264	SLU 78	0	2.14	77.38	-0.0577	0.001	0
264	SLU 79	0	2.08	77.31	-0.0559	0.0008	0
264	SLU 80	0	2.15	77.02	-0.058	0.001	0
264	SLU 81	0	2.04	76.76	-0.0552	0.0006	0
264	SLU 82	0	2.1	76.46	-0.0573	0.0008	0
264	SLU 83	0	2.07	78.7	-0.0558	0.0007	0
264	SLU 84	0	2.14	78.4	-0.0579	0.0009	0
264	SLE RA 1	0	1.49	48.82	-0.0407	0.0004	0
264	SLE RA 2	0	1.57	48.49	-0.0431	0.0006	0
264	SLE RA 3	0	1.51	50.35	-0.041	0.0005	0
264	SLE RA 4	0	1.56	50.16	-0.0424	0.0006	0
264	SLE RA 5	0	1.59	49.78	-0.0435	0.0007	0
264	SLE RA 6	0	1.53	51.65	-0.0414	0.0005	0
264	SLE RA 7	0	1.58	51.45	-0.0428	0.0007	0
264	SLE RA 8	0	1.54	51.41	-0.0416	0.0005	0
264	SLE RA 9	0	1.58	51.21	-0.043	0.0007	0
264	SLE RA 10	0	1.61	53.66	-0.0439	0.0007	0
264	SLE RA 11	0	1.55	55.52	-0.0418	0.0005	0
264	SLE RA 12	0	1.59	55.32	-0.0432	0.0006	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
264	SLE RA 13	0	1.63	54.95	-0.0443	0.0007	0
264	SLE RA 14	0	1.57	56.81	-0.0423	0.0006	0
264	SLE RA 15	0	1.61	56.62	-0.0437	0.0007	0
264	SLE RA 16	0	1.57	56.57	-0.0424	0.0006	0
264	SLE RA 17	0	1.62	56.38	-0.0438	0.0007	0
264	SLE RA 18	0	1.54	56.2	-0.042	0.0005	0
264	SLE RA 19	0	1.59	56.01	-0.0434	0.0006	0
264	SLE RA 20	0	1.57	57.5	-0.0424	0.0005	0
264	SLE RA 21	0	1.61	57.3	-0.0438	0.0007	0
264	SLE FR 1	0	1.49	48.82	-0.0407	0.0004	0
264	SLE FR 2	0	1.51	48.76	-0.0412	0.0005	0
264	SLE FR 3	0	1.5	49.34	-0.0409	0.0004	0
264	SLE FR 4	0	1.52	50.97	-0.0416	0.0005	0
264	SLE FR 5	0	1.52	51.55	-0.0413	0.0004	0
264	SLE FR 6	0	1.52	52.51	-0.0414	0.0004	0
264	SLE QP 1	0	1.49	48.82	-0.0407	0.0004	0
264	SLE QP 2	0	1.51	51.04	-0.0411	0.0004	0
264	SLD 1	0.26	4.81	52.02	-0.1421	0.2162	-0.0007
264	SLD 2	0.26	4.81	52.02	-0.1421	0.2162	-0.0007
264	SLD 3	0.21	0.99	54.31	-0.0256	0.2694	-0.0006
264	SLD 4	0.21	0.99	54.31	-0.0256	0.2694	-0.0006
264	SLD 5	0.16	8.3	47.85	-0.2482	-0.0156	-0.0004
264	SLD 6	0.16	8.3	47.85	-0.2482	-0.0156	-0.0004
264	SLD 7	-0.02	-4.45	55.5	0.1403	0.1619	0
264	SLD 8	-0.02	-4.45	55.5	0.1403	0.1619	0
264	SLD 9	0.02	7.47	46.57	-0.2226	-0.161	0
264	SLD 10	0.02	7.47	46.57	-0.2226	-0.161	0
264	SLD 11	-0.16	-5.29	54.22	0.166	0.0165	0.0004
264	SLD 12	-0.16	-5.29	54.22	0.166	0.0165	0.0004
264	SLD 13	-0.21	2.03	47.76	-0.0567	-0.2686	0.0006
264	SLD 14	-0.21	2.03	47.76	-0.0567	-0.2686	0.0006
264	SLD 15	-0.26	-1.8	50.05	0.0599	-0.2153	0.0007
264	SLD 16	-0.26	-1.8	50.05	0.0599	-0.2153	0.0007
264	SLV 1	0.66	9.33	53.33	-0.2803	0.5481	-0.0018
264	SLV 2	0.66	9.33	53.33	-0.2803	0.5481	-0.0018
264	SLV 3	0.53	0.35	58.79	-0.0065	0.6837	-0.0014
264	SLV 4	0.53	0.35	58.79	-0.0065	0.6837	-0.0014
264	SLV 5	0.4	17.49	43.45	-0.5283	-0.0409	-0.0011
264	SLV 6	0.4	17.49	43.45	-0.5283	-0.0409	-0.0011
264	SLV 7	-0.04	-12.47	61.64	0.3847	0.411	0.0001
264	SLV 8	-0.04	-12.47	61.64	0.3847	0.411	0.0001
264	SLV 9	0.04	15.49	40.43	-0.4669	-0.4102	-0.0001
264	SLV 10	0.04	15.49	40.43	-0.4669	-0.4102	-0.0001
264	SLV 11	-0.4	-14.47	58.63	0.446	0.0417	0.0011
264	SLV 12	-0.4	-14.47	58.63	0.446	0.0417	0.0011
264	SLV 13	-0.53	2.67	43.28	-0.0758	-0.6829	0.0014
264	SLV 14	-0.53	2.67	43.28	-0.0758	-0.6829	0.0014
264	SLV 15	-0.66	-6.32	48.74	0.1981	-0.5473	0.0018
264	SLV 16	-0.66	-6.32	48.74	0.1981	-0.5473	0.0018
265	SLU 1	0	-2.11	46.93	0.0818	-0.0016	0
265	SLU 2	0	-1.96	46.54	0.0763	-0.0019	0
265	SLU 3	0	-2.14	48.65	0.0825	-0.0016	0
265	SLU 4	0	-2.05	48.41	0.0793	-0.0018	0
265	SLU 5	0	-1.91	47.74	0.0739	-0.0019	0
265	SLU 6	0	-2.08	49.85	0.0802	-0.0015	0
265	SLU 7	0	-2	49.61	0.0769	-0.0017	0
265	SLU 8	0	-2	49.32	0.077	-0.0014	0
265	SLU 9	0	-1.92	49.09	0.0737	-0.0017	0
265	SLU 10	0	-2.55	54.45	0.0985	-0.0023	0
265	SLU 11	0	-2.72	56.56	0.1047	-0.002	0
265	SLU 12	0	-2.64	56.32	0.1015	-0.0022	0
265	SLU 13	0	-2.5	55.64	0.0961	-0.0023	0
265	SLU 14	0	-2.67	57.75	0.1024	-0.0019	0
265	SLU 15	0	-2.58	57.52	0.0991	-0.0021	0
265	SLU 16	0	-2.59	57.23	0.0992	-0.0018	0
265	SLU 17	0	-2.5	57	0.0959	-0.0021	0
265	SLU 18	0	-2.95	58.23	0.1134	-0.0021	0
265	SLU 19	0	-2.86	57.99	0.1102	-0.0024	0
265	SLU 20	0	-2.9	59.42	0.1111	-0.0021	0
265	SLU 21	0	-2.81	59.19	0.1078	-0.0023	0
265	SLU 22	0	-2.58	54.47	0.0993	-0.0019	0
265	SLU 23	0	-2.43	54.08	0.0939	-0.0022	0
265	SLU 24	0	-2.6	56.19	0.1001	-0.0019	0
265	SLU 25	0	-2.52	55.95	0.0968	-0.0021	0
265	SLU 26	0	-2.38	55.27	0.0915	-0.0022	0
265	SLU 27	0	-2.55	57.38	0.0977	-0.0018	0
265	SLU 28	0	-2.46	57.15	0.0945	-0.002	0
265	SLU 29	0	-2.47	56.86	0.0946	-0.0018	0
265	SLU 30	0	-2.38	56.63	0.0913	-0.002	0
265	SLU 31	0	-3.02	61.98	0.116	-0.0026	0
265	SLU 32	0	-3.19	64.09	0.1223	-0.0023	0
265	SLU 33	0	-3.1	63.86	0.119	-0.0025	0
265	SLU 34	0	-2.96	63.18	0.1137	-0.0026	0
265	SLU 35	0	-3.14	65.29	0.1199	-0.0022	0
265	SLU 36	0	-3.05	65.05	0.1167	-0.0024	0
265	SLU 37	0	-3.06	64.77	0.1168	-0.0021	0
265	SLU 38	0	-2.97	64.53	0.1135	-0.0024	0
265	SLU 39	0	-3.42	65.76	0.131	-0.0025	0
265	SLU 40	0	-3.33	65.53	0.1277	-0.0027	0
265	SLU 41	0	-3.36	66.96	0.1286	-0.0024	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
265	SLU 42		0	-3.28	66.73	0.1254	-0.0026	0
265	SLU 43		0	-2.58	58.43	0.1003	-0.002	0
265	SLU 44		0	-2.43	58.03	0.0948	-0.0023	0
265	SLU 45		0	-2.61	60.15	0.1011	-0.0019	0
265	SLU 46		0	-2.52	59.91	0.0978	-0.0021	0
265	SLU 47		0	-2.38	59.23	0.0924	-0.0022	0
265	SLU 48		0	-2.56	61.34	0.0987	-0.0019	0
265	SLU 49		0	-2.47	61.11	0.0954	-0.0021	0
265	SLU 50		0	-2.48	60.82	0.0955	-0.0018	0
265	SLU 51		0	-2.39	60.58	0.0923	-0.002	0
265	SLU 52		0	-3.02	65.94	0.117	-0.0027	0
265	SLU 53		0	-3.2	68.05	0.1232	-0.0023	0
265	SLU 54		0	-3.11	67.82	0.12	-0.0025	0
265	SLU 55		0	-2.97	67.14	0.1146	-0.0026	0
265	SLU 56		0	-3.15	69.25	0.1209	-0.0023	0
265	SLU 57		0	-3.06	69.01	0.1176	-0.0025	0
265	SLU 58		0	-3.06	68.73	0.1177	-0.0022	0
265	SLU 59		0	-2.98	68.49	0.1144	-0.0024	0
265	SLU 60		0	-3.42	69.72	0.1319	-0.0025	0
265	SLU 61		0	-3.33	69.49	0.1287	-0.0027	0
265	SLU 62		0	-3.37	70.92	0.1296	-0.0025	0
265	SLU 63		0	-3.28	70.68	0.1263	-0.0027	0
265	SLU 64		0	-3.05	65.96	0.1178	-0.0023	0
265	SLU 65		0	-2.9	65.57	0.1124	-0.0026	0
265	SLU 66		0	-3.08	67.68	0.1186	-0.0022	0
265	SLU 67		0	-2.99	67.45	0.1153	-0.0024	0
265	SLU 68		0	-2.85	66.77	0.11	-0.0025	0
265	SLU 69		0	-3.02	68.88	0.1163	-0.0022	0
265	SLU 70		0	-2.94	68.64	0.113	-0.0024	0
265	SLU 71		0	-2.94	68.36	0.1131	-0.0021	0
265	SLU 72		0	-2.86	68.12	0.1098	-0.0023	0
265	SLU 73		0	-3.49	73.48	0.1345	-0.003	0
265	SLU 74		0	-3.66	75.59	0.1408	-0.0026	0
265	SLU 75		0	-3.58	75.35	0.1375	-0.0028	0
265	SLU 76		0	-3.44	74.67	0.1322	-0.0029	0
265	SLU 77		0	-3.61	76.79	0.1384	-0.0026	0
265	SLU 78		0	-3.52	76.55	0.1352	-0.0028	0
265	SLU 79		0	-3.53	76.26	0.1353	-0.0025	0
265	SLU 80		0	-3.44	76.03	0.132	-0.0027	0
265	SLU 81		0	-3.89	77.26	0.1495	-0.0028	0
265	SLU 82		0	-3.8	77.02	0.1462	-0.003	0
265	SLU 83		0	-3.84	78.46	0.1471	-0.0028	0
265	SLU 84		0	-3.75	78.22	0.1439	-0.003	0
265	SLE RA 1		0	-2.24	49.09	0.0868	-0.0017	0
265	SLE RA 2		0	-2.14	48.82	0.0831	-0.0019	0
265	SLE RA 3		0	-2.26	50.23	0.0873	-0.0017	0
265	SLE RA 4		0	-2.2	50.07	0.0851	-0.0018	0
265	SLE RA 5		0	-2.11	49.62	0.0816	-0.0019	0
265	SLE RA 6		0	-2.23	51.03	0.0857	-0.0016	0
265	SLE RA 7		0	-2.17	50.87	0.0835	-0.0017	0
265	SLE RA 8		0	-2.17	50.68	0.0836	-0.0016	0
265	SLE RA 9		0	-2.11	50.52	0.0814	-0.0017	0
265	SLE RA 10		0	-2.54	54.09	0.0979	-0.0022	0
265	SLE RA 11		0	-2.65	55.5	0.1021	-0.0019	0
265	SLE RA 12		0	-2.59	55.34	0.0999	-0.0021	0
265	SLE RA 13		0	-2.5	54.89	0.0963	-0.0021	0
265	SLE RA 14		0	-2.62	56.3	0.1005	-0.0019	0
265	SLE RA 15		0	-2.56	56.14	0.0983	-0.002	0
265	SLE RA 16		0	-2.56	55.95	0.0984	-0.0018	0
265	SLE RA 17		0	-2.51	55.79	0.0962	-0.002	0
265	SLE RA 18		0	-2.8	56.62	0.1079	-0.002	0
265	SLE RA 19		0	-2.74	56.46	0.1057	-0.0022	0
265	SLE RA 20		0	-2.77	57.41	0.1063	-0.002	0
265	SLE RA 21		0	-2.71	57.26	0.1041	-0.0021	0
265	SLE FR 1		0	-2.24	49.09	0.0868	-0.0017	0
265	SLE FR 2		0	-2.22	49.03	0.086	-0.0017	0
265	SLE FR 3		0	-2.23	49.4	0.0861	-0.0016	0
265	SLE FR 4		0	-2.39	51.29	0.0924	-0.0018	0
265	SLE FR 5		0	-2.4	51.66	0.0925	-0.0018	0
265	SLE FR 6		0	-2.52	52.85	0.0973	-0.0019	0
265	SLE QP 1		0	-2.24	49.09	0.0868	-0.0017	0
265	SLE QP 2		0	-2.41	51.34	0.0931	-0.0018	0
265	SLD 1	0.29		-2.72	52.75	0.1028	0.2596	-0.0005
265	SLD 2	0.29		-2.72	52.75	0.1028	0.2596	-0.0005
265	SLD 3	0.25		-7.28	57.75	0.2826	0.2235	-0.0004
265	SLD 4	0.25		-7.28	57.75	0.2826	0.2235	-0.0004
265	SLD 5	0.15		4.41	44.18	-0.1767	0.1313	-0.0002
265	SLD 6	0.15		4.41	44.18	-0.1767	0.1313	-0.0002
265	SLD 7	0.01		-10.79	60.86	0.4227	0.0111	0
265	SLD 8	0.01		-10.79	60.86	0.4227	0.0111	0
265	SLD 9	-0.01		5.97	41.83	-0.2364	-0.0147	0
265	SLD 10	-0.01		5.97	41.83	-0.2364	-0.0147	0
265	SLD 11	-0.15		-9.23	58.51	0.3629	-0.1349	0.0002
265	SLD 12	-0.15		-9.23	58.51	0.3629	-0.1349	0.0002
265	SLD 13	-0.25		2.46	44.93	-0.0964	-0.227	0.0004
265	SLD 14	-0.25		2.46	44.93	-0.0964	-0.227	0.0004
265	SLD 15	-0.29		-2.1	49.94	0.0834	-0.2631	0.0004
265	SLD 16	-0.29		-2.1	49.94	0.0834	-0.2631	0.0004
265	SLV 1	0.73		-3.15	54.59	0.1164	0.6631	-0.0012
265	SLV 2	0.73		-3.15	54.59	0.1164	0.6631	-0.0012



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
265	SLV 3		0.63	-13.91	66.44	0.5404	0.5716	-0.001
265	SLV 4		0.63	-13.91	66.44	0.5404	0.5716	-0.001
265	SLV 5		0.38	13.67	34.35	-0.543	0.3365	-0.0006
265	SLV 6		0.38	13.67	34.35	-0.543	0.3365	-0.0006
265	SLV 7		0.03	-22.16	73.84	0.8704	0.0314	-0.0001
265	SLV 8		0.03	-22.16	73.84	0.8704	0.0314	-0.0001
265	SLV 9		-0.03	17.34	28.85	-0.6842	-0.0349	0.0001
265	SLV 10		-0.03	17.34	28.85	-0.6842	-0.0349	0.0001
265	SLV 11		-0.38	-18.49	68.34	0.7292	-0.3401	0.0006
265	SLV 12		-0.38	-18.49	68.34	0.7292	-0.3401	0.0006
265	SLV 13		-0.63	9.08	36.25	-0.3542	-0.5751	0.001
265	SLV 14		-0.63	9.08	36.25	-0.3542	-0.5751	0.001
265	SLV 15		-0.73	-1.67	48.1	0.0698	-0.6667	0.0011
265	SLV 16		-0.73	-1.67	48.1	0.0698	-0.6667	0.0011
266	SLU 1		0	1.52	34.3	-0.0792	-0.0004	0
266	SLU 2		0	1.52	34.31	-0.0791	-0.0004	0
266	SLU 3		0	1.35	34.13	-0.0719	-0.0003	0
266	SLU 4		0	1.35	34.13	-0.0718	-0.0003	0
266	SLU 5		0	1.28	33.47	-0.0685	-0.0002	0
266	SLU 6		0	1.1	33.29	-0.0613	-0.0001	0
266	SLU 7		0	1.1	33.29	-0.0613	-0.0001	0
266	SLU 8		0	1.03	32.63	-0.058	0	0
266	SLU 9		0	1.03	32.63	-0.058	0	0
266	SLU 10		0	1.76	40.04	-0.0928	0.0001	0
266	SLU 11		0	1.59	39.85	-0.0856	0.0003	0
266	SLU 12		0	1.59	39.86	-0.0855	0.0002	0
266	SLU 13		0	1.52	39.2	-0.0822	0.0003	0
266	SLU 14		0	1.34	39.02	-0.075	0.0005	0
266	SLU 15		0	1.34	39.02	-0.0749	0.0004	0
266	SLU 16		0	1.27	38.36	-0.0717	0.0005	0
266	SLU 17		0	1.27	38.36	-0.0717	0.0005	0
266	SLU 18		0	1.87	42.48	-0.0988	0.0004	0
266	SLU 19		0	1.86	42.49	-0.0987	0.0003	0
266	SLU 20		0	1.62	41.65	-0.0882	0.0006	0
266	SLU 21		0	1.62	41.65	-0.0881	0.0005	0
266	SLU 22		0	1.64	39.1	-0.0871	0	0
266	SLU 23		0	1.64	39.1	-0.0871	0	0
266	SLU 24		0	1.47	38.92	-0.0798	0.0001	0
266	SLU 25		0	1.47	38.92	-0.0798	0.0001	0
266	SLU 26		0	1.39	38.26	-0.0765	0.0002	0
266	SLU 27		0	1.22	38.08	-0.0693	0.0003	0
266	SLU 28		0	1.22	38.09	-0.0692	0.0003	0
266	SLU 29		0	1.15	37.42	-0.066	0.0004	0
266	SLU 30		0	1.15	37.43	-0.0659	0.0004	0
266	SLU 31		0	1.88	44.83	-0.1007	0.0005	0
266	SLU 32		0	1.71	44.65	-0.0935	0.0006	0
266	SLU 33		0	1.71	44.65	-0.0935	0.0006	0
266	SLU 34		0	1.63	43.99	-0.0901	0.0007	0
266	SLU 35		0	1.46	43.81	-0.0829	0.0008	0
266	SLU 36		0	1.46	43.82	-0.0829	0.0008	0
266	SLU 37		0	1.39	43.15	-0.0797	0.0009	0
266	SLU 38		0	1.39	43.15	-0.0796	0.0009	0
266	SLU 39		0	1.99	47.28	-0.1067	0.0007	0
266	SLU 40		0	1.98	47.28	-0.1066	0.0007	0
266	SLU 41		0	1.74	46.44	-0.0961	0.0009	0
266	SLU 42		0	1.74	46.45	-0.0961	0.0009	0
266	SLU 43		0	1.94	42.95	-0.1002	-0.0006	0
266	SLU 44		0	1.94	42.95	-0.1001	-0.0007	0
266	SLU 45		0	1.77	42.77	-0.0929	-0.0005	0
266	SLU 46		0	1.76	42.78	-0.0929	-0.0005	0
266	SLU 47		0	1.69	42.12	-0.0896	-0.0005	0
266	SLU 48		0	1.52	41.94	-0.0824	-0.0003	0
266	SLU 49		0	1.52	41.94	-0.0823	-0.0003	0
266	SLU 50		0	1.45	41.27	-0.0791	-0.0002	0
266	SLU 51		0	1.45	41.28	-0.079	-0.0002	0
266	SLU 52		0	2.18	48.68	-0.1138	-0.0001	0
266	SLU 53		0	2.01	48.5	-0.1066	0	0
266	SLU 54		0	2	48.5	-0.1066	0	0
266	SLU 55		0	1.93	47.85	-0.1032	0.0001	0
266	SLU 56		0	1.76	47.66	-0.096	0.0002	0
266	SLU 57		0	1.76	47.67	-0.096	0.0002	0
266	SLU 58		0	1.69	47	-0.0928	0.0003	0
266	SLU 59		0	1.69	47.01	-0.0927	0.0003	0
266	SLU 60		0	2.28	51.13	-0.1198	0.0001	0
266	SLU 61		0	2.28	51.13	-0.1197	0.0001	0
266	SLU 62		0	2.04	50.29	-0.1092	0.0003	0
266	SLU 63		0	2.04	50.3	-0.1092	0.0003	0
266	SLU 64		0	2.06	47.74	-0.1082	-0.0002	0
266	SLU 65		0	2.06	47.75	-0.1081	-0.0003	0
266	SLU 66		0	1.88	47.57	-0.1009	-0.0001	0
266	SLU 67		0	1.88	47.57	-0.1008	-0.0002	0
266	SLU 68		0	1.81	46.91	-0.0975	-0.0001	0
266	SLU 69		0	1.64	46.73	-0.0903	0.0001	0
266	SLU 70		0	1.64	46.73	-0.0902	0	0
266	SLU 71		0	1.57	46.07	-0.087	0.0002	0
266	SLU 72		0	1.57	46.07	-0.087	0.0001	0
266	SLU 73		0	2.3	53.48	-0.1218	0.0002	0
266	SLU 74		0	2.12	53.3	-0.1146	0.0004	0
266	SLU 75		0	2.12	53.3	-0.1145	0.0004	0
266	SLU 76		0	2.05	52.64	-0.1112	0.0004	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
266	SLU 77		0	1.88	52.46	-0.104	0.0006	0
266	SLU 78		0	1.88	52.46	-0.1039	0.0006	0
266	SLU 79		0	1.81	51.8	-0.1007	0.0007	0
266	SLU 80		0	1.81	51.8	-0.1006	0.0007	0
266	SLU 81		0	2.4	55.93	-0.1277	0.0005	0
266	SLU 82		0	2.4	55.93	-0.1277	0.0005	0
266	SLU 83		0	2.16	55.09	-0.1172	0.0007	0
266	SLU 84		0	2.15	55.09	-0.1171	0.0007	0
266	SLE RA 1		0	1.56	35.67	-0.0815	-0.0003	0
266	SLE RA 2		0	1.56	35.68	-0.0814	-0.0003	0
266	SLE RA 3		0	1.44	35.55	-0.0766	-0.0002	0
266	SLE RA 4		0	1.44	35.56	-0.0766	-0.0002	0
266	SLE RA 5		0	1.39	35.12	-0.0744	-0.0002	0
266	SLE RA 6		0	1.28	35	-0.0696	-0.0001	0
266	SLE RA 7		0	1.28	35	-0.0695	-0.0001	0
266	SLE RA 8		0	1.23	34.56	-0.0674	0	0
266	SLE RA 9		0	1.23	34.56	-0.0673	0	0
266	SLE RA 10		0	1.72	39.49	-0.0905	0.0001	0
266	SLE RA 11		0	1.6	39.37	-0.0857	0.0002	0
266	SLE RA 12		0	1.6	39.38	-0.0857	0.0001	0
266	SLE RA 13		0	1.55	38.94	-0.0835	0.0002	0
266	SLE RA 14		0	1.44	38.82	-0.0787	0.0003	0
266	SLE RA 15		0	1.44	38.82	-0.0786	0.0003	0
266	SLE RA 16		0	1.39	38.37	-0.0765	0.0003	0
266	SLE RA 17		0	1.39	38.38	-0.0764	0.0003	0
266	SLE RA 18		0	1.79	41.13	-0.0945	0.0002	0
266	SLE RA 19		0	1.79	41.13	-0.0945	0.0002	0
266	SLE RA 20		0	1.62	40.57	-0.0875	0.0004	0
266	SLE RA 21		0	1.62	40.57	-0.0874	0.0003	0
266	SLE FR 1		0	1.56	35.67	-0.0815	-0.0003	0
266	SLE FR 2		0	1.56	35.67	-0.0815	-0.0003	0
266	SLE FR 3		0	1.49	35.45	-0.0787	-0.0002	0
266	SLE FR 4		0	1.63	37.31	-0.0854	-0.0001	0
266	SLE FR 5		0	1.56	37.08	-0.0826	-0.0001	0
266	SLE FR 6		0	1.67	38.4	-0.088	0	0
266	SLE QP 1		0	1.56	35.67	-0.0815	-0.0003	0
266	SLE QP 2		0	1.63	37.31	-0.0854	-0.0001	0
266	SLD 1		-0.09	5.01	40.46	-0.2226	-0.058	0.0001
266	SLD 2		-0.09	5.01	40.46	-0.2226	-0.058	0.0001
266	SLD 3		-0.05	0.83	37.98	-0.0526	-0.0389	0.0001
266	SLD 4		-0.05	0.83	37.98	-0.0526	-0.0389	0.0001
266	SLD 5		-0.08	8.98	42.01	-0.3845	-0.0465	0
266	SLD 6		-0.08	8.98	42.01	-0.3845	-0.0465	0
266	SLD 7		0.04	-4.95	33.75	0.1824	0.0173	0.0001
266	SLD 8		0.04	-4.95	33.75	0.1824	0.0173	0.0001
266	SLD 9		-0.04	8.2	40.86	-0.3532	-0.0175	-0.0001
266	SLD 10		-0.04	8.2	40.86	-0.3532	-0.0175	-0.0001
266	SLD 11		0.08	-5.73	32.61	0.2138	0.0463	0
266	SLD 12		0.08	-5.73	32.61	0.2138	0.0463	0
266	SLD 13		0.05	2.42	36.64	-0.1182	0.0387	-0.0001
266	SLD 14		0.05	2.42	36.64	-0.1182	0.0387	-0.0001
266	SLD 15		0.09	-1.76	34.16	0.0519	0.0578	-0.0001
266	SLD 16		0.09	-1.76	34.16	0.0519	0.0578	-0.0001
266	SLV 1		-0.22	9.59	44.83	-0.4084	-0.1437	0.0002
266	SLV 2		-0.22	9.59	44.83	-0.4084	-0.1437	0.0002
266	SLV 3		-0.13	-0.24	38.81	-0.008	-0.0949	0.0003
266	SLV 4		-0.13	-0.24	38.81	-0.008	-0.0949	0.0003
266	SLV 5		-0.2	18.93	48.68	-0.7896	-0.1172	-0.0001
266	SLV 6		-0.2	18.93	48.68	-0.7896	-0.1172	-0.0001
266	SLV 7		0.1	-13.85	28.64	0.5451	0.0454	0.0002
266	SLV 8		0.1	-13.85	28.64	0.5451	0.0454	0.0002
266	SLV 9		-0.1	17.1	45.98	-0.7159	-0.0457	-0.0003
266	SLV 10		-0.1	17.1	45.98	-0.7159	-0.0457	-0.0003
266	SLV 11		0.2	-15.68	25.93	0.6188	0.1169	0.0001
266	SLV 12		0.2	-15.68	25.93	0.6188	0.1169	0.0001
266	SLV 13		0.13	3.49	35.8	-0.1628	0.0947	-0.0003
266	SLV 14		0.13	3.49	35.8	-0.1628	0.0947	-0.0003
266	SLV 15		0.22	-6.34	29.79	0.2377	0.1435	-0.0002
266	SLV 16		0.22	-6.34	29.79	0.2377	0.1435	-0.0002
267	SLU 1		0	3.99	33.47	-0.3034	-0.0016	0
267	SLU 2		0	3.99	33.49	-0.3029	-0.0016	0
267	SLU 3		0	3.87	33.2	-0.3042	-0.0015	0
267	SLU 4		0	3.87	33.21	-0.3039	-0.0015	0
267	SLU 5		0	3.75	32.53	-0.2972	-0.0015	0
267	SLU 6		0	3.64	32.24	-0.2986	-0.0015	0
267	SLU 7		0	3.63	32.25	-0.2983	-0.0014	0
267	SLU 8		0	3.52	31.56	-0.2921	-0.0014	0
267	SLU 9		0	3.52	31.57	-0.2918	-0.0014	0
267	SLU 10		0	4.67	39.14	-0.3543	-0.0019	0
267	SLU 11		0	4.55	38.85	-0.3557	-0.0018	0
267	SLU 12		0	4.55	38.86	-0.3553	-0.0018	0
267	SLU 13		0	4.43	38.18	-0.3487	-0.0018	0
267	SLU 14		0	4.32	37.89	-0.35	-0.0018	0
267	SLU 15		0	4.31	37.9	-0.3497	-0.0017	0
267	SLU 16		0	4.2	37.2	-0.3435	-0.0017	0
267	SLU 17		0	4.2	37.21	-0.3432	-0.0017	0
267	SLU 18		0	4.96	41.54	-0.3769	-0.002	0
267	SLU 19		0	4.96	41.55	-0.3766	-0.002	0
267	SLU 20		0	4.73	40.58	-0.3712	-0.0019	0
267	SLU 21		0	4.73	40.59	-0.3709	-0.0019	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
267	SLU 22	0	4.52	37.63	-0.3475	-0.0018	0
267	SLU 23	0	4.51	37.65	-0.347	-0.0018	0
267	SLU 24	0	4.4	37.36	-0.3484	-0.0018	0
267	SLU 25	0	4.39	37.38	-0.348	-0.0017	0
267	SLU 26	0	4.28	36.7	-0.3414	-0.0017	0
267	SLU 27	0	4.16	36.41	-0.3427	-0.0017	0
267	SLU 28	0	4.16	36.42	-0.3424	-0.0016	0
267	SLU 29	0	4.05	35.72	-0.3362	-0.0016	0
267	SLU 30	0	4.05	35.73	-0.3359	-0.0016	0
267	SLU 31	0	5.2	43.3	-0.3984	-0.0021	0
267	SLU 32	0	5.08	43.01	-0.3998	-0.002	0
267	SLU 33	0	5.07	43.02	-0.3995	-0.002	0
267	SLU 34	0	4.96	42.34	-0.3928	-0.002	0
267	SLU 35	0	4.84	42.05	-0.3941	-0.002	0
267	SLU 36	0	4.84	42.06	-0.3938	-0.0019	0
267	SLU 37	0	4.73	41.36	-0.3877	-0.0019	0
267	SLU 38	0	4.73	41.38	-0.3874	-0.0019	0
267	SLU 39	0	5.49	45.7	-0.421	-0.0022	0
267	SLU 40	0	5.49	45.71	-0.4207	-0.0022	0
267	SLU 41	0	5.26	44.74	-0.4154	-0.0021	0
267	SLU 42	0	5.25	44.75	-0.415	-0.0021	0
267	SLU 43	0	5.01	42.08	-0.3793	-0.002	0
267	SLU 44	0	5	42.1	-0.3788	-0.002	0
267	SLU 45	0	4.89	41.81	-0.3801	-0.002	0
267	SLU 46	0	4.88	41.83	-0.3798	-0.0019	0
267	SLU 47	0	4.77	41.15	-0.3731	-0.0019	0
267	SLU 48	0	4.65	40.86	-0.3745	-0.0019	0
267	SLU 49	0	4.65	40.87	-0.3741	-0.0019	0
267	SLU 50	0	4.54	40.17	-0.368	-0.0018	0
267	SLU 51	0	4.54	40.18	-0.3677	-0.0018	0
267	SLU 52	0	5.69	47.75	-0.4302	-0.0023	0
267	SLU 53	0	5.57	47.46	-0.4315	-0.0022	0
267	SLU 54	0	5.56	47.47	-0.4312	-0.0022	0
267	SLU 55	0	5.45	46.79	-0.4245	-0.0022	0
267	SLU 56	0	5.33	46.5	-0.4259	-0.0022	0
267	SLU 57	0	5.33	46.51	-0.4256	-0.0021	0
267	SLU 58	0	5.22	45.82	-0.4194	-0.0021	0
267	SLU 59	0	5.22	45.83	-0.4191	-0.0021	0
267	SLU 60	0	5.98	50.15	-0.4528	-0.0024	0
267	SLU 61	0	5.98	50.16	-0.4525	-0.0024	0
267	SLU 62	0	5.75	49.19	-0.4471	-0.0023	0
267	SLU 63	0	5.74	49.2	-0.4468	-0.0023	0
267	SLU 64	0	5.54	46.25	-0.4234	-0.0022	0
267	SLU 65	0	5.53	46.27	-0.4229	-0.0022	0
267	SLU 66	0	5.41	45.98	-0.4242	-0.0022	0
267	SLU 67	0	5.41	45.99	-0.4239	-0.0021	0
267	SLU 68	0	5.3	45.31	-0.4172	-0.0021	0
267	SLU 69	0	5.18	45.02	-0.4186	-0.0021	0
267	SLU 70	0	5.18	45.03	-0.4183	-0.0021	0
267	SLU 71	0	5.07	44.33	-0.4121	-0.002	0
267	SLU 72	0	5.07	44.34	-0.4118	-0.002	0
267	SLU 73	0	6.21	51.91	-0.4743	-0.0025	0
267	SLU 74	0	6.09	51.62	-0.4757	-0.0025	0
267	SLU 75	0	6.09	51.63	-0.4754	-0.0024	0
267	SLU 76	0	5.98	50.96	-0.4687	-0.0024	0
267	SLU 77	0	5.86	50.67	-0.47	-0.0024	0
267	SLU 78	0	5.86	50.68	-0.4697	-0.0023	0
267	SLU 79	0	5.75	49.98	-0.4636	-0.0023	0
267	SLU 80	0	5.75	49.99	-0.4632	-0.0023	0
267	SLU 81	0	6.51	54.31	-0.4969	-0.0026	0
267	SLU 82	0	6.51	54.32	-0.4966	-0.0026	0
267	SLU 83	0	6.27	53.35	-0.4913	-0.0025	0
267	SLU 84	0	6.27	53.37	-0.4909	-0.0025	0
267	SLE RA 1	0	4.14	34.66	-0.316	-0.0017	0
267	SLE RA 2	0	4.14	34.67	-0.3157	-0.0016	0
267	SLE RA 3	0	4.06	34.48	-0.3166	-0.0016	0
267	SLE RA 4	0	4.06	34.49	-0.3163	-0.0016	0
267	SLE RA 5	0	3.98	34.03	-0.3119	-0.0016	0
267	SLE RA 6	0	3.9	33.84	-0.3128	-0.0016	0
267	SLE RA 7	0	3.9	33.85	-0.3126	-0.0016	0
267	SLE RA 8	0	3.83	33.38	-0.3085	-0.0015	0
267	SLE RA 9	0	3.83	33.39	-0.3083	-0.0015	0
267	SLE RA 10	0	4.59	38.44	-0.3499	-0.0018	0
267	SLE RA 11	0	4.51	38.24	-0.3508	-0.0018	0
267	SLE RA 12	0	4.51	38.25	-0.3506	-0.0018	0
267	SLE RA 13	0	4.44	37.8	-0.3462	-0.0018	0
267	SLE RA 14	0	4.36	37.61	-0.3471	-0.0018	0
267	SLE RA 15	0	4.36	37.61	-0.3469	-0.0017	0
267	SLE RA 16	0	4.28	37.15	-0.3428	-0.0017	0
267	SLE RA 17	0	4.28	37.15	-0.3426	-0.0017	0
267	SLE RA 18	0	4.79	40.04	-0.365	-0.0019	0
267	SLE RA 19	0	4.79	40.04	-0.3648	-0.0019	0
267	SLE RA 20	0	4.63	39.4	-0.3612	-0.0019	0
267	SLE RA 21	0	4.63	39.41	-0.361	-0.0019	0
267	SLE FR 1	0	4.14	34.66	-0.316	-0.0017	0
267	SLE FR 2	0	4.14	34.66	-0.3159	-0.0016	0
267	SLE FR 3	0	4.08	34.4	-0.3145	-0.0016	0
267	SLE FR 4	0	4.34	36.28	-0.3306	-0.0017	0
267	SLE FR 5	0	4.27	36.02	-0.3292	-0.0017	0
267	SLE FR 6	0	4.47	37.35	-0.3405	-0.0018	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
267	SLE QP 1	0	4.14	34.66	-0.316	-0.0017	0
267	SLE QP 2	0	4.34	36.27	-0.3307	-0.0017	0
267	SLD 1	-0.05	5.47	35.4	-0.3733	-0.0439	0.0002
267	SLD 2	-0.05	5.47	35.4	-0.3733	-0.0439	0.0002
267	SLD 3	-0.1	1.2	33.49	-0.1955	-0.0649	0.0001
267	SLD 4	-0.1	1.2	33.49	-0.1955	-0.0649	0.0001
267	SLD 5	0.06	11.16	38.92	-0.6132	0.0175	0.0002
267	SLD 6	0.06	11.16	38.92	-0.6132	0.0175	0.0002
267	SLD 7	-0.1	-3.08	32.53	-0.0204	-0.0526	0
267	SLD 8	-0.1	-3.08	32.53	-0.0204	-0.0526	0
267	SLD 9	0.1	11.76	40.01	-0.641	0.0491	0.0001
267	SLD 10	0.1	11.76	40.01	-0.641	0.0491	0.0001
267	SLD 11	-0.06	-2.48	33.63	-0.0482	-0.021	-0.0001
267	SLD 12	-0.06	-2.48	33.63	-0.0482	-0.021	-0.0001
267	SLD 13	0.09	7.47	39.06	-0.4659	0.0614	-0.0001
267	SLD 14	0.09	7.47	39.06	-0.4659	0.0614	-0.0001
267	SLD 15	0.04	3.2	37.14	-0.2881	0.0404	-0.0002
267	SLD 16	0.04	3.2	37.14	-0.2881	0.0404	-0.0002
267	SLV 1	-0.11	6.96	34.29	-0.429	-0.1052	0.0005
267	SLV 2	-0.11	6.96	34.29	-0.429	-0.1052	0.0005
267	SLV 3	-0.23	-3.06	29.64	-0.0122	-0.1585	0.0003
267	SLV 4	-0.23	-3.06	29.64	-0.0122	-0.1585	0.0003
267	SLV 5	0.15	20.33	42.73	-0.9924	0.0482	0.0004
267	SLV 6	0.15	20.33	42.73	-0.9924	0.0482	0.0004
267	SLV 7	-0.25	-13.09	27.24	0.3971	-0.1297	-0.0001
267	SLV 8	-0.25	-13.09	27.24	0.3971	-0.1297	-0.0001
267	SLV 9	0.25	21.76	45.31	-1.0585	0.1263	0.0001
267	SLV 10	0.25	21.76	45.31	-1.0585	0.1263	0.0001
267	SLV 11	-0.15	-11.66	29.82	0.331	-0.0517	-0.0003
267	SLV 12	-0.15	-11.66	29.82	0.331	-0.0517	-0.0003
267	SLV 13	0.22	11.74	42.9	-0.6492	0.1551	-0.0003
267	SLV 14	0.22	11.74	42.9	-0.6492	0.1551	-0.0003
267	SLV 15	0.1	1.71	38.26	-0.2324	0.1017	-0.0004
267	SLV 16	0.1	1.71	38.26	-0.2324	0.1017	-0.0004
268	SLU 1	0.02	-4.23	51.54	0.1171	0.0183	-0.0001
268	SLU 2	0.02	-3.57	49.58	0.0968	0.0085	-0.0001
268	SLU 3	0.02	-4.4	52.4	0.1215	0.0191	-0.0001
268	SLU 4	0.02	-4	51.23	0.1093	0.0132	-0.0001
268	SLU 5	0.02	-3.66	49.78	0.0992	0.009	-0.0001
268	SLU 6	0.02	-4.49	52.6	0.1239	0.0196	-0.0001
268	SLU 7	0.02	-4.09	51.43	0.1117	0.0137	-0.0001
268	SLU 8	0.02	-4.42	51.94	0.1219	0.0194	-0.0001
268	SLU 9	0.02	-4.02	50.77	0.1097	0.0135	-0.0001
268	SLU 10	0.02	-4.21	55.45	0.1148	0.0111	-0.0001
268	SLU 11	0.02	-5.04	58.27	0.1395	0.0217	-0.0001
268	SLU 12	0.02	-4.64	57.1	0.1273	0.0158	-0.0001
268	SLU 13	0.02	-4.3	55.66	0.1172	0.0117	-0.0001
268	SLU 14	0.02	-5.13	58.47	0.1419	0.0223	-0.0001
268	SLU 15	0.02	-4.73	57.3	0.1297	0.0164	-0.0001
268	SLU 16	0.02	-5.06	57.81	0.1399	0.0221	-0.0001
268	SLU 17	0.02	-4.66	56.64	0.1277	0.0162	-0.0001
268	SLU 18	0.02	-5.15	59.92	0.1428	0.0221	-0.0001
268	SLU 19	0.02	-4.75	58.75	0.1306	0.0162	-0.0001
268	SLU 20	0.03	-5.24	60.12	0.1452	0.0227	-0.0001
268	SLU 21	0.02	-4.84	58.95	0.133	0.0168	-0.0001
268	SLU 22	0.02	-4.88	57.08	0.1351	0.021	-0.0001
268	SLU 23	0.02	-4.21	55.13	0.1148	0.0112	-0.0001
268	SLU 24	0.02	-5.04	57.94	0.1395	0.0218	-0.0001
268	SLU 25	0.02	-4.64	56.77	0.1273	0.0159	-0.0001
268	SLU 26	0.02	-4.31	55.33	0.1172	0.0118	-0.0001
268	SLU 27	0.02	-5.14	58.15	0.1419	0.0224	-0.0001
268	SLU 28	0.02	-4.74	56.97	0.1297	0.0165	-0.0001
268	SLU 29	0.02	-5.06	57.48	0.1399	0.0222	-0.0001
268	SLU 30	0.02	-4.67	56.31	0.1277	0.0163	-0.0001
268	SLU 31	0.02	-4.85	61	0.1328	0.0138	-0.0001
268	SLU 32	0.03	-5.68	63.82	0.1575	0.0244	-0.0001
268	SLU 33	0.02	-5.28	62.64	0.1453	0.0185	-0.0001
268	SLU 34	0.02	-4.95	61.2	0.1352	0.0144	-0.0001
268	SLU 35	0.03	-5.78	64.02	0.1599	0.025	-0.0001
268	SLU 36	0.02	-5.38	62.85	0.1477	0.0191	-0.0001
268	SLU 37	0.03	-5.71	63.35	0.1579	0.0248	-0.0001
268	SLU 38	0.02	-5.31	62.18	0.1457	0.0189	-0.0001
268	SLU 39	0.03	-5.79	65.47	0.1608	0.0248	-0.0001
268	SLU 40	0.02	-5.4	64.3	0.1486	0.0189	-0.0001
268	SLU 41	0.03	-5.89	65.67	0.1632	0.0254	-0.0001
268	SLU 42	0.03	-5.49	64.5	0.151	0.0195	-0.0001
268	SLU 43	0.03	-5.28	65.1	0.146	0.0229	-0.0001
268	SLU 44	0.02	-4.62	63.14	0.1257	0.013	-0.0001
268	SLU 45	0.03	-5.45	65.96	0.1504	0.0236	-0.0001
268	SLU 46	0.02	-5.05	64.79	0.1383	0.0177	-0.0001
268	SLU 47	0.02	-4.71	63.34	0.1281	0.0136	-0.0001
268	SLU 48	0.03	-5.54	66.16	0.1528	0.0242	-0.0001
268	SLU 49	0.02	-5.14	64.99	0.1407	0.0183	-0.0001
268	SLU 50	0.03	-5.47	65.5	0.1508	0.024	-0.0001
268	SLU 51	0.02	-5.07	64.33	0.1386	0.0181	-0.0001
268	SLU 52	0.02	-5.26	69.01	0.1438	0.0157	-0.0001
268	SLU 53	0.03	-6.09	71.83	0.1685	0.0263	-0.0001
268	SLU 54	0.03	-5.69	70.66	0.1563	0.0204	-0.0001
268	SLU 55	0.02	-5.35	69.22	0.1462	0.0162	-0.0001
268	SLU 56	0.03	-6.18	72.03	0.1709	0.0268	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
268	SLU 57	0.03	-5.78	70.86	0.1587	0.0209	-0.0001
268	SLU 58	0.03	-6.11	71.37	0.1688	0.0266	-0.0001
268	SLU 59	0.03	-5.71	70.2	0.1567	0.0207	-0.0001
268	SLU 60	0.03	-6.2	73.48	0.1718	0.0266	-0.0001
268	SLU 61	0.03	-5.8	72.31	0.1596	0.0207	-0.0001
268	SLU 62	0.03	-6.29	73.68	0.1742	0.0272	-0.0001
268	SLU 63	0.03	-5.89	72.51	0.162	0.0213	-0.0001
268	SLU 64	0.03	-5.93	70.64	0.164	0.0256	-0.0001
268	SLU 65	0.02	-5.26	68.69	0.1437	0.0158	-0.0001
268	SLU 66	0.03	-6.09	71.5	0.1684	0.0263	-0.0001
268	SLU 67	0.03	-5.69	70.33	0.1562	0.0204	-0.0001
268	SLU 68	0.02	-5.36	68.89	0.1461	0.0163	-0.0001
268	SLU 69	0.03	-6.18	71.71	0.1708	0.0269	-0.0001
268	SLU 70	0.03	-5.79	70.53	0.1586	0.021	-0.0001
268	SLU 71	0.03	-6.11	71.04	0.1688	0.0267	-0.0001
268	SLU 72	0.03	-5.71	69.87	0.1566	0.0208	-0.0001
268	SLU 73	0.03	-5.9	74.56	0.1617	0.0184	-0.0001
268	SLU 74	0.03	-6.73	77.38	0.1865	0.029	-0.0001
268	SLU 75	0.03	-6.33	76.2	0.1743	0.0231	-0.0001
268	SLU 76	0.03	-6	74.76	0.1641	0.019	-0.0001
268	SLU 77	0.03	-6.83	77.58	0.1889	0.0296	-0.0001
268	SLU 78	0.03	-6.43	76.41	0.1767	0.0237	-0.0001
268	SLU 79	0.03	-6.75	76.91	0.1868	0.0294	-0.0001
268	SLU 80	0.03	-6.36	75.74	0.1747	0.0235	-0.0001
268	SLU 81	0.03	-6.84	79.03	0.1898	0.0294	-0.0001
268	SLU 82	0.03	-6.44	77.86	0.1776	0.0235	-0.0001
268	SLU 83	0.03	-6.94	79.23	0.1922	0.0299	-0.0001
268	SLU 84	0.03	-6.54	78.06	0.18	0.024	-0.0001
268	SLE RA 1	0.02	-4.42	53.12	0.1222	0.0191	-0.0001
268	SLE RA 2	0.02	-3.97	51.82	0.1087	0.0125	-0.0001
268	SLE RA 3	0.02	-4.53	53.7	0.1252	0.0196	-0.0001
268	SLE RA 4	0.02	-4.26	52.91	0.117	0.0157	-0.0001
268	SLE RA 5	0.02	-4.04	51.95	0.1103	0.0129	-0.0001
268	SLE RA 6	0.02	-4.59	53.83	0.1268	0.02	-0.0001
268	SLE RA 7	0.02	-4.32	53.05	0.1186	0.016	-0.0001
268	SLE RA 8	0.02	-4.54	53.39	0.1254	0.0199	-0.0001
268	SLE RA 9	0.02	-4.28	52.61	0.1173	0.0159	-0.0001
268	SLE RA 10	0.02	-4.4	55.73	0.1207	0.0143	-0.0001
268	SLE RA 11	0.02	-4.95	57.61	0.1372	0.0214	-0.0001
268	SLE RA 12	0.02	-4.69	56.83	0.1291	0.0174	-0.0001
268	SLE RA 13	0.02	-4.46	55.87	0.1223	0.0147	-0.0001
268	SLE RA 14	0.02	-5.02	57.74	0.1388	0.0217	-0.0001
268	SLE RA 15	0.02	-4.75	56.96	0.1307	0.0178	-0.0001
268	SLE RA 16	0.02	-4.97	57.3	0.1374	0.0216	-0.0001
268	SLE RA 17	0.02	-4.7	56.52	0.1293	0.0177	-0.0001
268	SLE RA 18	0.02	-5.03	58.71	0.1394	0.0216	-0.0001
268	SLE RA 19	0.02	-4.76	57.93	0.1313	0.0177	-0.0001
268	SLE RA 20	0.02	-5.09	58.85	0.141	0.022	-0.0001
268	SLE RA 21	0.02	-4.82	58.06	0.1329	0.0181	-0.0001
268	SLE FR 1	0.02	-4.42	53.12	0.1222	0.0191	-0.0001
268	SLE FR 2	0.02	-4.33	52.86	0.1195	0.0178	-0.0001
268	SLE FR 3	0.02	-4.44	53.17	0.1229	0.0192	-0.0001
268	SLE FR 4	0.02	-4.51	54.54	0.1247	0.0185	-0.0001
268	SLE FR 5	0.02	-4.63	54.85	0.128	0.02	-0.0001
268	SLE FR 6	0.02	-4.72	55.92	0.1308	0.0204	-0.0001
268	SLE QP 1	0.02	-4.42	53.12	0.1222	0.0191	-0.0001
268	SLE QP 2	0.02	-4.6	54.8	0.1274	0.0198	-0.0001
268	SLD 1	0.23	-1.56	38.08	0.039	0.2142	-0.0009
268	SLD 2	0.23	-1.56	38.08	0.039	0.2142	-0.0009
268	SLD 3	0.33	-5.18	43.06	0.1457	0.3133	-0.0013
268	SLD 4	0.33	-5.18	43.06	0.1457	0.3133	-0.0013
268	SLD 5	-0.07	1.8	42.23	-0.0611	-0.072	0.0003
268	SLD 6	-0.07	1.8	42.23	-0.0611	-0.072	0.0003
268	SLD 7	0.26	-10.26	58.83	0.2948	0.2581	-0.001
268	SLD 8	0.26	-10.26	58.83	0.2948	0.2581	-0.001
268	SLD 9	-0.22	1.06	50.76	-0.04	-0.2184	0.0009
268	SLD 10	-0.22	1.06	50.76	-0.04	-0.2184	0.0009
268	SLD 11	0.11	-11	67.37	0.3158	0.1117	-0.0004
268	SLD 12	0.11	-11	67.37	0.3158	0.1117	-0.0004
268	SLD 13	-0.28	-4.02	66.53	0.109	-0.2736	0.0011
268	SLD 14	-0.28	-4.02	66.53	0.109	-0.2736	0.0011
268	SLD 15	-0.18	-7.64	71.51	0.2158	-0.1745	0.0007
268	SLD 16	-0.18	-7.64	71.51	0.2158	-0.1745	0.0007
268	SLV 1	0.51	2.51	15.59	-0.0795	0.4849	-0.002
268	SLV 2	0.51	2.51	15.59	-0.0795	0.4849	-0.002
268	SLV 3	0.76	-5.92	27.37	0.1692	0.7378	-0.003
268	SLV 4	0.76	-5.92	27.37	0.1692	0.7378	-0.003
268	SLV 5	-0.21	10.32	25.17	-0.3119	-0.2243	0.0009
268	SLV 6	-0.21	10.32	25.17	-0.3119	-0.2243	0.0009
268	SLV 7	0.63	-17.78	64.44	0.5171	0.6189	-0.0025
268	SLV 8	0.63	-17.78	64.44	0.5171	0.6189	-0.0025
268	SLV 9	-0.58	8.58	45.16	-0.2624	-0.5792	0.0023
268	SLV 10	-0.58	8.58	45.16	-0.2624	-0.5792	0.0023
268	SLV 11	0.26	-19.52	84.43	0.5666	0.264	-0.0011
268	SLV 12	0.26	-19.52	84.43	0.5666	0.264	-0.0011
268	SLV 13	-0.72	-3.28	82.23	0.0856	-0.6982	0.0028
268	SLV 14	-0.72	-3.28	82.23	0.0856	-0.6982	0.0028
268	SLV 15	-0.47	-11.71	94.01	0.3343	-0.4452	0.0018
268	SLV 16	-0.47	-11.71	94.01	0.3343	-0.4452	0.0018
269	SLU 1	-0.21	-2.21	50.43	-0.0248	-0.144	0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
269	SLU 2			-0.19	-1.49	48.21	-0.0487	-0.1306	0.0007
269	SLU 3			-0.21	-2.23	51.59	-0.0263	-0.1479	0.0008
269	SLU 4			-0.2	-1.8	50.26	-0.0406	-0.1398	0.0008
269	SLU 5			-0.2	-1.46	48.84	-0.051	-0.1328	0.0007
269	SLU 6			-0.21	-2.2	52.23	-0.0286	-0.1501	0.0008
269	SLU 7			-0.21	-1.77	50.89	-0.0429	-0.142	0.0008
269	SLU 8			-0.21	-2.15	51.7	-0.0294	-0.1484	0.0008
269	SLU 9			-0.2	-1.71	50.36	-0.0437	-0.1404	0.0008
269	SLU 10			-0.22	-1.79	53.76	-0.0504	-0.1491	0.0008
269	SLU 11			-0.24	-2.54	57.14	-0.028	-0.1665	0.0009
269	SLU 12			-0.23	-2.1	55.81	-0.0423	-0.1584	0.0009
269	SLU 13			-0.22	-1.76	54.39	-0.0527	-0.1513	0.0008
269	SLU 14			-0.24	-2.51	57.78	-0.0303	-0.1687	0.0009
269	SLU 15			-0.23	-2.07	56.44	-0.0446	-0.1606	0.0009
269	SLU 16			-0.24	-2.45	57.25	-0.0311	-0.167	0.0009
269	SLU 17			-0.23	-2.02	55.91	-0.0454	-0.1589	0.0009
269	SLU 18			-0.24	-2.64	58.36	-0.0272	-0.1705	0.0009
269	SLU 19			-0.24	-2.21	57.03	-0.0415	-0.1625	0.0009
269	SLU 20			-0.25	-2.61	58.99	-0.0295	-0.1728	0.0009
269	SLU 21			-0.24	-2.18	57.66	-0.0439	-0.1647	0.0009
269	SLU 22			-0.23	-2.5	55.88	-0.0266	-0.1622	0.0009
269	SLU 23			-0.22	-1.78	53.65	-0.0505	-0.1487	0.0008
269	SLU 24			-0.24	-2.52	57.04	-0.0281	-0.1661	0.0009
269	SLU 25			-0.23	-2.09	55.7	-0.0425	-0.158	0.0009
269	SLU 26			-0.22	-1.75	54.29	-0.0528	-0.1509	0.0008
269	SLU 27			-0.24	-2.49	57.67	-0.0304	-0.1683	0.0009
269	SLU 28			-0.23	-2.06	56.34	-0.0448	-0.1602	0.0009
269	SLU 29			-0.24	-2.44	57.14	-0.0312	-0.1666	0.0009
269	SLU 30			-0.23	-2	55.81	-0.0456	-0.1585	0.0009
269	SLU 31			-0.25	-2.08	59.2	-0.0522	-0.1673	0.0009
269	SLU 32			-0.26	-2.83	62.59	-0.0298	-0.1846	0.001
269	SLU 33			-0.26	-2.39	61.26	-0.0442	-0.1765	0.001
269	SLU 34			-0.25	-2.05	59.84	-0.0545	-0.1695	0.0009
269	SLU 35			-0.27	-2.8	63.22	-0.0321	-0.1868	0.001
269	SLU 36			-0.26	-2.36	61.89	-0.0465	-0.1788	0.001
269	SLU 37			-0.26	-2.74	62.7	-0.0329	-0.1852	0.001
269	SLU 38			-0.26	-2.31	61.36	-0.0473	-0.1771	0.001
269	SLU 39			-0.27	-2.93	63.81	-0.029	-0.1887	0.001
269	SLU 40			-0.26	-2.5	62.47	-0.0434	-0.1806	0.001
269	SLU 41			-0.27	-2.9	64.44	-0.0313	-0.1909	0.001
269	SLU 42			-0.27	-2.47	63.11	-0.0457	-0.1828	0.001
269	SLU 43			-0.26	-2.77	63.7	-0.0316	-0.181	0.001
269	SLU 44			-0.25	-2.05	61.47	-0.0555	-0.1675	0.0009
269	SLU 45			-0.26	-2.79	64.86	-0.0331	-0.1849	0.001
269	SLU 46			-0.26	-2.36	63.52	-0.0474	-0.1768	0.001
269	SLU 47			-0.25	-2.02	62.1	-0.0578	-0.1698	0.0009
269	SLU 48			-0.27	-2.76	65.49	-0.0354	-0.1871	0.001
269	SLU 49			-0.26	-2.33	64.15	-0.0497	-0.179	0.001
269	SLU 50			-0.27	-2.71	64.96	-0.0362	-0.1854	0.001
269	SLU 51			-0.26	-2.28	63.62	-0.0505	-0.1773	0.001
269	SLU 52			-0.27	-2.35	67.02	-0.0572	-0.1861	0.001
269	SLU 53			-0.29	-3.1	70.41	-0.0348	-0.2035	0.0011
269	SLU 54			-0.28	-2.67	69.07	-0.0491	-0.1954	0.0011
269	SLU 55			-0.28	-2.32	67.65	-0.0595	-0.1883	0.001
269	SLU 56			-0.29	-3.07	71.04	-0.0371	-0.2057	0.0011
269	SLU 57			-0.29	-2.64	69.7	-0.0514	-0.1976	0.0011
269	SLU 58			-0.29	-3.01	70.51	-0.0379	-0.204	0.0011
269	SLU 59			-0.28	-2.58	69.17	-0.0522	-0.1959	0.0011
269	SLU 60			-0.3	-3.2	71.63	-0.034	-0.2075	0.0011
269	SLU 61			-0.29	-2.77	70.29	-0.0484	-0.1994	0.0011
269	SLU 62			-0.3	-3.17	72.26	-0.0363	-0.2097	0.0011
269	SLU 63			-0.29	-2.74	70.92	-0.0507	-0.2017	0.0011
269	SLU 64			-0.28	-3.06	69.14	-0.0334	-0.1992	0.0011
269	SLU 65			-0.27	-2.34	66.92	-0.0573	-0.1857	0.001
269	SLU 66			-0.29	-3.08	70.3	-0.0349	-0.2031	0.0011
269	SLU 67			-0.28	-2.65	68.97	-0.0493	-0.195	0.0011
269	SLU 68			-0.28	-2.31	67.55	-0.0596	-0.1879	0.001
269	SLU 69			-0.29	-3.05	70.94	-0.0372	-0.2053	0.0011
269	SLU 70			-0.29	-2.62	69.6	-0.0516	-0.1972	0.0011
269	SLU 71			-0.29	-3	70.41	-0.038	-0.2036	0.0011
269	SLU 72			-0.28	-2.57	69.07	-0.0524	-0.1955	0.0011
269	SLU 73			-0.3	-2.64	72.47	-0.0359	-0.2043	0.0011
269	SLU 74			-0.32	-3.39	75.85	-0.0366	-0.2216	0.0012
269	SLU 75			-0.31	-2.96	74.52	-0.051	-0.2135	0.0012
269	SLU 76			-0.3	-2.61	73.1	-0.0613	-0.2065	0.0011
269	SLU 77			-0.32	-3.36	76.49	-0.0389	-0.2238	0.0012
269	SLU 78			-0.31	-2.93	75.15	-0.0533	-0.2157	0.0012
269	SLU 79			-0.32	-3.3	75.96	-0.0397	-0.2221	0.0012
269	SLU 80			-0.31	-2.87	74.62	-0.0541	-0.2141	0.0012
269	SLU 81			-0.32	-3.49	77.07	-0.0358	-0.2257	0.0012
269	SLU 82			-0.31	-3.06	75.74	-0.0502	-0.2176	0.0012
269	SLU 83			-0.33	-3.46	77.7	-0.0381	-0.2279	0.0012
269	SLU 84			-0.32	-3.03	76.37	-0.0525	-0.2198	0.0012
269	SLE RA 1			-0.21	-2.29	51.99	-0.0253	-0.1492	0.0008
269	SLE RA 2			-0.21	-1.81	50.5	-0.0412	-0.1402	0.0008
269	SLE RA 3			-0.22	-2.31	52.76	-0.0263	-0.1518	0.0008
269	SLE RA 4			-0.21	-2.02	51.87	-0.0359	-0.1464	0.0008
269	SLE RA 5			-0.21	-1.79	50.93	-0.0428	-0.1417	0.0008
269	SLE RA 6			-0.22	-2.29	53.18	-0.0278	-0.1533	0.0008
269	SLE RA 7			-0.21	-2	52.29	-0.0374	-0.1479	0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
269	SLE RA 8			-0.22	-2.25	52.83	-0.0284	-0.1522	0.0008
269	SLE RA 9			-0.21	-1.96	51.94	-0.0379	-0.1468	0.0008
269	SLE RA 10			-0.22	-2.01	54.21	-0.0424	-0.1526	0.0008
269	SLE RA 11			-0.23	-2.51	56.46	-0.0274	-0.1642	0.0009
269	SLE RA 12			-0.23	-2.22	55.57	-0.037	-0.1588	0.0009
269	SLE RA 13			-0.22	-1.99	54.63	-0.0439	-0.1541	0.0009
269	SLE RA 14			-0.24	-2.49	56.88	-0.029	-0.1657	0.0009
269	SLE RA 15			-0.23	-2.2	55.99	-0.0385	-0.1603	0.0009
269	SLE RA 16			-0.24	-2.45	56.53	-0.0295	-0.1645	0.0009
269	SLE RA 17			-0.23	-2.16	55.64	-0.0391	-0.1591	0.0009
269	SLE RA 18			-0.24	-2.58	57.28	-0.0269	-0.1669	0.0009
269	SLE RA 19			-0.23	-2.29	56.39	-0.0365	-0.1615	0.0009
269	SLE RA 20			-0.24	-2.56	57.7	-0.0284	-0.1684	0.0009
269	SLE RA 21			-0.24	-2.27	56.81	-0.038	-0.163	0.0009
269	SLE FR 1			-0.21	-2.29	51.99	-0.0253	-0.1492	0.0008
269	SLE FR 2			-0.21	-2.19	51.69	-0.0285	-0.1474	0.0008
269	SLE FR 3			-0.21	-2.28	52.16	-0.0259	-0.1498	0.0008
269	SLE FR 4			-0.22	-2.28	53.28	-0.029	-0.1527	0.0008
269	SLE FR 5			-0.22	-2.37	53.74	-0.0264	-0.1551	0.0008
269	SLE FR 6			-0.23	-2.43	54.63	-0.0261	-0.1581	0.0009
269	SLE QP 1			-0.21	-2.29	51.99	-0.0253	-0.1492	0.0008
269	SLE QP 2			-0.22	-2.38	53.58	-0.0258	-0.1545	0.0008
269	SLD 1			-0.45	0.95	65.79	-0.1652	0.1343	0.0016
269	SLD 2			-0.45	0.95	65.79	-0.1652	0.1343	0.0016
269	SLD 3			-0.58	-3.01	70.56	0.0033	0.0276	0.0022
269	SLD 4			-0.58	-3.01	70.56	0.0033	0.0276	0.0022
269	SLD 5			-0.08	4.63	50.01	-0.3233	0.0939	0.0003
269	SLD 6			-0.08	4.63	50.01	-0.3233	0.0939	0.0003
269	SLD 7			-0.54	-8.58	65.9	0.2386	-0.2616	0.002
269	SLD 8			-0.54	-8.58	65.9	0.2386	-0.2616	0.002
269	SLD 9			0.1	3.83	41.25	-0.2901	-0.0474	-0.0004
269	SLD 10			0.1	3.83	41.25	-0.2901	-0.0474	-0.0004
269	SLD 11			-0.36	-9.39	57.14	0.2717	-0.4029	0.0014
269	SLD 12			-0.36	-9.39	57.14	0.2717	-0.4029	0.0014
269	SLD 13			0.14	-1.74	36.6	-0.0549	-0.3367	-0.0005
269	SLD 14			0.14	-1.74	36.6	-0.0549	-0.3367	-0.0005
269	SLD 15			0	-5.7	41.36	0.1137	-0.4433	0
269	SLD 16			0	-5.7	41.36	0.1137	-0.4433	0
269	SLV 1			-0.74	5.53	82.13	-0.3579	0.5387	0.0027
269	SLV 2			-0.74	5.53	82.13	-0.3579	0.5387	0.0027
269	SLV 3			-1.08	-3.74	93.41	0.0349	0.275	0.004
269	SLV 4			-1.08	-3.74	93.41	0.0349	0.275	0.004
269	SLV 5			0.13	14.05	45.04	-0.7213	0.4533	-0.0006
269	SLV 6			0.13	14.05	45.04	-0.7213	0.4533	-0.0006
269	SLV 7			-0.99	-16.84	82.63	0.5883	-0.4256	0.0038
269	SLV 8			-0.99	-16.84	82.63	0.5883	-0.4256	0.0038
269	SLV 9			0.55	12.09	24.52	-0.6398	0.1165	-0.0021
269	SLV 10			0.55	12.09	24.52	-0.6398	0.1165	-0.0021
269	SLV 11			-0.58	-18.8	62.12	0.6697	-0.7624	0.0023
269	SLV 12			-0.58	-18.8	62.12	0.6697	-0.7624	0.0023
269	SLV 13			0.64	-1.01	13.74	-0.0865	-0.584	-0.0023
269	SLV 14			0.64	-1.01	13.74	-0.0865	-0.584	-0.0023
269	SLV 15			0.3	-10.28	25.02	0.3064	-0.8477	-0.001
269	SLV 16			0.3	-10.28	25.02	0.3064	-0.8477	-0.001
270	SLU 1			0	1.22	49.04	-0.02	0.0021	0
270	SLU 2			0	1.33	48.57	-0.0232	0.0023	0
270	SLU 3			0	1.24	51.55	-0.0192	0.0023	0
270	SLU 4			0	1.3	51.27	-0.021	0.0024	0
270	SLU 5			0	1.35	50.7	-0.0226	0.0025	0
270	SLU 6			0	1.26	53.69	-0.0186	0.0025	0
270	SLU 7			0	1.32	53.41	-0.0205	0.0026	0
270	SLU 8			0	1.26	53.32	-0.0189	0.0025	0
270	SLU 9			0	1.33	53.03	-0.0208	0.0026	0
270	SLU 10			0	1.34	56.6	-0.0211	0.0027	0
270	SLU 11			0.01	1.25	59.58	-0.0171	0.0026	0
270	SLU 12			0.01	1.31	59.3	-0.019	0.0028	0
270	SLU 13			0	1.36	58.73	-0.0205	0.0028	0
270	SLU 14			0.01	1.27	61.72	-0.0165	0.0028	0
270	SLU 15			0.01	1.33	61.43	-0.0184	0.0029	0
270	SLU 16			0.01	1.28	61.35	-0.0168	0.0028	0
270	SLU 17			0.01	1.34	61.06	-0.0187	0.0029	0
270	SLU 18			0	1.24	60.51	-0.0171	0.0026	0
270	SLU 19			0.01	1.31	60.23	-0.0189	0.0027	0
270	SLU 20			0.01	1.26	62.65	-0.0165	0.0028	0
270	SLU 21			0.01	1.33	62.36	-0.0184	0.0029	0
270	SLU 22			0	1.25	57.14	-0.0181	0.0025	0
270	SLU 23			0	1.36	56.67	-0.0213	0.0027	0
270	SLU 24			0.01	1.26	59.65	-0.0173	0.0027	0
270	SLU 25			0.01	1.33	59.37	-0.0192	0.0028	0
270	SLU 26			0.01	1.38	58.8	-0.0207	0.0029	0
270	SLU 27			0.01	1.28	61.79	-0.0167	0.0029	0
270	SLU 28			0.01	1.35	61.51	-0.0186	0.003	0
270	SLU 29			0.01	1.29	61.42	-0.017	0.0029	0
270	SLU 30			0.01	1.35	61.13	-0.0189	0.003	0
270	SLU 31			0.01	1.37	64.7	-0.0192	0.003	0
270	SLU 32			0.01	1.28	67.68	-0.0152	0.003	0
270	SLU 33			0.01	1.34	67.4	-0.0171	0.0031	0
270	SLU 34			0.01	1.39	66.83	-0.0186	0.0032	0
270	SLU 35			0.01	1.3	69.82	-0.0146	0.0032	0
270	SLU 36			0.01	1.36	69.53	-0.0165	0.0033	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
270	SLU 37	0.01	1.3	69.45	-0.0149	0.0032	0
270	SLU 38	0.01	1.37	69.16	-0.0168	0.0033	0
270	SLU 39	0.01	1.27	68.61	-0.0152	0.0029	0
270	SLU 40	0.01	1.33	68.33	-0.0171	0.0031	0
270	SLU 41	0.01	1.29	70.75	-0.0146	0.0031	0
270	SLU 42	0.01	1.35	70.46	-0.0165	0.0033	0
270	SLU 43	0.01	1.58	60.98	-0.0267	0.0026	0
270	SLU 44	0.01	1.69	60.5	-0.0298	0.0029	0
270	SLU 45	0.01	1.59	63.49	-0.0258	0.0028	0
270	SLU 46	0.01	1.66	63.2	-0.0277	0.003	0
270	SLU 47	0.01	1.71	62.64	-0.0292	0.003	0
270	SLU 48	0.01	1.61	65.63	-0.0252	0.003	0
270	SLU 49	0.01	1.68	65.34	-0.0271	0.0031	0
270	SLU 50	0.01	1.62	65.26	-0.0255	0.003	0
270	SLU 51	0.01	1.68	64.97	-0.0274	0.0031	0
270	SLU 52	0.01	1.7	68.53	-0.0277	0.0032	0
270	SLU 53	0.01	1.61	71.52	-0.0237	0.0031	0
270	SLU 54	0.01	1.67	71.23	-0.0256	0.0033	0
270	SLU 55	0.01	1.72	70.67	-0.0272	0.0034	0
270	SLU 56	0.01	1.63	73.66	-0.0232	0.0033	0
270	SLU 57	0.01	1.69	73.37	-0.025	0.0035	0
270	SLU 58	0.01	1.63	73.28	-0.0235	0.0033	0
270	SLU 59	0.01	1.7	73	-0.0253	0.0035	0
270	SLU 60	0.01	1.6	72.45	-0.0237	0.0031	0
270	SLU 61	0.01	1.66	72.16	-0.0256	0.0032	0
270	SLU 62	0.01	1.62	74.59	-0.0231	0.0033	0
270	SLU 63	0.01	1.68	74.3	-0.025	0.0034	0
270	SLU 64	0.01	1.61	69.08	-0.0248	0.003	0
270	SLU 65	0.01	1.71	68.6	-0.0279	0.0032	0
270	SLU 66	0.01	1.62	71.59	-0.0239	0.0032	0
270	SLU 67	0.01	1.69	71.3	-0.0258	0.0033	0
270	SLU 68	0.01	1.73	70.74	-0.0274	0.0034	0
270	SLU 69	0.01	1.64	73.73	-0.0234	0.0034	0
270	SLU 70	0.01	1.7	73.44	-0.0252	0.0035	0
270	SLU 71	0.01	1.65	73.36	-0.0237	0.0034	0
270	SLU 72	0.01	1.71	73.07	-0.0255	0.0035	0
270	SLU 73	0.01	1.73	76.63	-0.0258	0.0035	0
270	SLU 74	0.01	1.63	79.62	-0.0218	0.0035	0
270	SLU 75	0.01	1.7	79.33	-0.0237	0.0036	0
270	SLU 76	0.01	1.75	78.77	-0.0253	0.0037	0
270	SLU 77	0.01	1.65	81.76	-0.0213	0.0037	0
270	SLU 78	0.01	1.72	81.47	-0.0232	0.0038	0
270	SLU 79	0.01	1.66	81.38	-0.0216	0.0037	0
270	SLU 80	0.01	1.72	81.1	-0.0235	0.0038	0
270	SLU 81	0.01	1.63	80.55	-0.0218	0.0035	0
270	SLU 82	0.01	1.69	80.26	-0.0237	0.0036	0
270	SLU 83	0.01	1.65	82.69	-0.0213	0.0036	0
270	SLU 84	0.01	1.71	82.4	-0.0231	0.0038	0
270	SLE RA 1	0	1.23	51.36	-0.0195	0.0022	0
270	SLE RA 2	0	1.3	51.04	-0.0216	0.0024	0
270	SLE RA 3	0	1.24	53.03	-0.0189	0.0024	0
270	SLE RA 4	0	1.28	52.84	-0.0202	0.0024	0
270	SLE RA 5	0	1.32	52.47	-0.0212	0.0025	0
270	SLE RA 6	0	1.25	54.46	-0.0185	0.0025	0
270	SLE RA 7	0	1.3	54.27	-0.0198	0.0026	0
270	SLE RA 8	0	1.26	54.21	-0.0187	0.0025	0
270	SLE RA 9	0	1.3	54.02	-0.02	0.0026	0
270	SLE RA 10	0	1.31	56.39	-0.0202	0.0026	0
270	SLE RA 11	0	1.25	58.38	-0.0175	0.0026	0
270	SLE RA 12	0	1.29	58.19	-0.0188	0.0027	0
270	SLE RA 13	0	1.32	57.82	-0.0198	0.0027	0
270	SLE RA 14	0.01	1.26	59.81	-0.0171	0.0027	0
270	SLE RA 15	0.01	1.3	59.62	-0.0184	0.0028	0
270	SLE RA 16	0.01	1.27	59.56	-0.0173	0.0027	0
270	SLE RA 17	0.01	1.31	59.37	-0.0186	0.0028	0
270	SLE RA 18	0	1.24	59	-0.0175	0.0025	0
270	SLE RA 19	0	1.29	58.81	-0.0188	0.0026	0
270	SLE RA 20	0.01	1.26	60.43	-0.0171	0.0027	0
270	SLE RA 21	0.01	1.3	60.24	-0.0184	0.0027	0
270	SLE FR 1	0	1.23	51.36	-0.0195	0.0022	0
270	SLE FR 2	0	1.25	51.3	-0.0199	0.0023	0
270	SLE FR 3	0	1.24	51.93	-0.0193	0.0023	0
270	SLE FR 4	0	1.25	53.59	-0.0193	0.0024	0
270	SLE FR 5	0	1.24	54.22	-0.0187	0.0024	0
270	SLE FR 6	0	1.24	55.18	-0.0185	0.0024	0
270	SLE QP 1	0	1.23	51.36	-0.0195	0.0022	0
270	SLE QP 2	0	1.23	53.65	-0.0189	0.0023	0
270	SLD 1	0.24	4.56	54.72	-0.1205	0.1893	0.0001
270	SLD 2	0.24	4.56	54.72	-0.1205	0.1893	0.0001
270	SLD 3	0.2	0.68	57.75	-0.0004	0.2354	0.0001
270	SLD 4	0.2	0.68	57.75	-0.0004	0.2354	0.0001
270	SLD 5	0.15	8.12	49.37	-0.2314	-0.0115	0
270	SLD 6	0.15	8.12	49.37	-0.2314	-0.0115	0
270	SLD 7	-0.01	-4.81	59.49	0.1687	0.1422	0.0001
270	SLD 8	-0.01	-4.81	59.49	0.1687	0.1422	0.0001
270	SLD 9	0.02	7.28	47.82	-0.2065	-0.1376	-0.0001
270	SLD 10	0.02	7.28	47.82	-0.2065	-0.1376	-0.0001
270	SLD 11	-0.14	-5.65	57.94	0.1936	0.0162	0
270	SLD 12	-0.14	-5.65	57.94	0.1936	0.0162	0
270	SLD 13	-0.19	1.79	49.55	-0.0374	-0.2308	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
270	SLD 14			-0.19	1.79	49.55	-0.0374	-0.2308	-0.0001
270	SLD 15			-0.23	-2.09	52.59	0.0827	-0.1847	-0.0001
270	SLD 16			-0.23	-2.09	52.59	0.0827	-0.1847	-0.0001
270	SLV 1			0.59	9.11	56.11	-0.2596	0.4727	0.0002
270	SLV 2			0.59	9.11	56.11	-0.2596	0.4727	0.0002
270	SLV 3			0.47	0	63.34	0.0228	0.5894	0.0003
270	SLV 4			0.47	0	63.34	0.0228	0.5894	0.0003
270	SLV 5			0.35	17.43	43.43	-0.5193	-0.0336	0
270	SLV 6			0.35	17.43	43.43	-0.5193	-0.0336	0
270	SLV 7			-0.03	-12.96	67.52	0.4218	0.3555	0.0002
270	SLV 8			-0.03	-12.96	67.52	0.4218	0.3555	0.0002
270	SLV 9			0.04	15.43	39.79	-0.4596	-0.3508	-0.0002
270	SLV 10			0.04	15.43	39.79	-0.4596	-0.3508	-0.0002
270	SLV 11			-0.35	-14.96	63.88	0.4815	0.0382	0
270	SLV 12			-0.35	-14.96	63.88	0.4815	0.0382	0
270	SLV 13			-0.46	2.47	43.97	-0.0606	-0.5848	-0.0003
270	SLV 14			-0.46	2.47	43.97	-0.0606	-0.5848	-0.0003
270	SLV 15			-0.58	-6.64	51.19	0.2218	-0.4681	-0.0002
270	SLV 16			-0.58	-6.64	51.19	0.2218	-0.4681	-0.0002
271	SLU 1			0	-4.65	48.69	0.1825	-0.0032	0
271	SLU 2			-0.01	-4.51	48.22	0.1768	-0.0034	0
271	SLU 3			-0.01	-4.77	50.36	0.1871	-0.0032	0
271	SLU 4			-0.01	-4.69	50.08	0.1836	-0.0033	0
271	SLU 5			-0.01	-4.54	49.28	0.1773	-0.0033	0
271	SLU 6			-0.01	-4.81	51.42	0.1875	-0.0032	0
271	SLU 7			-0.01	-4.72	51.14	0.1841	-0.0033	0
271	SLU 8			-0.01	-4.71	50.82	0.1834	-0.0031	0
271	SLU 9			-0.01	-4.63	50.53	0.18	-0.0033	0
271	SLU 10			-0.01	-5.47	56.51	0.2151	-0.004	0
271	SLU 11			-0.01	-5.74	58.65	0.2254	-0.0039	0
271	SLU 12			-0.01	-5.66	58.37	0.2219	-0.004	0
271	SLU 13			-0.01	-5.51	57.57	0.2155	-0.004	0
271	SLU 14			-0.01	-5.77	59.71	0.2258	-0.0039	0
271	SLU 15			-0.01	-5.69	59.43	0.2224	-0.004	0
271	SLU 16			-0.01	-5.67	59.1	0.2217	-0.0038	0
271	SLU 17			-0.01	-5.59	58.82	0.2183	-0.0039	0
271	SLU 18			-0.01	-6.03	60.53	0.2372	-0.0042	0
271	SLU 19			-0.01	-5.94	60.25	0.2338	-0.0043	0
271	SLU 20			-0.01	-6.06	61.59	0.2377	-0.0041	0
271	SLU 21			-0.01	-5.97	61.31	0.2342	-0.0042	0
271	SLU 22			-0.01	-5.49	56.52	0.2158	-0.0038	0
271	SLU 23			-0.01	-5.36	56.04	0.2101	-0.0039	0
271	SLU 24			-0.01	-5.62	58.18	0.2203	-0.0038	0
271	SLU 25			-0.01	-5.54	57.9	0.2169	-0.0039	0
271	SLU 26			-0.01	-5.39	57.1	0.2105	-0.0039	0
271	SLU 27			-0.01	-5.65	59.25	0.2208	-0.0038	0
271	SLU 28			-0.01	-5.57	58.96	0.2173	-0.0039	0
271	SLU 29			-0.01	-5.55	58.64	0.2167	-0.0037	0
271	SLU 30			-0.01	-5.47	58.35	0.2132	-0.0038	0
271	SLU 31			-0.01	-6.32	64.33	0.2484	-0.0046	0
271	SLU 32			-0.01	-6.59	66.47	0.2586	-0.0045	0
271	SLU 33			-0.01	-6.5	66.19	0.2552	-0.0046	0
271	SLU 34			-0.01	-6.35	65.39	0.2488	-0.0046	0
271	SLU 35			-0.01	-6.62	67.53	0.2591	-0.0045	0
271	SLU 36			-0.01	-6.53	67.25	0.2556	-0.0046	0
271	SLU 37			-0.01	-6.52	66.92	0.255	-0.0044	0
271	SLU 38			-0.01	-6.44	66.64	0.2515	-0.0045	0
271	SLU 39			-0.01	-6.87	68.35	0.2705	-0.0047	0
271	SLU 40			-0.01	-6.79	68.07	0.2671	-0.0048	0
271	SLU 41			-0.01	-6.9	69.41	0.2709	-0.0047	0
271	SLU 42			-0.01	-6.82	69.13	0.2675	-0.0048	0
271	SLU 43			-0.01	-5.75	60.62	0.2259	-0.0039	0
271	SLU 44			-0.01	-5.61	60.15	0.2202	-0.0041	0
271	SLU 45			-0.01	-5.88	62.29	0.2304	-0.004	0
271	SLU 46			-0.01	-5.8	62.01	0.227	-0.0041	0
271	SLU 47			-0.01	-5.64	61.21	0.2206	-0.0041	0
271	SLU 48			-0.01	-5.91	63.35	0.2309	-0.004	0
271	SLU 49			-0.01	-5.83	63.07	0.2274	-0.0041	0
271	SLU 50			-0.01	-5.81	62.74	0.2268	-0.0039	0
271	SLU 51			-0.01	-5.73	62.46	0.2233	-0.004	0
271	SLU 52			-0.01	-6.58	68.43	0.2585	-0.0048	0
271	SLU 53			-0.01	-6.84	70.58	0.2687	-0.0047	0
271	SLU 54			-0.01	-6.76	70.29	0.2653	-0.0048	0
271	SLU 55			-0.01	-6.61	69.5	0.2589	-0.0048	0
271	SLU 56			-0.01	-6.88	71.64	0.2691	-0.0046	0
271	SLU 57			-0.01	-6.79	71.35	0.2657	-0.0048	0
271	SLU 58			-0.01	-6.78	71.03	0.2651	-0.0046	0
271	SLU 59			-0.01	-6.7	70.75	0.2616	-0.0047	0
271	SLU 60			-0.01	-7.13	72.46	0.2806	-0.0049	0
271	SLU 61			-0.01	-7.05	72.17	0.2772	-0.005	0
271	SLU 62			-0.01	-7.16	73.52	0.281	-0.0049	0
271	SLU 63			-0.01	-7.08	73.24	0.2776	-0.005	0
271	SLU 64			-0.01	-6.6	68.44	0.2592	-0.0045	0
271	SLU 65			-0.01	-6.46	67.97	0.2534	-0.0047	0
271	SLU 66			-0.01	-6.73	70.11	0.2637	-0.0046	0
271	SLU 67			-0.01	-6.64	69.83	0.2603	-0.0047	0
271	SLU 68			-0.01	-6.49	69.03	0.2539	-0.0047	0
271	SLU 69			-0.01	-6.76	71.17	0.2641	-0.0045	0
271	SLU 70			-0.01	-6.67	70.89	0.2607	-0.0047	0
271	SLU 71			-0.01	-6.66	70.56	0.26	-0.0045	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
271	SLU 72	-0.01	-6.58	70.28	0.2566	-0.0046	0
271	SLU 73	-0.01	-7.42	76.26	0.2917	-0.0054	0
271	SLU 74	-0.01	-7.69	78.4	0.302	-0.0052	0
271	SLU 75	-0.01	-7.61	78.11	0.2985	-0.0054	0
271	SLU 76	-0.01	-7.46	77.32	0.2922	-0.0054	0
271	SLU 77	-0.01	-7.72	79.46	0.3024	-0.0052	0
271	SLU 78	-0.01	-7.64	79.18	0.299	-0.0053	0
271	SLU 79	-0.01	-7.62	78.85	0.2983	-0.0052	0
271	SLU 80	-0.01	-7.54	78.57	0.2949	-0.0053	0
271	SLU 81	-0.01	-7.98	80.28	0.3139	-0.0055	0
271	SLU 82	-0.01	-7.89	80	0.3104	-0.0056	0
271	SLU 83	-0.01	-8.01	81.34	0.3143	-0.0055	0
271	SLU 84	-0.01	-7.92	81.06	0.3109	-0.0056	0
271	SLE RA 1	-0.01	-4.89	50.93	0.192	-0.0033	0
271	SLE RA 2	-0.01	-4.8	50.61	0.1882	-0.0035	0
271	SLE RA 3	-0.01	-4.97	52.04	0.1951	-0.0034	0
271	SLE RA 4	-0.01	-4.92	51.85	0.1928	-0.0034	0
271	SLE RA 5	-0.01	-4.82	51.32	0.1885	-0.0035	0
271	SLE RA 6	-0.01	-4.99	52.75	0.1953	-0.0034	0
271	SLE RA 7	-0.01	-4.94	52.56	0.1931	-0.0034	0
271	SLE RA 8	-0.01	-4.93	52.34	0.1926	-0.0033	0
271	SLE RA 9	-0.01	-4.87	52.15	0.1903	-0.0034	0
271	SLE RA 10	-0.01	-5.44	56.14	0.2138	-0.0039	0
271	SLE RA 11	-0.01	-5.62	57.57	0.2206	-0.0038	0
271	SLE RA 12	-0.01	-5.56	57.38	0.2183	-0.0039	0
271	SLE RA 13	-0.01	-5.46	56.85	0.214	-0.0039	0
271	SLE RA 14	-0.01	-5.64	58.27	0.2209	-0.0038	0
271	SLE RA 15	-0.01	-5.58	58.08	0.2186	-0.0039	0
271	SLE RA 16	-0.01	-5.57	57.87	0.2181	-0.0038	0
271	SLE RA 17	-0.01	-5.52	57.68	0.2159	-0.0038	0
271	SLE RA 18	-0.01	-5.81	58.82	0.2285	-0.004	0
271	SLE RA 19	-0.01	-5.75	58.63	0.2262	-0.0041	0
271	SLE RA 20	-0.01	-5.83	59.53	0.2288	-0.004	0
271	SLE RA 21	-0.01	-5.77	59.34	0.2265	-0.0041	0
271	SLE FR 1	-0.01	-4.89	50.93	0.192	-0.0033	0
271	SLE FR 2	-0.01	-4.87	50.87	0.1913	-0.0034	0
271	SLE FR 3	-0.01	-4.9	51.21	0.1922	-0.0033	0
271	SLE FR 4	-0.01	-5.15	53.23	0.2022	-0.0036	0
271	SLE FR 5	-0.01	-5.17	53.58	0.2031	-0.0035	0
271	SLE FR 6	-0.01	-5.35	54.87	0.2103	-0.0037	0
271	SLE QP 1	-0.01	-4.89	50.93	0.192	-0.0033	0
271	SLE QP 2	-0.01	-5.16	53.3	0.203	-0.0035	0
271	SLD 1	0.22	-5.45	54.27	0.2128	0.1901	-0.0008
271	SLD 2	0.22	-5.45	54.27	0.2128	0.1901	-0.0008
271	SLD 3	0.18	-9.37	64.34	0.3898	0.1604	-0.0007
271	SLD 4	0.18	-9.37	64.34	0.3898	0.1604	-0.0007
271	SLD 5	0.12	0.69	38.31	-0.0626	0.0996	-0.0004
271	SLD 6	0.12	0.69	38.31	-0.0626	0.0996	-0.0004
271	SLD 7	-0.01	-12.37	71.89	0.5275	0.0006	0
271	SLD 8	-0.01	-12.37	71.89	0.5275	0.0006	0
271	SLD 9	0	2.04	34.7	-0.1216	-0.0077	0
271	SLD 10	0	2.04	34.7	-0.1216	-0.0077	0
271	SLD 11	-0.13	-11.02	68.28	0.4686	-0.1066	0.0005
271	SLD 12	-0.13	-11.02	68.28	0.4686	-0.1066	0.0005
271	SLD 13	-0.19	-0.96	42.25	0.0161	-0.1674	0.0007
271	SLD 14	-0.19	-0.96	42.25	0.0161	-0.1674	0.0007
271	SLD 15	-0.23	-4.88	52.32	0.1932	-0.1971	0.0009
271	SLD 16	-0.23	-4.88	52.32	0.1932	-0.1971	0.0009
271	SLV 1	0.55	-5.84	55.53	0.2262	0.484	-0.0021
271	SLV 2	0.55	-5.84	55.53	0.2262	0.484	-0.0021
271	SLV 3	0.46	-15.08	79.35	0.644	0.4093	-0.0017
271	SLV 4	0.46	-15.08	79.35	0.644	0.4093	-0.0017
271	SLV 5	0.31	8.65	17.84	-0.4237	0.256	-0.0011
271	SLV 6	0.31	8.65	17.84	-0.4237	0.256	-0.0011
271	SLV 7	-0.01	-22.16	97.23	0.969	0.0071	0
271	SLV 8	-0.01	-22.16	97.23	0.969	0.0071	0
271	SLV 9	0	11.83	9.36	-0.563	-0.0141	0
271	SLV 10	0	11.83	9.36	-0.563	-0.0141	0
271	SLV 11	-0.32	-18.98	88.75	0.8297	-0.263	0.0012
271	SLV 12	-0.32	-18.98	88.75	0.8297	-0.263	0.0012
271	SLV 13	-0.47	4.75	27.24	-0.2381	-0.4164	0.0018
271	SLV 14	-0.47	4.75	27.24	-0.2381	-0.4164	0.0018
271	SLV 15	-0.56	-4.49	51.06	0.1797	-0.491	0.0021
271	SLV 16	-0.56	-4.49	51.06	0.1797	-0.491	0.0021
272	SLU 1	0	0.01	35.46	0.0321	-0.0011	0
272	SLU 2	0	0.01	35.45	0.032	-0.0011	0
272	SLU 3	0	-0.2	35.56	0.0427	-0.001	0
272	SLU 4	0	-0.2	35.56	0.0427	-0.001	0
272	SLU 5	0	-0.24	34.92	0.0442	-0.001	0
272	SLU 6	0	-0.45	35.04	0.0549	-0.0009	0
272	SLU 7	0	-0.45	35.03	0.0548	-0.0009	0
272	SLU 8	0	-0.49	34.41	0.0564	-0.0008	0
272	SLU 9	0	-0.49	34.4	0.0564	-0.0008	0
272	SLU 10	0	0.02	41.22	0.0365	-0.0009	0
272	SLU 11	0	-0.19	41.34	0.0472	-0.0008	0
272	SLU 12	0	-0.19	41.33	0.0472	-0.0008	0
272	SLU 13	0	-0.23	40.7	0.0487	-0.0008	0
272	SLU 14	0	-0.44	40.81	0.0594	-0.0007	0
272	SLU 15	0	-0.44	40.81	0.0594	-0.0007	0
272	SLU 16	0	-0.48	40.18	0.061	-0.0006	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
272	SLU 17		0	-0.48	40.18	0.0609	-0.0006	0
272	SLU 18		0	0.02	43.71	0.0386	-0.0008	0
272	SLU 19		0	0.02	43.7	0.0385	-0.0008	0
272	SLU 20		0	-0.23	43.18	0.0507	-0.0007	0
272	SLU 21		0	-0.23	43.18	0.0507	-0.0007	0
272	SLU 22		0	-0.1	40.44	0.0416	-0.001	0
272	SLU 23		0	-0.1	40.43	0.0415	-0.001	0
272	SLU 24		0	-0.3	40.55	0.0522	-0.0009	0
272	SLU 25		0	-0.3	40.54	0.0522	-0.0009	0
272	SLU 26		0	-0.35	39.91	0.0537	-0.0009	0
272	SLU 27		0	-0.55	40.03	0.0644	-0.0008	0
272	SLU 28		0	-0.55	40.02	0.0644	-0.0008	0
272	SLU 29		0	-0.59	39.4	0.066	-0.0007	0
272	SLU 30		0	-0.6	39.39	0.0659	-0.0007	0
272	SLU 31		0	-0.09	46.21	0.0461	-0.0008	0
272	SLU 32		0	-0.29	46.33	0.0568	-0.0007	0
272	SLU 33		0	-0.29	46.32	0.0567	-0.0007	0
272	SLU 34		0	-0.34	45.69	0.0583	-0.0007	0
272	SLU 35		0	-0.54	45.8	0.069	-0.0006	0
272	SLU 36		0	-0.54	45.8	0.0689	-0.0006	0
272	SLU 37		0	-0.58	45.17	0.0705	-0.0005	0
272	SLU 38		0	-0.58	45.17	0.0705	-0.0005	0
272	SLU 39		0	-0.08	48.69	0.0481	-0.0007	0
272	SLU 40		0	-0.08	48.69	0.0481	-0.0007	0
272	SLU 41		0	-0.33	48.17	0.0603	-0.0005	0
272	SLU 42		0	-0.33	48.16	0.0602	-0.0006	0
272	SLU 43		0	0.04	44.38	0.0384	-0.0015	0
272	SLU 44		0	0.04	44.37	0.0384	-0.0015	0
272	SLU 45		0	-0.16	44.49	0.0491	-0.0014	0
272	SLU 46		0	-0.16	44.48	0.049	-0.0014	0
272	SLU 47		0	-0.21	43.85	0.0505	-0.0014	0
272	SLU 48		0	-0.41	43.97	0.0612	-0.0013	0
272	SLU 49		0	-0.41	43.96	0.0612	-0.0013	0
272	SLU 50		0	-0.46	43.34	0.0628	-0.0012	0
272	SLU 51		0	-0.46	43.33	0.0627	-0.0012	0
272	SLU 52		0	0.05	50.15	0.0429	-0.0013	0
272	SLU 53		0	-0.15	50.26	0.0536	-0.0012	0
272	SLU 54		0	-0.15	50.26	0.0536	-0.0012	0
272	SLU 55		0	-0.2	49.63	0.0551	-0.0012	0
272	SLU 56		0	-0.4	49.74	0.0658	-0.0011	0
272	SLU 57		0	-0.4	49.74	0.0657	-0.0011	0
272	SLU 58		0	-0.44	49.11	0.0673	-0.001	0
272	SLU 59		0	-0.45	49.11	0.0673	-0.001	0
272	SLU 60		0	0.06	52.63	0.0449	-0.0012	0
272	SLU 61		0	0.06	52.63	0.0449	-0.0012	0
272	SLU 62		0	-0.19	52.11	0.0571	-0.001	0
272	SLU 63		0	-0.19	52.1	0.057	-0.0011	0
272	SLU 64		0	-0.06	49.37	0.048	-0.0013	0
272	SLU 65		0	-0.06	49.36	0.0479	-0.0014	0
272	SLU 66		0	-0.26	49.48	0.0586	-0.0013	0
272	SLU 67		0	-0.26	49.47	0.0586	-0.0013	0
272	SLU 68		0	-0.31	48.84	0.0601	-0.0012	0
272	SLU 69		0	-0.51	48.95	0.0708	-0.0011	0
272	SLU 70		0	-0.51	48.95	0.0707	-0.0012	0
272	SLU 71		0	-0.56	48.32	0.0723	-0.0011	0
272	SLU 72		0	-0.56	48.32	0.0723	-0.0011	0
272	SLU 73		0	-0.05	55.14	0.0524	-0.0012	0
272	SLU 74		0	-0.25	55.25	0.0631	-0.0011	0
272	SLU 75		0	-0.25	55.25	0.0631	-0.0011	0
272	SLU 76		0	-0.3	54.61	0.0646	-0.001	0
272	SLU 77		0	-0.5	54.73	0.0753	-0.0009	0
272	SLU 78		0	-0.5	54.72	0.0753	-0.001	0
272	SLU 79		0	-0.55	54.1	0.0769	-0.0009	0
272	SLU 80		0	-0.55	54.09	0.0768	-0.0009	0
272	SLU 81		0	-0.04	57.62	0.0545	-0.001	0
272	SLU 82		0	-0.04	57.62	0.0544	-0.0011	0
272	SLU 83		0	-0.29	57.1	0.0666	-0.0009	0
272	SLU 84		0	-0.29	57.09	0.0666	-0.0009	0
272	SLE RA 1		0	-0.02	36.88	0.0348	-0.001	0
272	SLE RA 2		0	-0.02	36.87	0.0348	-0.0011	0
272	SLE RA 3		0	-0.16	36.95	0.0419	-0.001	0
272	SLE RA 4		0	-0.16	36.95	0.0419	-0.001	0
272	SLE RA 5		0	-0.19	36.53	0.0429	-0.001	0
272	SLE RA 6		0	-0.33	36.6	0.05	-0.0009	0
272	SLE RA 7		0	-0.33	36.6	0.05	-0.0009	0
272	SLE RA 8		0	-0.36	36.18	0.051	-0.0009	0
272	SLE RA 9		0	-0.36	36.18	0.051	-0.0009	0
272	SLE RA 10		0	-0.02	40.73	0.0378	-0.0009	0
272	SLE RA 11		0	-0.15	40.8	0.0449	-0.0009	0
272	SLE RA 12		0	-0.15	40.8	0.0449	-0.0009	0
272	SLE RA 13		0	-0.18	40.38	0.0459	-0.0009	0
272	SLE RA 14		0	-0.32	40.45	0.053	-0.0008	0
272	SLE RA 15		0	-0.32	40.45	0.053	-0.0008	0
272	SLE RA 16		0	-0.35	40.03	0.0541	-0.0007	0
272	SLE RA 17		0	-0.35	40.03	0.054	-0.0008	0
272	SLE RA 18		0	-0.01	42.38	0.0391	-0.0009	0
272	SLE RA 19		0	-0.01	42.38	0.0391	-0.0009	0
272	SLE RA 20		0	-0.18	42.03	0.0472	-0.0008	0
272	SLE RA 21		0	-0.18	42.03	0.0472	-0.0008	0
272	SLE FR 1		0	-0.02	36.88	0.0348	-0.001	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
272	SLE FR 2	0	-0.02	36.88	0.0348	-0.0011	0
272	SLE FR 3	0	-0.09	36.74	0.0381	-0.001	0
272	SLE FR 4	0	-0.02	38.53	0.0361	-0.001	0
272	SLE FR 5	0	-0.09	38.39	0.0393	-0.001	0
272	SLE FR 6	0	-0.02	39.63	0.037	-0.001	0
272	SLE QP 1	0	-0.02	36.88	0.0348	-0.001	0
272	SLE QP 2	0	-0.02	38.53	0.0361	-0.001	0
272	SLD 1	-0.13	0.88	40.6	-0.0016	-0.0814	-0.0001
272	SLD 2	-0.13	0.88	40.6	-0.0016	-0.0814	-0.0001
272	SLD 3	-0.1	-3.41	39.29	0.1749	-0.058	0
272	SLD 4	-0.1	-3.41	39.29	0.1749	-0.058	0
272	SLD 5	-0.09	6.77	41.13	-0.2429	-0.0606	-0.0001
272	SLD 6	-0.09	6.77	41.13	-0.2429	-0.0606	-0.0001
272	SLD 7	0.02	-7.55	36.78	0.3454	0.0174	0
272	SLD 8	0.02	-7.55	36.78	0.3454	0.0174	0
272	SLD 9	-0.03	7.51	40.28	-0.2732	-0.0194	0
272	SLD 10	-0.03	7.51	40.28	-0.2732	-0.0194	0
272	SLD 11	0.09	-6.8	35.93	0.3151	0.0587	0.0001
272	SLD 12	0.09	-6.8	35.93	0.3151	0.0587	0.0001
272	SLD 13	0.09	3.37	37.77	-0.1027	0.056	0.0001
272	SLD 14	0.09	3.37	37.77	-0.1027	0.056	0.0001
272	SLD 15	0.13	-0.92	36.46	0.0738	0.0794	0.0001
272	SLD 16	0.13	-0.92	36.46	0.0738	0.0794	0.0001
272	SLV 1	-0.32	2.11	43.49	-0.053	-0.1994	-0.0002
272	SLV 2	-0.32	2.11	43.49	-0.053	-0.1994	-0.0002
272	SLV 3	-0.23	-8	40.27	0.3627	-0.14	-0.0001
272	SLV 4	-0.23	-8	40.27	0.3627	-0.14	-0.0001
272	SLV 5	-0.23	15.95	44.9	-0.6211	-0.1506	-0.0002
272	SLV 6	-0.23	15.95	44.9	-0.6211	-0.1506	-0.0002
272	SLV 7	0.07	-17.75	34.17	0.7646	0.0474	0.0001
272	SLV 8	0.07	-17.75	34.17	0.7646	0.0474	0.0001
272	SLV 9	-0.07	17.71	42.89	-0.6924	-0.0494	-0.0001
272	SLV 10	-0.07	17.71	42.89	-0.6924	-0.0494	-0.0001
272	SLV 11	0.23	-15.99	32.17	0.6933	0.1486	0.0002
272	SLV 12	0.23	-15.99	32.17	0.6933	0.1486	0.0002
272	SLV 13	0.23	7.96	36.79	-0.2905	0.138	0.0001
272	SLV 14	0.23	7.96	36.79	-0.2905	0.138	0.0001
272	SLV 15	0.32	-2.15	33.58	0.1252	0.1974	0.0002
272	SLV 16	0.32	-2.15	33.58	0.1252	0.1974	0.0002
273	SLU 1	0	-0.66	35.71	0.2224	-0.0003	0
273	SLU 2	0	-0.65	35.7	0.2213	-0.0003	0
273	SLU 3	0	-0.99	35.85	0.2484	-0.0003	0
273	SLU 4	0	-0.99	35.85	0.2477	-0.0002	0
273	SLU 5	0	-1.03	35.2	0.2476	-0.0002	0
273	SLU 6	0	-1.38	35.35	0.2746	-0.0002	0
273	SLU 7	0	-1.37	35.35	0.274	-0.0002	0
273	SLU 8	0	-1.43	34.71	0.2749	-0.0002	0
273	SLU 9	0	-1.42	34.7	0.2743	-0.0001	0
273	SLU 10	0	-0.72	41.59	0.2558	-0.0003	0
273	SLU 11	0	-1.07	41.74	0.2829	-0.0003	0
273	SLU 12	0	-1.06	41.74	0.2822	-0.0003	0
273	SLU 13	0	-1.11	41.09	0.2821	-0.0002	0
273	SLU 14	0	-1.45	41.24	0.3092	-0.0002	0
273	SLU 15	0	-1.45	41.24	0.3085	-0.0002	0
273	SLU 16	0	-1.5	40.6	0.3094	-0.0002	0
273	SLU 17	0	-1.5	40.59	0.3088	-0.0002	0
273	SLU 18	0	-0.76	44.12	0.2717	-0.0004	0
273	SLU 19	0	-0.76	44.12	0.271	-0.0004	0
273	SLU 20	0	-1.15	43.62	0.298	-0.0003	0
273	SLU 21	0	-1.15	43.62	0.2973	-0.0003	0
273	SLU 22	0	-0.86	40.34	0.2639	-0.0003	0
273	SLU 23	0	-0.85	40.34	0.2627	-0.0003	0
273	SLU 24	0	-1.2	40.49	0.2898	-0.0003	0
273	SLU 25	0	-1.19	40.49	0.2892	-0.0002	0
273	SLU 26	0	-1.24	39.84	0.289	-0.0002	0
273	SLU 27	0	-1.58	39.99	0.3161	-0.0002	0
273	SLU 28	0	-1.58	39.99	0.3154	-0.0002	0
273	SLU 29	0	-1.63	39.34	0.3164	-0.0002	0
273	SLU 30	0	-1.63	39.34	0.3157	-0.0001	0
273	SLU 31	0	-0.93	46.23	0.2972	-0.0003	0
273	SLU 32	0	-1.27	46.38	0.3243	-0.0003	0
273	SLU 33	0	-1.27	46.38	0.3237	-0.0003	0
273	SLU 34	0	-1.32	45.73	0.3235	-0.0003	0
273	SLU 35	0	-1.66	45.88	0.3506	-0.0002	0
273	SLU 36	0	-1.65	45.88	0.3499	-0.0002	0
273	SLU 37	0	-1.71	45.24	0.3509	-0.0002	0
273	SLU 38	0	-1.71	45.23	0.3502	-0.0002	0
273	SLU 39	0	-0.97	48.76	0.3132	-0.0004	0
273	SLU 40	0	-0.97	48.76	0.3125	-0.0004	0
273	SLU 41	0	-1.36	48.26	0.3394	-0.0003	0
273	SLU 42	0	-1.35	48.26	0.3387	-0.0003	0
273	SLU 43	0	-0.78	44.83	0.2749	-0.0004	0
273	SLU 44	0	-0.77	44.82	0.2738	-0.0004	0
273	SLU 45	0	-1.12	44.97	0.3009	-0.0004	0
273	SLU 46	0	-1.11	44.97	0.3002	-0.0003	0
273	SLU 47	0	-1.16	44.32	0.3001	-0.0003	0
273	SLU 48	0	-1.5	44.47	0.3272	-0.0003	0
273	SLU 49	0	-1.5	44.47	0.3265	-0.0003	0
273	SLU 50	0	-1.55	43.83	0.3274	-0.0003	0
273	SLU 51	0	-1.55	43.82	0.3268	-0.0002	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
273	SLU 52	0	-0.85	50.71	0.3083	-0.0004	0
273	SLU 53	0	-1.19	50.86	0.3354	-0.0004	0
273	SLU 54	0	-1.19	50.86	0.3347	-0.0004	0
273	SLU 55	0	-1.24	50.21	0.3346	-0.0003	0
273	SLU 56	0	-1.58	50.36	0.3617	-0.0003	0
273	SLU 57	0	-1.57	50.36	0.361	-0.0003	0
273	SLU 58	0	-1.63	49.72	0.362	-0.0003	0
273	SLU 59	0	-1.62	49.72	0.3613	-0.0003	0
273	SLU 60	0	-0.89	53.24	0.3242	-0.0005	0
273	SLU 61	0	-0.89	53.24	0.3235	-0.0005	0
273	SLU 62	0	-1.28	52.74	0.3505	-0.0004	0
273	SLU 63	0	-1.27	52.74	0.3498	-0.0004	0
273	SLU 64	0	-0.99	49.47	0.3164	-0.0004	0
273	SLU 65	0	-0.98	49.46	0.3152	-0.0004	0
273	SLU 66	0	-1.32	49.61	0.3423	-0.0004	0
273	SLU 67	0	-1.32	49.61	0.3417	-0.0003	0
273	SLU 68	0	-1.37	48.96	0.3415	-0.0003	0
273	SLU 69	0	-1.71	49.11	0.3686	-0.0003	0
273	SLU 70	0	-1.7	49.11	0.3679	-0.0003	0
273	SLU 71	0	-1.76	48.47	0.3689	-0.0003	0
273	SLU 72	0	-1.76	48.46	0.3682	-0.0002	0
273	SLU 73	0	-1.06	55.35	0.3498	-0.0004	0
273	SLU 74	0	-1.4	55.5	0.3768	-0.0004	0
273	SLU 75	0	-1.39	55.5	0.3762	-0.0004	0
273	SLU 76	0	-1.44	54.85	0.376	-0.0003	0
273	SLU 77	0	-1.79	55	0.4031	-0.0003	0
273	SLU 78	0	-1.78	55	0.4024	-0.0003	0
273	SLU 79	0	-1.84	54.36	0.4034	-0.0003	0
273	SLU 80	0	-1.83	54.35	0.4027	-0.0003	0
273	SLU 81	0	-1.1	57.88	0.3657	-0.0005	0
273	SLU 82	0	-1.09	57.88	0.365	-0.0005	0
273	SLU 83	0	-1.48	57.38	0.3919	-0.0004	0
273	SLU 84	0	-1.48	57.38	0.3913	-0.0004	0
273	SLE RA 1	0	-0.72	37.03	0.2342	-0.0003	0
273	SLE RA 2	0	-0.71	37.03	0.2335	-0.0003	0
273	SLE RA 3	0	-0.94	37.13	0.2516	-0.0003	0
273	SLE RA 4	0	-0.93	37.13	0.2511	-0.0003	0
273	SLE RA 5	0	-0.97	36.69	0.251	-0.0002	0
273	SLE RA 6	0	-1.2	36.79	0.2691	-0.0002	0
273	SLE RA 7	0	-1.19	36.79	0.2686	-0.0002	0
273	SLE RA 8	0	-1.23	36.36	0.2693	-0.0002	0
273	SLE RA 9	0	-1.23	36.36	0.2688	-0.0002	0
273	SLE RA 10	0	-0.76	40.96	0.2565	-0.0003	0
273	SLE RA 11	0	-0.99	41.06	0.2746	-0.0003	0
273	SLE RA 12	0	-0.99	41.05	0.2741	-0.0003	0
273	SLE RA 13	0	-1.02	40.62	0.274	-0.0003	0
273	SLE RA 14	0	-1.25	40.72	0.2921	-0.0003	0
273	SLE RA 15	0	-1.24	40.72	0.2916	-0.0002	0
273	SLE RA 16	0	-1.28	40.29	0.2923	-0.0002	0
273	SLE RA 17	0	-1.28	40.29	0.2918	-0.0002	0
273	SLE RA 18	0	-0.79	42.64	0.2671	-0.0004	0
273	SLE RA 19	0	-0.78	42.64	0.2667	-0.0003	0
273	SLE RA 20	0	-1.04	42.31	0.2846	-0.0003	0
273	SLE RA 21	0	-1.04	42.31	0.2842	-0.0003	0
273	SLE FR 1	0	-0.72	37.03	0.2342	-0.0003	0
273	SLE FR 2	0	-0.71	37.03	0.2341	-0.0003	0
273	SLE FR 3	0	-0.82	36.9	0.2413	-0.0003	0
273	SLE FR 4	0	-0.74	38.71	0.244	-0.0003	0
273	SLE FR 5	0	-0.84	38.58	0.2511	-0.0003	0
273	SLE FR 6	0	-0.75	39.84	0.2507	-0.0003	0
273	SLE QP 1	0	-0.72	37.03	0.2342	-0.0003	0
273	SLE QP 2	0	-0.74	38.71	0.2441	-0.0003	0
273	SLD 1	-0.1	0.64	37.42	0.1844	-0.0667	-0.0001
273	SLD 2	-0.1	0.64	37.42	0.1844	-0.0667	-0.0001
273	SLD 3	-0.14	-3.89	36.54	0.3848	-0.0897	-0.0001
273	SLD 4	-0.14	-3.89	36.54	0.3848	-0.0897	-0.0001
273	SLD 5	0.02	6.55	39.66	-0.0778	0.0146	0.0001
273	SLD 6	0.02	6.55	39.66	-0.0778	0.0146	0.0001
273	SLD 7	-0.1	-8.55	36.73	0.5903	-0.062	-0.0001
273	SLD 8	-0.1	-8.55	36.73	0.5903	-0.062	-0.0001
273	SLD 9	0.1	7.08	40.7	-0.1021	0.0613	0.0001
273	SLD 10	0.1	7.08	40.7	-0.1021	0.0613	0.0001
273	SLD 11	-0.03	-8.02	37.77	0.566	-0.0152	-0.0001
273	SLD 12	-0.03	-8.02	37.77	0.566	-0.0152	-0.0001
273	SLD 13	0.14	2.41	40.89	0.1034	0.089	0.0001
273	SLD 14	0.14	2.41	40.89	0.1034	0.089	0.0001
273	SLD 15	0.1	-2.12	40.01	0.3038	0.0661	0.0001
273	SLD 16	0.1	-2.12	40.01	0.3038	0.0661	0.0001
273	SLV 1	-0.24	2.48	35.72	0.1042	-0.1631	-0.0002
273	SLV 2	-0.24	2.48	35.72	0.1042	-0.1631	-0.0002
273	SLV 3	-0.34	-8.18	33.54	0.5768	-0.2216	-0.0003
273	SLV 4	-0.34	-8.18	33.54	0.5768	-0.2216	-0.0003
273	SLV 5	0.07	16.38	41.12	-0.5146	0.0396	0.0001
273	SLV 6	0.07	16.38	41.12	-0.5146	0.0396	0.0001
273	SLV 7	-0.24	-19.13	33.86	1.0607	-0.1555	-0.0003
273	SLV 8	-0.24	-19.13	33.86	1.0607	-0.1555	-0.0003
273	SLV 9	0.24	17.65	43.57	-0.5725	0.1548	0.0003
273	SLV 10	0.24	17.65	43.57	-0.5725	0.1548	0.0003
273	SLV 11	-0.07	-17.86	36.31	1.0028	-0.0403	-0.0001
273	SLV 12	-0.07	-17.86	36.31	1.0028	-0.0403	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
273	SLV 13	0.34	6.7	43.88	-0.0886	0.221	0.0003
273	SLV 14	0.34	6.7	43.88	-0.0886	0.221	0.0003
273	SLV 15	0.24	-3.95	41.71	0.384	0.1625	0.0002
273	SLV 16	0.24	-3.95	41.71	0.384	0.1625	0.0002
274	SLU 1	0.02	-5.48	50.95	0.1612	0.0146	0
274	SLU 2	0.01	-4.74	48.53	0.1381	0.0078	0
274	SLU 3	0.02	-5.66	51.72	0.1661	0.0153	0
274	SLU 4	0.01	-5.21	50.27	0.1523	0.0112	0
274	SLU 5	0.01	-4.83	48.64	0.1404	0.0084	0
274	SLU 6	0.02	-5.75	51.83	0.1685	0.0159	0
274	SLU 7	0.02	-5.3	50.38	0.1546	0.0118	0
274	SLU 8	0.02	-5.66	51.16	0.1659	0.0158	0
274	SLU 9	0.02	-5.22	49.71	0.152	0.0117	0
274	SLU 10	0.02	-5.49	54.36	0.1604	0.0101	0
274	SLU 11	0.02	-6.41	57.55	0.1884	0.0176	0
274	SLU 12	0.02	-5.97	56.1	0.1745	0.0135	0
274	SLU 13	0.02	-5.58	54.47	0.1627	0.0106	0
274	SLU 14	0.02	-6.5	57.66	0.1907	0.0181	0
274	SLU 15	0.02	-6.06	56.21	0.1769	0.014	0
274	SLU 16	0.02	-6.41	56.99	0.1881	0.018	0
274	SLU 17	0.02	-5.97	55.54	0.1743	0.0139	0
274	SLU 18	0.02	-6.56	59.28	0.193	0.0178	0
274	SLU 19	0.02	-6.11	57.83	0.1791	0.0137	0
274	SLU 20	0.02	-6.65	59.38	0.1953	0.0184	0
274	SLU 21	0.02	-6.2	57.93	0.1815	0.0143	0
274	SLU 22	0.02	-6.23	56.4	0.1833	0.017	0
274	SLU 23	0.02	-5.49	53.98	0.1602	0.0102	0
274	SLU 24	0.02	-6.41	57.17	0.1882	0.0177	0
274	SLU 25	0.02	-5.97	55.72	0.1743	0.0136	0
274	SLU 26	0.02	-5.58	54.09	0.1625	0.0107	0
274	SLU 27	0.02	-6.5	57.28	0.1905	0.0182	0
274	SLU 28	0.02	-6.06	55.83	0.1767	0.0141	0
274	SLU 29	0.02	-6.42	56.61	0.1879	0.0181	0
274	SLU 30	0.02	-5.97	55.16	0.1741	0.014	0
274	SLU 31	0.02	-6.25	59.81	0.1824	0.0124	0
274	SLU 32	0.02	-7.17	63	0.2104	0.0199	0
274	SLU 33	0.02	-6.72	61.55	0.1966	0.0158	0
274	SLU 34	0.02	-6.34	59.92	0.1848	0.013	0
274	SLU 35	0.02	-7.26	63.11	0.2128	0.0204	0
274	SLU 36	0.02	-6.81	61.66	0.1989	0.0164	0
274	SLU 37	0.02	-7.17	62.44	0.2102	0.0203	0
274	SLU 38	0.02	-6.72	60.99	0.1963	0.0162	0
274	SLU 39	0.02	-7.31	64.73	0.215	0.0202	0
274	SLU 40	0.02	-6.87	63.28	0.2012	0.0161	0
274	SLU 41	0.02	-7.4	64.84	0.2174	0.0207	0
274	SLU 42	0.02	-6.96	63.38	0.2035	0.0166	0
274	SLU 43	0.02	-6.87	64.37	0.202	0.0182	0
274	SLU 44	0.02	-6.12	61.95	0.1789	0.0114	0
274	SLU 45	0.02	-7.04	65.14	0.2069	0.0189	0
274	SLU 46	0.02	-6.6	63.69	0.1931	0.0148	0
274	SLU 47	0.02	-6.21	62.05	0.1812	0.012	0
274	SLU 48	0.02	-7.13	65.24	0.2093	0.0195	0
274	SLU 49	0.02	-6.69	63.79	0.1954	0.0154	0
274	SLU 50	0.02	-7.05	64.58	0.2067	0.0194	0
274	SLU 51	0.02	-6.6	63.13	0.1928	0.0153	0
274	SLU 52	0.02	-6.88	67.78	0.2011	0.0137	0
274	SLU 53	0.02	-7.8	70.97	0.2292	0.0212	0
274	SLU 54	0.02	-7.35	69.52	0.2153	0.0171	0
274	SLU 55	0.02	-6.97	67.88	0.2035	0.0142	0
274	SLU 56	0.02	-7.89	71.07	0.2315	0.0217	0
274	SLU 57	0.02	-7.44	69.62	0.2177	0.0176	0
274	SLU 58	0.02	-7.8	70.41	0.2289	0.0216	0
274	SLU 59	0.02	-7.36	68.96	0.2151	0.0175	0
274	SLU 60	0.02	-7.94	72.69	0.2338	0.0214	0
274	SLU 61	0.02	-7.5	71.24	0.2199	0.0173	0
274	SLU 62	0.02	-8.03	72.8	0.2361	0.022	0
274	SLU 63	0.02	-7.59	71.35	0.2223	0.0179	0
274	SLU 64	0.02	-7.62	69.82	0.224	0.0206	0
274	SLU 65	0.02	-6.88	67.4	0.201	0.0138	0
274	SLU 66	0.02	-7.8	70.59	0.229	0.0212	0
274	SLU 67	0.02	-7.35	69.14	0.2151	0.0172	0
274	SLU 68	0.02	-6.97	67.5	0.2033	0.0143	0
274	SLU 69	0.02	-7.89	70.7	0.2313	0.0218	0
274	SLU 70	0.02	-7.44	69.24	0.2175	0.0177	0
274	SLU 71	0.02	-7.8	70.03	0.2287	0.0217	0
274	SLU 72	0.02	-7.36	68.58	0.2149	0.0176	0
274	SLU 73	0.02	-7.63	73.23	0.2232	0.0216	0
274	SLU 74	0.02	-8.55	76.42	0.2512	0.0235	0
274	SLU 75	0.02	-8.11	74.97	0.2374	0.0194	0
274	SLU 76	0.02	-7.72	73.33	0.2256	0.0216	0
274	SLU 77	0.03	-8.64	76.53	0.2536	0.024	0
274	SLU 78	0.02	-8.2	75.07	0.2397	0.02	0
274	SLU 79	0.03	-8.55	75.86	0.251	0.0239	0
274	SLU 80	0.02	-8.11	74.41	0.2371	0.0198	0
274	SLU 81	0.03	-8.7	78.15	0.2558	0.0238	0
274	SLU 82	0.02	-8.25	76.69	0.242	0.0197	0
274	SLU 83	0.03	-8.79	78.25	0.2582	0.0243	0
274	SLU 84	0.02	-8.34	76.8	0.2443	0.0202	0
274	SLE RA 1	0.02	-5.7	52.51	0.1675	0.0153	0
274	SLE RA 2	0.01	-5.2	50.9	0.1521	0.0108	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
274	SLE RA 3		0.02	-5.81	53.02	0.1708	0.0158	0
274	SLE RA 4		0.02	-5.52	52.05	0.1616	0.013	0
274	SLE RA 5		0.02	-5.26	50.97		0.0111	0
274	SLE RA 6		0.02	-5.87	53.09	0.1723	0.0161	0
274	SLE RA 7		0.02	-5.58	52.13	0.1631	0.0134	0
274	SLE RA 8		0.02	-5.82	52.65	0.1706	0.0161	0
274	SLE RA 9		0.02	-5.52	51.68	0.1614	0.0133	0
274	SLE RA 10		0.02	-5.7	54.78	0.1669	0.0123	0
274	SLE RA 11		0.02	-6.32	56.91	0.1856	0.0172	0
274	SLE RA 12		0.02	-6.02	55.94	0.1764	0.0145	0
274	SLE RA 13		0.02	-5.76	54.85	0.1685	0.0126	0
274	SLE RA 14		0.02	-6.38	56.98	0.1872	0.0176	0
274	SLE RA 15		0.02	-6.08	56.01	0.1779	0.0149	0
274	SLE RA 16		0.02	-6.32	56.54	0.1854	0.0175	0
274	SLE RA 17		0.02	-6.02	55.57	0.1762	0.0148	0
274	SLE RA 18		0.02	-6.41	58.06	0.1887	0.0174	0
274	SLE RA 19		0.02	-6.12	57.09	0.1795	0.0147	0
274	SLE RA 20		0.02	-6.47	58.13	0.1902	0.0178	0
274	SLE RA 21		0.02	-6.18	57.16	0.181	0.0151	0
274	SLE FR 1		0.02	-5.7	52.51	0.1675	0.0153	0
274	SLE FR 2		0.02	-5.6	52.19	0.1644	0.0144	0
274	SLE FR 3		0.02	-5.72	52.54	0.1681	0.0155	0
274	SLE FR 4		0.02	-5.81	53.85	0.1708	0.015	0
274	SLE FR 5		0.02	-5.94	54.2	0.1745	0.0161	0
274	SLE FR 6		0.02	-6.05	55.28	0.1781	0.0164	0
274	SLE QP 1		0.02	-5.7	52.51	0.1675	0.0153	0
274	SLE QP 2		0.02	-5.91	54.17	0.1738	0.0159	0
274	SLD 1		0.16	-2.64	36.8	0.0763	0.1685	0.0001
274	SLD 2		0.16	-2.64	36.8	0.0763	0.1685	0.0001
274	SLD 3		0.27	-6.29	42.72	0.1846	0.257	0.0001
274	SLD 4		0.27	-6.29	42.72	0.1846	0.257	0.0001
274	SLD 5		-0.1	0.61	39.99	-0.0198	-0.0726	0.0001
274	SLD 6		-0.1	0.61	39.99	-0.0198	-0.0726	0.0001
274	SLD 7		0.25	-11.56	59.71	0.3414	0.2225	0
274	SLD 8		0.25	-11.56	59.71	0.3414	0.2225	0
274	SLD 9		-0.21	-0.26	48.64	0.0063	-0.1906	0
274	SLD 10		-0.21	-0.26	48.64	0.0063	-0.1906	0
274	SLD 11		0.13	-12.43	68.36	0.3675	0.1045	-0.0001
274	SLD 12		0.13	-12.43	68.36	0.3675	0.1045	-0.0001
274	SLD 13		-0.23	-5.53	65.63	0.1631	-0.2251	-0.0001
274	SLD 14		-0.23	-5.53	65.63	0.1631	-0.2251	-0.0001
274	SLD 15		-0.13	-9.19	71.55	0.2714	-0.1366	-0.0001
274	SLD 16		-0.13	-9.19	71.55	0.2714	-0.1366	-0.0001
274	SLV 1		0.36	1.76	13.42	-0.0547	0.3801	0.0003
274	SLV 2		0.36	1.76	13.42	-0.0547	0.3801	0.0003
274	SLV 3		0.62	-6.76	27.39	0.1981	0.6064	0.0002
274	SLV 4		0.62	-6.76	27.39	0.1981	0.6064	0.0002
274	SLV 5		-0.28	9.31	20.75	-0.2781	-0.2181	0.0003
274	SLV 6		-0.28	9.31	20.75	-0.2781	-0.2181	0.0003
274	SLV 7		0.6	-19.08	67.33	0.5645	0.5363	-0.0001
274	SLV 8		0.6	-19.08	67.33	0.5645	0.5363	-0.0001
274	SLV 9		-0.56	7.26	41.01	-0.2168	-0.5044	0.0001
274	SLV 10		-0.56	7.26	41.01	-0.2168	-0.5044	0.0001
274	SLV 11		0.31	-21.13	87.59	0.6258	0.25	-0.0003
274	SLV 12		0.31	-21.13	87.59	0.6258	0.25	-0.0003
274	SLV 13		-0.59	-5.06	80.95	0.1496	-0.5745	-0.0002
274	SLV 14		-0.59	-5.06	80.95	0.1496	-0.5745	-0.0002
274	SLV 15		-0.32	-13.58	94.93	0.4024	-0.3482	-0.0003
274	SLV 16		-0.32	-13.58	94.93	0.4024	-0.3482	-0.0003
275	SLU 1		-0.13	-6.3	50.29	0.4084	-0.1003	0.0003
275	SLU 2		-0.12	-5.27	47.54	0.3509	-0.0912	0.0003
275	SLU 3		-0.13	-6.41	51.38	0.4154	-0.103	0.0003
275	SLU 4		-0.13	-5.79	49.73	0.3808	-0.0975	0.0003
275	SLU 5		-0.13	-5.27	48.1	0.3513	-0.0928	0.0003
275	SLU 6		-0.14	-6.41	51.94	0.4158	-0.1045	0.0004
275	SLU 7		-0.13	-5.79	50.29	0.3813	-0.0991	0.0003
275	SLU 8		-0.14	-6.3	51.41	0.4093	-0.1034	0.0004
275	SLU 9		-0.13	-5.68	49.76	0.3748	-0.0979	0.0003
275	SLU 10		-0.14	-6.04	53.16	0.4019	-0.1042	0.0004
275	SLU 11		-0.15	-7.18	57	0.4664	-0.116	0.0004
275	SLU 12		-0.15	-6.56	55.35	0.4319	-0.1105	0.0004
275	SLU 13		-0.14	-6.04	53.72	0.4024	-0.1057	0.0004
275	SLU 14		-0.15	-7.17	57.56	0.4669	-0.1175	0.0004
275	SLU 15		-0.15	-6.55	55.91	0.4323	-0.112	0.0004
275	SLU 16		-0.15	-7.06	57.02	0.4604	-0.1163	0.0004
275	SLU 17		-0.15	-6.45	55.38	0.4258	-0.1109	0.0004
275	SLU 18		-0.16	-7.4	58.31	0.4814	-0.1189	0.0004
275	SLU 19		-0.15	-6.78	56.66	0.4468	-0.1134	0.0004
275	SLU 20		-0.16	-7.4	58.87	0.4818	-0.1204	0.0004
275	SLU 21		-0.15	-6.78	57.22	0.4473	-0.1149	0.0004
275	SLU 22		-0.15	-7.04	55.75	0.457	-0.113	0.0004
275	SLU 23		-0.14	-6.01	53	0.3994	-0.1039	0.0004
275	SLU 24		-0.15	-7.14	56.84	0.4639	-0.1156	0.0004
275	SLU 25		-0.15	-6.53	55.19	0.4294	-0.1102	0.0004
275	SLU 26		-0.14	-6.01	53.56	0.3998	-0.1054	0.0004
275	SLU 27		-0.15	-7.14	57.4	0.4643	-0.1172	0.0004
275	SLU 28		-0.15	-6.52	55.75	0.4298	-0.1117	0.0004
275	SLU 29		-0.15	-7.03	56.87	0.4578	-0.116	0.0004
275	SLU 30		-0.15	-6.41	55.22	0.4233	-0.1106	0.0004
275	SLU 31		-0.16	-6.78	58.62	0.4505	-0.1169	0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
275	SLU 32	-0.17	-7.91	62.46	0.515	-0.1286	0.0004
275	SLU 33	-0.16	-7.29	60.81	0.4804	-0.1232	0.0004
275	SLU 34	-0.16	-6.77	59.18	0.4509	-0.1184	0.0004
275	SLU 35	-0.17	-7.91	63.02	0.5154	-0.1301	0.0004
275	SLU 36	-0.17	-7.29	61.37	0.4809	-0.1247	0.0004
275	SLU 37	-0.17	-7.8	62.48	0.5089	-0.129	0.0004
275	SLU 38	-0.16	-7.18	60.84	0.4744	-0.1235	0.0004
275	SLU 39	-0.17	-8.13	63.77	0.5299	-0.1315	0.0004
275	SLU 40	-0.17	-7.52	62.12	0.4954	-0.126	0.0004
275	SLU 41	-0.17	-8.13	64.33	0.5304	-0.133	0.0005
275	SLU 42	-0.17	-7.51	62.68	0.4958	-0.1276	0.0004
275	SLU 43	-0.16	-7.94	63.5	0.5143	-0.1261	0.0004
275	SLU 44	-0.16	-6.91	60.76	0.4567	-0.117	0.0004
275	SLU 45	-0.17	-8.05	64.6	0.5213	-0.1288	0.0004
275	SLU 46	-0.16	-7.43	62.95	0.4867	-0.1233	0.0004
275	SLU 47	-0.16	-6.91	61.32	0.4572	-0.1185	0.0004
275	SLU 48	-0.17	-8.04	65.16	0.5217	-0.1303	0.0004
275	SLU 49	-0.17	-7.43	63.51	0.4871	-0.1248	0.0004
275	SLU 50	-0.17	-7.94	64.62	0.5152	-0.1291	0.0004
275	SLU 51	-0.16	-7.32	62.98	0.4806	-0.1237	0.0004
275	SLU 52	-0.18	-7.68	66.37	0.5078	-0.13	0.0005
275	SLU 53	-0.19	-8.81	70.21	0.5723	-0.1417	0.0005
275	SLU 54	-0.18	-8.2	68.56	0.5378	-0.1363	0.0005
275	SLU 55	-0.18	-7.68	66.93	0.5082	-0.1315	0.0005
275	SLU 56	-0.19	-8.81	70.77	0.5728	-0.1433	0.0005
275	SLU 57	-0.18	-8.19	69.12	0.5382	-0.1378	0.0005
275	SLU 58	-0.19	-8.7	70.24	0.5663	-0.1421	0.0005
275	SLU 59	-0.18	-8.09	68.59	0.5317	-0.1367	0.0005
275	SLU 60	-0.19	-9.04	71.52	0.5873	-0.1446	0.0005
275	SLU 61	-0.18	-8.42	69.88	0.5527	-0.1392	0.0005
275	SLU 62	-0.19	-9.04	72.08	0.5877	-0.1461	0.0005
275	SLU 63	-0.19	-8.42	70.44	0.5532	-0.1407	0.0005
275	SLU 64	-0.18	-8.68	68.96	0.5629	-0.1387	0.0005
275	SLU 65	-0.17	-7.65	66.22	0.5053	-0.1297	0.0005
275	SLU 66	-0.18	-8.78	70.06	0.5698	-0.1414	0.0005
275	SLU 67	-0.18	-8.16	68.41	0.5352	-0.136	0.0005
275	SLU 68	-0.18	-7.65	66.78	0.5057	-0.1312	0.0005
275	SLU 69	-0.19	-8.78	70.62	0.5702	-0.1429	0.0005
275	SLU 70	-0.18	-8.16	68.97	0.5357	-0.1375	0.0005
275	SLU 71	-0.19	-8.67	70.08	0.5637	-0.1418	0.0005
275	SLU 72	-0.18	-8.05	68.44	0.5292	-0.1363	0.0005
275	SLU 73	-0.19	-8.42	71.83	0.5563	-0.1426	0.0005
275	SLU 74	-0.2	-9.55	75.67	0.6209	-0.1544	0.0005
275	SLU 75	-0.2	-8.93	74.02	0.5863	-0.1489	0.0005
275	SLU 76	-0.19	-8.41	72.39	0.5568	-0.1441	0.0005
275	SLU 77	-0.2	-9.55	76.23	0.6213	-0.1559	0.0005
275	SLU 78	-0.2	-8.93	74.58	0.5868	-0.1504	0.0005
275	SLU 79	-0.2	-9.44	75.7	0.6148	-0.1548	0.0005
275	SLU 80	-0.2	-8.82	74.05	0.5802	-0.1493	0.0005
275	SLU 81	-0.21	-9.77	76.98	0.6358	-0.1573	0.0005
275	SLU 82	-0.2	-9.16	75.34	0.6013	-0.1518	0.0005
275	SLU 83	-0.21	-9.77	77.54	0.6363	-0.1588	0.0005
275	SLU 84	-0.2	-9.15	75.9	0.6017	-0.1533	0.0005
275	SLE RA 1	-0.14	-6.51	51.85	0.4223	-0.1039	0.0004
275	SLE RA 2	-0.13	-5.83	50.02	0.3839	-0.0979	0.0003
275	SLE RA 3	-0.14	-6.58	52.58	0.4269	-0.1057	0.0004
275	SLE RA 4	-0.14	-6.17	51.48	0.4039	-0.1021	0.0004
275	SLE RA 5	-0.13	-5.83	50.39	0.3842	-0.0989	0.0003
275	SLE RA 6	-0.14	-6.58	52.95	0.4272	-0.1067	0.0004
275	SLE RA 7	-0.14	-6.17	51.85	0.4042	-0.1031	0.0004
275	SLE RA 8	-0.14	-6.51	52.59	0.4229	-0.106	0.0004
275	SLE RA 9	-0.14	-6.1	51.5	0.3998	-0.1023	0.0004
275	SLE RA 10	-0.14	-6.34	53.76	0.418	-0.1065	0.0004
275	SLE RA 11	-0.15	-7.09	56.32	0.461	-0.1144	0.0004
275	SLE RA 12	-0.15	-6.68	55.22	0.4379	-0.1107	0.0004
275	SLE RA 13	-0.14	-6.34	54.13	0.4183	-0.1075	0.0004
275	SLE RA 14	-0.15	-7.09	56.69	0.4613	-0.1154	0.0004
275	SLE RA 15	-0.15	-6.68	55.6	0.4382	-0.1117	0.0004
275	SLE RA 16	-0.15	-7.02	56.34	0.4569	-0.1146	0.0004
275	SLE RA 17	-0.15	-6.61	55.24	0.4339	-0.111	0.0004
275	SLE RA 18	-0.15	-7.24	57.2	0.4709	-0.1163	0.0004
275	SLE RA 19	-0.15	-6.83	56.1	0.4479	-0.1127	0.0004
275	SLE RA 20	-0.15	-7.24	57.57	0.4712	-0.1173	0.0004
275	SLE RA 21	-0.15	-6.83	56.47	0.4482	-0.1137	0.0004
275	SLE FR 1	-0.14	-6.51	51.85	0.4223	-0.1039	0.0004
275	SLE FR 2	-0.13	-6.38	51.48	0.4146	-0.1027	0.0004
275	SLE FR 3	-0.14	-6.51	52	0.4224	-0.1044	0.0004
275	SLE FR 4	-0.14	-6.6	53.09	0.4292	-0.1064	0.0004
275	SLE FR 5	-0.14	-6.73	53.6	0.437	-0.1081	0.0004
275	SLE FR 6	-0.14	-6.88	54.52	0.4466	-0.1101	0.0004
275	SLE QP 1	-0.14	-6.51	51.85	0.4223	-0.1039	0.0004
275	SLE QP 2	-0.14	-6.73	53.45	0.4369	-0.1077	0.0004
275	SLD 1	-0.27	-6.7	65.4	0.4593	0.1196	0.0007
275	SLD 2	-0.27	-6.7	65.4	0.4593	0.1196	0.0007
275	SLD 3	-0.42	-10.87	71.23	0.6548	0.0204	0.0012
275	SLD 4	-0.42	-10.87	71.23	0.6548	0.0204	0.0012
275	SLD 5	0.04	-0.4	48.19	0.1473	0.1109	-0.0003
275	SLD 6	0.04	-0.4	48.19	0.1473	0.1109	-0.0003
275	SLD 7	-0.44	-14.29	67.63	0.7986	-0.2197	0.0013
275	SLD 8	-0.44	-14.29	67.63	0.7986	-0.2197	0.0013



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
275	SLD 9			0.16	0.83	39.27	0.0752	0.0043	-0.0006
275	SLD 10			0.16	0.83	39.27	0.0752	0.0043	-0.0006
275	SLD 11			-0.32	-13.06	58.72	0.7265	-0.3262	0.001
275	SLD 12			-0.32	-13.06	58.72	0.7265	-0.3262	0.001
275	SLD 13			0.14	-2.59	35.67	0.219	-0.2357	-0.0004
275	SLD 14			0.14	-2.59	35.67	0.219	-0.2357	-0.0004
275	SLD 15			-0.01	-6.76	41.51	0.4144	-0.3349	0
275	SLD 16			-0.01	-6.76	41.51	0.4144	-0.3349	0
275	SLV 1			-0.45	-6.71	81.39	0.4895	0.439	0.0011
275	SLV 2			-0.45	-6.71	81.39	0.4895	0.439	0.0011
275	SLV 3			-0.8	-16.49	95.17	0.9491	0.1928	0.0023
275	SLV 4			-0.8	-16.49	95.17	0.9491	0.1928	0.0023
275	SLV 5			0.31	8.1	40.93	-0.2445	0.4297	-0.0012
275	SLV 6			0.31	8.1	40.93	-0.2445	0.4297	-0.0012
275	SLV 7			-0.88	-24.49	86.86	1.2877	-0.3908	0.0027
275	SLV 8			-0.88	-24.49	86.86	1.2877	-0.3908	0.0027
275	SLV 9			0.6	11.02	20.04	-0.4139	0.1755	-0.002
275	SLV 10			0.6	11.02	20.04	-0.4139	0.1755	-0.002
275	SLV 11			-0.59	-21.57	65.97	1.1182	-0.645	0.0019
275	SLV 12			-0.59	-21.57	65.97	1.1182	-0.645	0.0019
275	SLV 13			0.52	3.02	11.74	-0.0753	-0.4081	-0.0016
275	SLV 14			0.52	3.02	11.74	-0.0753	-0.4081	-0.0016
275	SLV 15			0.17	-6.75	25.52	0.3843	-0.6543	-0.0004
275	SLV 16			0.17	-6.75	25.52	0.3843	-0.6543	-0.0004
276	SLU 1			0.01	1.24	52.46	-0.0425	0.004	0
276	SLU 2			0.01	1.34	51.98	-0.0455	0.004	0
276	SLU 3			0.01	1.27	55.24	-0.0433	0.0042	0
276	SLU 4			0.01	1.33	54.96	-0.0451	0.0043	0
276	SLU 5			0.01	1.37	54.37	-0.0464	0.0043	0
276	SLU 6			0.01	1.29	57.63	-0.0442	0.0045	0
276	SLU 7			0.01	1.35	57.34	-0.046	0.0045	0
276	SLU 8			0.01	1.3	57.23	-0.0442	0.0045	0
276	SLU 9			0.01	1.36	56.95	-0.046	0.0045	0
276	SLU 10			0.01	1.37	60.46	-0.0476	0.0046	0
276	SLU 11			0.01	1.29	63.71	-0.0454	0.0048	0
276	SLU 12			0.01	1.35	63.43	-0.0473	0.0049	0
276	SLU 13			0.01	1.4	62.84	-0.0485	0.0049	0
276	SLU 14			0.01	1.32	66.1	-0.0463	0.0051	0
276	SLU 15			0.01	1.38	65.81	-0.0481	0.0051	0
276	SLU 16			0.01	1.32	65.7	-0.0464	0.0051	0
276	SLU 17			0.01	1.38	65.42	-0.0482	0.0051	0
276	SLU 18			0.01	1.28	64.56	-0.0455	0.0048	0
276	SLU 19			0.01	1.34	64.28	-0.0474	0.0048	0
276	SLU 20			0.01	1.31	66.95	-0.0464	0.0051	0
276	SLU 21			0.01	1.37	66.66	-0.0482	0.0051	0
276	SLU 22			0.01	1.28	61.08	-0.0447	0.0046	0
276	SLU 23			0.01	1.38	60.61	-0.0478	0.0047	0
276	SLU 24			0.01	1.31	63.86	-0.0456	0.0049	0
276	SLU 25			0.01	1.37	63.58	-0.0474	0.0049	0
276	SLU 26			0.01	1.41	62.99	-0.0486	0.0049	0
276	SLU 27			0.01	1.33	66.25	-0.0464	0.0051	0
276	SLU 28			0.01	1.39	65.96	-0.0483	0.0052	0
276	SLU 29			0.01	1.34	65.85	-0.0465	0.0051	0
276	SLU 30			0.01	1.4	65.57	-0.0483	0.0052	0
276	SLU 31			0.01	1.41	69.08	-0.0499	0.0053	0
276	SLU 32			0.01	1.33	72.33	-0.0477	0.0055	0
276	SLU 33			0.01	1.39	72.05	-0.0495	0.0055	0
276	SLU 34			0.01	1.44	71.46	-0.0508	0.0055	0
276	SLU 35			0.01	1.36	74.72	-0.0486	0.0057	0
276	SLU 36			0.01	1.42	74.44	-0.0504	0.0058	0
276	SLU 37			0.01	1.36	74.32	-0.0486	0.0057	0
276	SLU 38			0.01	1.42	74.04	-0.0504	0.0058	0
276	SLU 39			0.01	1.32	73.18	-0.0478	0.0055	0
276	SLU 40			0.01	1.38	72.9	-0.0496	0.0055	0
276	SLU 41			0.01	1.35	75.57	-0.0487	0.0057	0
276	SLU 42			0.01	1.41	75.28	-0.0505	0.0058	0
276	SLU 43			0.01	1.6	65.24	-0.0544	0.0049	0
276	SLU 44			0.01	1.7	64.77	-0.0575	0.005	0
276	SLU 45			0.01	1.62	68.02	-0.0553	0.0052	0
276	SLU 46			0.01	1.68	67.74	-0.0571	0.0052	0
276	SLU 47			0.01	1.73	67.15	-0.0583	0.0053	0
276	SLU 48			0.01	1.65	70.41	-0.0561	0.0055	0
276	SLU 49			0.01	1.71	70.12	-0.0579	0.0055	0
276	SLU 50			0.01	1.65	70.01	-0.0562	0.0054	0
276	SLU 51			0.01	1.71	69.73	-0.058	0.0055	0
276	SLU 52			0.01	1.73	73.24	-0.0596	0.0056	0
276	SLU 53			0.01	1.65	76.49	-0.0574	0.0058	0
276	SLU 54			0.01	1.71	76.21	-0.0592	0.0058	0
276	SLU 55			0.01	1.76	75.62	-0.0605	0.0059	0
276	SLU 56			0.01	1.68	78.88	-0.0583	0.006	0
276	SLU 57			0.01	1.74	78.59	-0.0601	0.0061	0
276	SLU 58			0.01	1.68	78.48	-0.0583	0.006	0
276	SLU 59			0.01	1.74	78.2	-0.0601	0.0061	0
276	SLU 60			0.01	1.64	77.34	-0.0575	0.0058	0
276	SLU 61			0.01	1.7	77.06	-0.0593	0.0058	0
276	SLU 62			0.01	1.67	79.73	-0.0584	0.006	0
276	SLU 63			0.01	1.73	79.44	-0.0602	0.0061	0
276	SLU 64			0.01	1.64	73.86	-0.0567	0.0056	0
276	SLU 65			0.01	1.74	73.39	-0.0597	0.0057	0
276	SLU 66			0.01	1.67	76.64	-0.0575	0.0058	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
276	SLU 67	0.01	1.72	76.36	-0.0593	0.0059	0
276	SLU 68	0.01	1.77	75.77	-0.0606	0.0059	0
276	SLU 69	0.01	1.69	79.03	-0.0584	0.0061	0
276	SLU 70	0.01	1.75	78.75	-0.0602	0.0062	0
276	SLU 71	0.01	1.69	78.64	-0.0584	0.0061	0
276	SLU 72	0.01	1.75	78.35	-0.0603	0.0061	0
276	SLU 73	0.01	1.77	81.86	-0.0619	0.0062	0
276	SLU 74	0.01	1.69	85.11	-0.0597	0.0064	0
276	SLU 75	0.01	1.75	84.83	-0.0615	0.0065	0
276	SLU 76	0.01	1.8	84.25	-0.0627	0.0065	0
276	SLU 77	0.01	1.72	87.5	-0.0606	0.0067	0
276	SLU 78	0.01	1.78	87.22	-0.0624	0.0067	0
276	SLU 79	0.01	1.72	87.11	-0.0606	0.0067	0
276	SLU 80	0.01	1.78	86.82	-0.0624	0.0067	0
276	SLU 81	0.01	1.68	85.96	-0.0598	0.0064	0
276	SLU 82	0.01	1.74	85.68	-0.0616	0.0065	0
276	SLU 83	0.01	1.71	88.35	-0.0606	0.0067	0
276	SLU 84	0.01	1.77	88.07	-0.0625	0.0067	0
276	SLE RA 1	0.01	1.25	54.92	-0.0431	0.0041	0
276	SLE RA 2	0.01	1.32	54.61	-0.0451	0.0042	0
276	SLE RA 3	0.01	1.27	56.78	-0.0437	0.0043	0
276	SLE RA 4	0.01	1.31	56.59	-0.0449	0.0044	0
276	SLE RA 5	0.01	1.34	56.2	-0.0457	0.0044	0
276	SLE RA 6	0.01	1.29	58.37	-0.0442	0.0045	0
276	SLE RA 7	0.01	1.33	58.18	-0.0455	0.0045	0
276	SLE RA 8	0.01	1.29	58.1	-0.0443	0.0045	0
276	SLE RA 9	0.01	1.33	57.91	-0.0455	0.0045	0
276	SLE RA 10	0.01	1.34	60.25	-0.0466	0.0046	0
276	SLE RA 11	0.01	1.29	62.42	-0.0451	0.0047	0
276	SLE RA 12	0.01	1.33	62.23	-0.0463	0.0047	0
276	SLE RA 13	0.01	1.36	61.84	-0.0471	0.0048	0
276	SLE RA 14	0.01	1.31	64.01	-0.0457	0.0049	0
276	SLE RA 15	0.01	1.35	63.82	-0.0469	0.0049	0
276	SLE RA 16	0.01	1.31	63.75	-0.0457	0.0049	0
276	SLE RA 17	0.01	1.35	63.56	-0.0469	0.0049	0
276	SLE RA 18	0.01	1.28	62.99	-0.0452	0.0047	0
276	SLE RA 19	0.01	1.32	62.8	-0.0464	0.0047	0
276	SLE RA 20	0.01	1.3	64.58	-0.0457	0.0049	0
276	SLE RA 21	0.01	1.34	64.39	-0.047	0.0049	0
276	SLE FR 1	0.01	1.25	54.92	-0.0431	0.0041	0
276	SLE FR 2	0.01	1.27	54.86	-0.0435	0.0042	0
276	SLE FR 3	0.01	1.26	55.56	-0.0433	0.0042	0
276	SLE FR 4	0.01	1.28	57.28	-0.0441	0.0043	0
276	SLE FR 5	0.01	1.27	57.98	-0.044	0.0044	0
276	SLE FR 6	0.01	1.27	58.96	-0.0441	0.0044	0
276	SLE QP 1	0.01	1.25	54.92	-0.0431	0.0041	0
276	SLE QP 2	0.01	1.26	57.34	-0.0437	0.0043	0
276	SLD 1	0.21	4.5	58.54	-0.1443	0.1576	0.0003
276	SLD 2	0.21	4.5	58.54	-0.1443	0.1576	0.0003
276	SLD 3	0.18	0.78	62.43	-0.0301	0.1943	0.0003
276	SLD 4	0.18	0.78	62.43	-0.0301	0.1943	0.0003
276	SLD 5	0.13	7.88	51.8	-0.2471	-0.0054	0.0002
276	SLD 6	0.13	7.88	51.8	-0.2471	-0.0054	0.0002
276	SLD 7	0	-4.53	64.77	0.1335	0.117	0
276	SLD 8	0	-4.53	64.77	0.1335	0.117	0
276	SLD 9	0.01	7.05	49.92	-0.221	-0.1084	0
276	SLD 10	0.01	7.05	49.92	-0.221	-0.1084	0
276	SLD 11	-0.11	-5.36	62.88	0.1596	0.014	-0.0002
276	SLD 12	-0.11	-5.36	62.88	0.1596	0.014	-0.0002
276	SLD 13	-0.16	1.74	52.25	-0.0573	-0.1857	-0.0002
276	SLD 14	-0.16	1.74	52.25	-0.0573	-0.1857	-0.0002
276	SLD 15	-0.2	-1.98	56.14	0.0569	-0.149	-0.0003
276	SLD 16	-0.2	-1.98	56.14	0.0569	-0.149	-0.0003
276	SLV 1	0.5	8.94	60.1	-0.2818	0.3837	0.0007
276	SLV 2	0.5	8.94	60.1	-0.2818	0.3837	0.0007
276	SLV 3	0.41	0.19	69.36	-0.0136	0.4757	0.0006
276	SLV 4	0.41	0.19	69.36	-0.0136	0.4757	0.0006
276	SLV 5	0.29	16.83	44.13	-0.5218	-0.0214	0.0004
276	SLV 6	0.29	16.83	44.13	-0.5218	-0.0214	0.0004
276	SLV 7	-0.01	-12.33	74.99	0.372	0.2853	0
276	SLV 8	-0.01	-12.33	74.99	0.372	0.2853	0
276	SLV 9	0.03	14.85	39.69	-0.4594	-0.2766	0
276	SLV 10	0.03	14.85	39.69	-0.4594	-0.2766	0
276	SLV 11	-0.28	-14.31	70.56	0.4344	0.03	-0.0004
276	SLV 12	-0.28	-14.31	70.56	0.4344	0.03	-0.0004
276	SLV 13	-0.39	2.33	45.32	-0.0738	-0.4671	-0.0006
276	SLV 14	-0.39	2.33	45.32	-0.0738	-0.4671	-0.0006
276	SLV 15	-0.48	-6.41	54.58	0.1943	-0.3751	-0.0007
276	SLV 16	-0.48	-6.41	54.58	0.1943	-0.3751	-0.0007
277	SLU 1	0	-0.51	36.52	-0.0011	-0.0015	0
277	SLU 2	0	-0.51	36.49	-0.001	-0.0016	0
277	SLU 3	0	-0.71	36.9	0.0073	-0.0015	0
277	SLU 4	0	-0.71	36.88	0.0074	-0.0015	0
277	SLU 5	0	-0.75	36.28	0.0093	-0.0015	0
277	SLU 6	0	-0.95	36.69	0.0177	-0.0015	0
277	SLU 7	0	-0.95	36.67	0.0177	-0.0015	0
277	SLU 8	0	-0.98	36.09	0.0195	-0.0014	0
277	SLU 9	0	-0.98	36.08	0.0196	-0.0014	0
277	SLU 10	0	-0.57	42.33	-0.0032	-0.0016	0
277	SLU 11	0	-0.77	42.74	0.0052	-0.0016	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
277	SLU 12		0	-0.77	42.73	0.0052	-0.0016	0
277	SLU 13		0	-0.8	42.12	0.0071	-0.0015	0
277	SLU 14		0	-1	42.53	0.0155	-0.0015	0
277	SLU 15		0	-1	42.51	0.0156	-0.0015	0
277	SLU 16		0	-1.03	41.93	0.0174	-0.0014	0
277	SLU 17		0	-1.03	41.92	0.0174	-0.0015	0
277	SLU 18		0	-0.59	44.86	-0.0042	-0.0016	0
277	SLU 19		0	-0.59	44.84	-0.0042	-0.0016	0
277	SLU 20		0	-0.82	44.65	0.0061	-0.0015	0
277	SLU 21		0	-0.82	44.63	0.0062	-0.0015	0
277	SLU 22		0	-0.67	41.7	0.0019	-0.0016	0
277	SLU 23		0	-0.68	41.68	0.002	-0.0016	0
277	SLU 24		0	-0.87	42.08	0.0104	-0.0016	0
277	SLU 25		0	-0.88	42.07	0.0105	-0.0016	0
277	SLU 26		0	-0.91	41.46	0.0124	-0.0016	0
277	SLU 27		0	-1.11	41.87	0.0208	-0.0015	0
277	SLU 28		0	-1.11	41.86	0.0208	-0.0015	0
277	SLU 29		0	-1.14	41.27	0.0226	-0.0015	0
277	SLU 30		0	-1.14	41.26	0.0227	-0.0015	0
277	SLU 31		0	-0.73	47.52	-0.0001	-0.0017	0
277	SLU 32		0	-0.93	47.92	0.0083	-0.0016	0
277	SLU 33		0	-0.93	47.91	0.0083	-0.0017	0
277	SLU 34		0	-0.96	47.3	0.0102	-0.0016	0
277	SLU 35		0	-1.16	47.71	0.0186	-0.0016	0
277	SLU 36		0	-1.16	47.7	0.0187	-0.0016	0
277	SLU 37		0	-1.19	47.12	0.0205	-0.0015	0
277	SLU 38		0	-1.19	47.1	0.0205	-0.0015	0
277	SLU 39		0	-0.75	50.04	-0.0011	-0.0017	0
277	SLU 40		0	-0.75	50.03	-0.0011	-0.0017	0
277	SLU 41		0	-0.98	49.83	0.0092	-0.0016	0
277	SLU 42		0	-0.98	49.82	0.0093	-0.0016	0
277	SLU 43		0	-0.61	45.69	-0.0025	-0.002	0
277	SLU 44		0	-0.61	45.67	-0.0024	-0.002	0
277	SLU 45		0	-0.81	46.08	0.0059	-0.002	0
277	SLU 46		0	-0.81	46.06	0.006	-0.002	0
277	SLU 47		0	-0.84	45.46	0.0079	-0.0019	0
277	SLU 48		0	-1.04	45.86	0.0163	-0.0019	0
277	SLU 49		0	-1.04	45.85	0.0163	-0.0019	0
277	SLU 50		0	-1.08	45.27	0.0181	-0.0018	0
277	SLU 51		0	-1.08	45.25	0.0182	-0.0018	0
277	SLU 52		0	-0.66	51.51	-0.0046	-0.0021	0
277	SLU 53		0	-0.86	51.92	0.0038	-0.002	0
277	SLU 54		0	-0.86	51.9	0.0038	-0.002	0
277	SLU 55		0	-0.9	51.3	0.0057	-0.002	0
277	SLU 56		0	-1.1	51.7	0.0141	-0.0019	0
277	SLU 57		0	-1.1	51.69	0.0142	-0.0019	0
277	SLU 58		0	-1.13	51.11	0.016	-0.0019	0
277	SLU 59		0	-1.13	51.09	0.016	-0.0019	0
277	SLU 60		0	-0.69	54.04	-0.0056	-0.002	0
277	SLU 61		0	-0.69	54.02	-0.0056	-0.0021	0
277	SLU 62		0	-0.92	53.82	0.0047	-0.002	0
277	SLU 63		0	-0.92	53.81	0.0048	-0.002	0
277	SLU 64		0	-0.77	50.88	0.0005	-0.0021	0
277	SLU 65		0	-0.77	50.85	0.0006	-0.0021	0
277	SLU 66		0	-0.97	51.26	0.009	-0.002	0
277	SLU 67		0	-0.97	51.25	0.0091	-0.0021	0
277	SLU 68		0	-1.01	50.64	0.011	-0.002	0
277	SLU 69		0	-1.21	51.05	0.0194	-0.002	0
277	SLU 70		0	-1.21	51.03	0.0194	-0.002	0
277	SLU 71		0	-1.24	50.45	0.0212	-0.0019	0
277	SLU 72		0	-1.24	50.44	0.0213	-0.0019	0
277	SLU 73		0	-0.83	56.69	-0.0015	-0.0021	0
277	SLU 74		0	-1.03	57.1	0.0069	-0.0021	0
277	SLU 75		0	-1.03	57.09	0.0069	-0.0021	0
277	SLU 76		0	-1.06	56.48	0.0088	-0.0021	0
277	SLU 77		0	-1.26	56.89	0.0172	-0.002	0
277	SLU 78		0	-1.26	56.87	0.0173	-0.002	0
277	SLU 79		0	-1.29	56.29	0.0191	-0.0019	0
277	SLU 80		0	-1.29	56.28	0.0191	-0.002	0
277	SLU 81		0	-0.85	59.22	-0.0025	-0.0021	0
277	SLU 82		0	-0.85	59.21	-0.0025	-0.0021	0
277	SLU 83		0	-1.08	59.01	0.0078	-0.002	0
277	SLU 84		0	-1.08	58.99	0.0079	-0.0021	0
277	SLE RA 1		0	-0.56	38	-0.0003	-0.0016	0
277	SLE RA 2		0	-0.56	37.98	-0.0002	-0.0016	0
277	SLE RA 3		0	-0.69	38.25	0.0054	-0.0016	0
277	SLE RA 4		0	-0.69	38.24	0.0054	-0.0016	0
277	SLE RA 5		0	-0.71	37.84	0.0067	-0.0015	0
277	SLE RA 6		0	-0.85	38.11	0.0123	-0.0015	0
277	SLE RA 7		0	-0.85	38.1	0.0123	-0.0015	0
277	SLE RA 8		0	-0.87	37.71	0.0135	-0.0015	0
277	SLE RA 9		0	-0.87	37.7	0.0136	-0.0015	0
277	SLE RA 10		0	-0.59	41.87	-0.0016	-0.0016	0
277	SLE RA 11		0	-0.73	42.15	0.004	-0.0016	0
277	SLE RA 12		0	-0.73	42.14	0.004	-0.0016	0
277	SLE RA 13		0	-0.75	41.73	0.0053	-0.0016	0
277	SLE RA 14		0	-0.88	42	0.0109	-0.0015	0
277	SLE RA 15		0	-0.88	41.99	0.0109	-0.0015	0
277	SLE RA 16		0	-0.9	41.61	0.0121	-0.0015	0
277	SLE RA 17		0	-0.9	41.6	0.0121	-0.0015	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
277	SLE RA 18		0	-0.61	43.56	-0.0023	-0.0016	0
277	SLE RA 19		0	-0.61	43.55	-0.0023	-0.0016	0
277	SLE RA 20		0	-0.76	43.42	0.0046	-0.0016	0
277	SLE RA 21		0	-0.76	43.41	0.0046	-0.0016	0
277	SLE FR 1		0	-0.56	38	-0.0003	-0.0016	0
277	SLE FR 2		0	-0.56	37.99	-0.0002	-0.0016	0
277	SLE FR 3		0	-0.62	37.94	0.0025	-0.0015	0
277	SLE FR 4		0	-0.57	39.66	-0.0009	-0.0016	0
277	SLE FR 5		0	-0.63	39.61	0.0019	-0.0016	0
277	SLE FR 6		0	-0.58	40.78	-0.0013	-0.0016	0
277	SLE QP 1		0	-0.56	38	-0.0003	-0.0016	0
277	SLE QP 2		0	-0.57	39.66	-0.0009	-0.0016	0
277	SLD 1		-0.15	0.37	40.93	-0.0398	-0.0903	-0.0001
277	SLD 2		-0.15	0.37	40.93	-0.0398	-0.0903	-0.0001
277	SLD 3		-0.12	-3.98	40.44	0.1421	-0.065	0
277	SLD 4		-0.12	-3.98	40.44	0.1421	-0.065	0
277	SLD 5		-0.1	6.31	40.78	-0.2885	-0.0666	-0.0001
277	SLD 6		-0.1	6.31	40.78	-0.2885	-0.0666	-0.0001
277	SLD 7		0.02	-8.19	39.16	0.3179	0.0178	0
277	SLD 8		0.02	-8.19	39.16	0.3179	0.0178	0
277	SLD 9		-0.02	7.05	40.17	-0.3197	-0.021	0
277	SLD 10		-0.02	7.05	40.17	-0.3197	-0.021	0
277	SLD 11		0.1	-7.46	38.55	0.2867	0.0634	0.0001
277	SLD 12		0.1	-7.46	38.55	0.2867	0.0634	0.0001
277	SLD 13		0.11	2.83	38.89	-0.1438	0.0618	0
277	SLD 14		0.11	2.83	38.89	-0.1438	0.0618	0
277	SLD 15		0.15	-1.52	38.4	0.0381	0.0871	0.0001
277	SLD 16		0.15	-1.52	38.4	0.0381	0.0871	0.0001
277	SLV 1		-0.36	1.66	42.69	-0.0927	-0.2195	-0.0002
277	SLV 2		-0.36	1.66	42.69	-0.0927	-0.2195	-0.0002
277	SLV 3		-0.27	-8.58	41.47	0.3355	-0.1559	-0.0001
277	SLV 4		-0.27	-8.58	41.47	0.3355	-0.1559	-0.0001
277	SLV 5		-0.25	15.63	42.41	-0.6778	-0.1633	-0.0001
277	SLV 6		-0.25	15.63	42.41	-0.6778	-0.1633	-0.0001
277	SLV 7		0.05	-18.5	38.37	0.7495	0.0485	0.0001
277	SLV 8		0.05	-18.5	38.37	0.7495	0.0485	0.0001
277	SLV 9		-0.06	17.36	40.96	-0.7512	-0.0517	-0.0001
277	SLV 10		-0.06	17.36	40.96	-0.7512	-0.0517	-0.0001
277	SLV 11		0.24	-16.77	36.92	0.6761	0.1602	0.0002
277	SLV 12		0.24	-16.77	36.92	0.6761	0.1602	0.0002
277	SLV 13		0.27	7.43	37.86	-0.3373	0.1528	0.0001
277	SLV 14		0.27	7.43	37.86	-0.3373	0.1528	0.0001
277	SLV 15		0.36	-2.81	36.64	0.0909	0.2163	0.0002
277	SLV 16		0.36	-2.81	36.64	0.0909	0.2163	0.0002
278	SLU 1		-0.01	-6.95	28.69	0.1636	-0.0022	-0.0003
278	SLU 2		-0.01	-6.84	28.34	0.1604	-0.0022	-0.0003
278	SLU 3		-0.01	-7.17	29.62	0.1684	-0.0023	-0.0003
278	SLU 4		-0.01	-7.1	29.41	0.1665	-0.0023	-0.0003
278	SLU 5		-0.01	-6.94	28.86	0.1624	-0.0023	-0.0003
278	SLU 6		-0.01	-7.27	30.14	0.1704	-0.0023	-0.0003
278	SLU 7		-0.01	-7.2	29.93	0.1685	-0.0023	-0.0003
278	SLU 8		-0.01	-7.16	29.73	0.1675	-0.0023	-0.0003
278	SLU 9		-0.01	-7.09	29.52	0.1656	-0.0023	-0.0003
278	SLU 10		-0.01	-8.11	33.35	0.1914	-0.0027	-0.0004
278	SLU 11		-0.01	-8.44	34.62	0.1994	-0.0027	-0.0004
278	SLU 12		-0.01	-8.37	34.41	0.1975	-0.0027	-0.0004
278	SLU 13		-0.01	-8.21	33.87	0.1933	-0.0027	-0.0004
278	SLU 14		-0.01	-8.54	35.14	0.2014	-0.0028	-0.0004
278	SLU 15		-0.01	-8.48	34.93	0.1994	-0.0028	-0.0004
278	SLU 16		-0.01	-8.44	34.74	0.1985	-0.0027	-0.0004
278	SLU 17		-0.01	-8.37	34.53	0.1966	-0.0027	-0.0004
278	SLU 18		-0.01	-8.77	35.84	0.2079	-0.0029	-0.0004
278	SLU 19		-0.01	-8.7	35.63	0.2059	-0.0029	-0.0004
278	SLU 20		-0.01	-8.87	36.36	0.2098	-0.0029	-0.0004
278	SLU 21		-0.01	-8.81	36.15	0.2079	-0.0029	-0.0004
278	SLU 22		-0.01	-8.12	33.36	0.1916	-0.0026	-0.0004
278	SLU 23		-0.01	-8	33.01	0.1884	-0.0026	-0.0004
278	SLU 24		-0.01	-8.33	34.28	0.1964	-0.0027	-0.0004
278	SLU 25		-0.01	-8.26	34.07	0.1945	-0.0027	-0.0004
278	SLU 26		-0.01	-8.11	33.53	0.1904	-0.0027	-0.0004
278	SLU 27		-0.01	-8.44	34.8	0.1984	-0.0027	-0.0004
278	SLU 28		-0.01	-8.37	34.59	0.1964	-0.0027	-0.0004
278	SLU 29		-0.01	-8.33	34.4	0.1955	-0.0027	-0.0004
278	SLU 30		-0.01	-8.26	34.19	0.1936	-0.0027	-0.0004
278	SLU 31		-0.01	-9.27	38.01	0.2194	-0.0031	-0.0004
278	SLU 32		-0.01	-9.6	39.29	0.2274	-0.0031	-0.0005
278	SLU 33		-0.01	-9.54	39.08	0.2255	-0.0031	-0.0005
278	SLU 34		-0.01	-9.38	38.53	0.2213	-0.0031	-0.0004
278	SLU 35		-0.01	-9.71	39.81	0.2293	-0.0032	-0.0005
278	SLU 36		-0.01	-9.64	39.6	0.2274	-0.0032	-0.0005
278	SLU 37		-0.01	-9.6	39.4	0.2265	-0.0031	-0.0005
278	SLU 38		-0.01	-9.53	39.19	0.2246	-0.0031	-0.0005
278	SLU 39		-0.01	-9.93	40.51	0.2359	-0.0033	-0.0005
278	SLU 40		-0.01	-9.86	40.3	0.2339	-0.0033	-0.0005
278	SLU 41		-0.01	-10.04	41.03	0.2378	-0.0033	-0.0005
278	SLU 42		-0.01	-9.97	40.82	0.2359	-0.0033	-0.0005
278	SLU 43		-0.01	-8.63	35.7	0.2031	-0.0028	-0.0004
278	SLU 44		-0.01	-8.52	35.35	0.1999	-0.0028	-0.0004
278	SLU 45		-0.01	-8.85	36.62	0.2079	-0.0028	-0.0004
278	SLU 46		-0.01	-8.78	36.42	0.206	-0.0028	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
278	SLU 47	-0.01	-8.63	35.87	0.2019	-0.0028	-0.0004
278	SLU 48	-0.01	-8.96	37.15	0.2099	-0.0029	-0.0004
278	SLU 49	-0.01	-8.89	36.94	0.208	-0.0029	-0.0004
278	SLU 50	-0.01	-8.85	36.74	0.207	-0.0028	-0.0004
278	SLU 51	-0.01	-8.78	36.53	0.2051	-0.0028	-0.0004
278	SLU 52	-0.01	-9.79	40.36	0.2309	-0.0032	-0.0005
278	SLU 53	-0.01	-10.12	41.63	0.2389	-0.0033	-0.0005
278	SLU 54	-0.01	-10.05	41.42	0.237	-0.0033	-0.0005
278	SLU 55	-0.01	-9.9	40.88	0.2328	-0.0032	-0.0005
278	SLU 56	-0.01	-10.23	42.15	0.2409	-0.0033	-0.0005
278	SLU 57	-0.01	-10.16	41.94	0.2389	-0.0033	-0.0005
278	SLU 58	-0.01	-10.12	41.75	0.238	-0.0033	-0.0005
278	SLU 59	-0.01	-10.05	41.54	0.2361	-0.0033	-0.0005
278	SLU 60	-0.01	-10.45	42.85	0.2474	-0.0034	-0.0005
278	SLU 61	-0.01	-10.38	42.64	0.2454	-0.0034	-0.0005
278	SLU 62	-0.01	-10.56	43.37	0.2493	-0.0034	-0.0005
278	SLU 63	-0.01	-10.49	43.16	0.2474	-0.0034	-0.0005
278	SLU 64	-0.01	-9.8	40.36	0.2311	-0.0032	-0.0005
278	SLU 65	-0.01	-9.69	40.01	0.2279	-0.0032	-0.0005
278	SLU 66	-0.01	-10.02	41.29	0.2359	-0.0032	-0.0005
278	SLU 67	-0.01	-9.95	41.08	0.234	-0.0032	-0.0005
278	SLU 68	-0.01	-9.79	40.54	0.2298	-0.0032	-0.0005
278	SLU 69	-0.01	-10.12	41.81	0.2379	-0.0032	-0.0005
278	SLU 70	-0.01	-10.06	41.6	0.2359	-0.0032	-0.0005
278	SLU 71	-0.01	-10.01	41.41	0.235	-0.0032	-0.0005
278	SLU 72	-0.01	-9.95	41.2	0.2331	-0.0032	-0.0005
278	SLU 73	-0.01	-10.96	45.02	0.2589	-0.0036	-0.0005
278	SLU 74	-0.01	-11.29	46.29	0.2669	-0.0037	-0.0005
278	SLU 75	-0.01	-11.22	46.08	0.265	-0.0037	-0.0005
278	SLU 76	-0.01	-11.07	45.54	0.2608	-0.0036	-0.0005
278	SLU 77	-0.01	-11.4	46.82	0.2688	-0.0037	-0.0005
278	SLU 78	-0.01	-11.33	46.61	0.2669	-0.0037	-0.0005
278	SLU 79	-0.01	-11.29	46.41	0.266	-0.0037	-0.0005
278	SLU 80	-0.01	-11.22	46.2	0.264	-0.0037	-0.0005
278	SLU 81	-0.01	-11.62	47.51	0.2753	-0.0038	-0.0006
278	SLU 82	-0.01	-11.55	47.3	0.2734	-0.0038	-0.0005
278	SLU 83	-0.01	-11.72	48.04	0.2773	-0.0038	-0.0006
278	SLU 84	-0.01	-11.66	47.83	0.2754	-0.0038	-0.0006
278	SLE RA 1	-0.01	-7.28	30.02	0.1716	-0.0024	-0.0003
278	SLE RA 2	-0.01	-7.21	29.79	0.1695	-0.0024	-0.0003
278	SLE RA 3	-0.01	-7.43	30.64	0.1748	-0.0024	-0.0003
278	SLE RA 4	-0.01	-7.38	30.5	0.1735	-0.0024	-0.0003
278	SLE RA 5	-0.01	-7.28	30.14	0.1708	-0.0024	-0.0003
278	SLE RA 6	-0.01	-7.5	30.99	0.1761	-0.0024	-0.0003
278	SLE RA 7	-0.01	-7.45	30.85	0.1748	-0.0024	-0.0003
278	SLE RA 8	-0.01	-7.42	30.72	0.1742	-0.0024	-0.0003
278	SLE RA 9	-0.01	-7.38	30.58	0.1729	-0.0024	-0.0003
278	SLE RA 10	-0.01	-8.05	33.13	0.1901	-0.0027	-0.0004
278	SLE RA 11	-0.01	-8.27	33.98	0.1955	-0.0027	-0.0004
278	SLE RA 12	-0.01	-8.23	33.84	0.1942	-0.0027	-0.0004
278	SLE RA 13	-0.01	-8.13	33.48	0.1914	-0.0027	-0.0004
278	SLE RA 14	-0.01	-8.35	34.33	0.1968	-0.0027	-0.0004
278	SLE RA 15	-0.01	-8.3	34.19	0.1955	-0.0027	-0.0004
278	SLE RA 16	-0.01	-8.27	34.06	0.1949	-0.0027	-0.0004
278	SLE RA 17	-0.01	-8.23	33.92	0.1936	-0.0027	-0.0004
278	SLE RA 18	-0.01	-8.49	34.79	0.2011	-0.0028	-0.0004
278	SLE RA 19	-0.01	-8.45	34.65	0.1998	-0.0028	-0.0004
278	SLE RA 20	-0.01	-8.57	35.14	0.2024	-0.0028	-0.0004
278	SLE RA 21	-0.01	-8.52	35	0.2011	-0.0028	-0.0004
278	SLE FR 1	-0.01	-7.28	30.02	0.1716	-0.0024	-0.0003
278	SLE FR 2	-0.01	-7.27	29.98	0.1712	-0.0024	-0.0003
278	SLE FR 3	-0.01	-7.31	30.16	0.1721	-0.0024	-0.0003
278	SLE FR 4	-0.01	-7.63	31.41	0.18	-0.0025	-0.0004
278	SLE FR 5	-0.01	-7.67	31.59	0.181	-0.0025	-0.0004
278	SLE FR 6	-0.01	-7.89	32.41	0.1864	-0.0026	-0.0004
278	SLE QP 1	-0.01	-7.28	30.02	0.1716	-0.0024	-0.0003
278	SLE QP 2	-0.01	-7.65	31.45	0.1805	-0.0025	-0.0004
278	SLD 1	-0.34	-7.83	31.94	0.1856	0.0565	0.0051
278	SLD 2	-0.34	-7.83	31.94	0.1856	0.0565	0.0051
278	SLD 3	-0.29	-10.96	41.27	0.2792	0.0454	0.0065
278	SLD 4	-0.29	-10.96	41.27	0.2792	0.0454	0.0065
278	SLD 5	-0.17	-2.96	17.44	0.0401	0.0321	-0.0009
278	SLD 6	-0.17	-2.96	17.44	0.0401	0.0321	-0.0009
278	SLD 7	-0.03	-13.38	48.56	0.352	-0.005	0.0038
278	SLD 8	-0.03	-13.38	48.56	0.352	-0.005	0.0038
278	SLD 9	0.01	-1.91	14.35	0.009	0.0001	-0.0045
278	SLD 10	0.01	-1.91	14.35	0.009	0.0001	-0.0045
278	SLD 11	0.16	-12.33	45.47	0.3208	-0.0371	0.0001
278	SLD 12	0.16	-12.33	45.47	0.3208	-0.0371	0.0001
278	SLD 13	0.28	-4.34	21.63	0.0817	-0.0503	-0.0072
278	SLD 14	0.28	-4.34	21.63	0.0817	-0.0503	-0.0072
278	SLD 15	0.32	-7.46	30.97	0.1753	-0.0615	-0.0058
278	SLD 16	0.32	-7.46	30.97	0.1753	-0.0615	-0.0058
278	SLV 1	-0.85	-8.08	32.57	0.1926	0.1408	0.0125
278	SLV 2	-0.85	-8.08	32.57	0.1926	0.1408	0.0125
278	SLV 3	-0.74	-15.46	54.63	0.4134	0.1132	0.016
278	SLV 4	-0.74	-15.46	54.63	0.4134	0.1132	0.016
278	SLV 5	-0.43	3.41	-1.67	-0.1508	0.0823	-0.0017
278	SLV 6	-0.43	3.41	-1.67	-0.1508	0.0823	-0.0017
278	SLV 7	-0.06	-21.18	71.86	0.5853	-0.0096	0.0098



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
278	SLV 8	-0.06	-21.18	71.86	0.5853	-0.0096	0.0098
278	SLV 9	0.04	5.89	-8.96	-0.2243	0.0047	-0.0105
278	SLV 10	0.04	5.89	-8.96	-0.2243	0.0047	-0.0105
278	SLV 11	0.42	-18.7	64.58	0.5117	-0.0873	0.001
278	SLV 12	0.42	-18.7	64.58	0.5117	-0.0873	0.001
278	SLV 13	0.73	0.17	8.28	-0.0525	-0.1182	-0.0167
278	SLV 14	0.73	0.17	8.28	-0.0525	-0.1182	-0.0167
278	SLV 15	0.84	-7.21	30.34	0.1683	-0.1457	-0.0132
278	SLV 16	0.84	-7.21	30.34	0.1683	-0.1457	-0.0132
279	SLU 1	0	-6.55	50.69	0.1905	0.0066	-0.0001
279	SLU 2	0	-5.75	47.77	0.1651	0.0028	-0.0001
279	SLU 3	0	-6.74	51.37	0.1958	0.007	-0.0001
279	SLU 4	0	-6.25	49.63	0.1805	0.0048	-0.0001
279	SLU 5	0	-5.83	47.79	0.1673	0.0033	-0.0001
279	SLU 6	0	-6.82	51.39	0.198	0.0075	-0.0001
279	SLU 7	0	-6.34	49.64	0.1827	0.0053	-0.0001
279	SLU 8	0	-6.72	50.72	0.195	0.0075	-0.0001
279	SLU 9	0	-6.23	48.97	0.1797	0.0052	-0.0001
279	SLU 10	0	-6.59	53.64	0.1899	0.004	-0.0001
279	SLU 11	0	-7.58	57.24	0.2205	0.0082	-0.0001
279	SLU 12	0	-7.1	55.49	0.2053	0.006	-0.0001
279	SLU 13	0	-6.68	53.65	0.1921	0.0045	-0.0001
279	SLU 14	0	-7.66	57.25	0.2227	0.0087	-0.0001
279	SLU 15	0	-7.18	55.5	0.2075	0.0064	-0.0001
279	SLU 16	0	-7.56	56.58	0.2197	0.0087	-0.0001
279	SLU 17	0	-7.08	54.83	0.2044	0.0064	-0.0001
279	SLU 18	0	-7.76	59.06	0.2259	0.0082	-0.0001
279	SLU 19	0	-7.28	57.31	0.2106	0.006	-0.0001
279	SLU 20	0	-7.84	59.07	0.2281	0.0087	-0.0001
279	SLU 21	0	-7.36	57.33	0.2128	0.0065	-0.0001
279	SLU 22	0	-7.39	56.11	0.2151	0.0078	-0.0001
279	SLU 23	0	-6.59	53.2	0.1896	0.0041	-0.0001
279	SLU 24	0	-7.58	56.8	0.2203	0.0083	-0.0001
279	SLU 25	0	-7.09	55.05	0.205	0.0061	-0.0001
279	SLU 26	0	-6.67	53.21	0.1918	0.0046	-0.0001
279	SLU 27	0	-7.66	56.81	0.2225	0.0088	-0.0001
279	SLU 28	0	-7.18	55.07	0.2073	0.0066	-0.0001
279	SLU 29	0	-7.56	56.14	0.2195	0.0088	-0.0001
279	SLU 30	0	-7.07	54.39	0.2042	0.0065	-0.0001
279	SLU 31	0	-7.43	59.06	0.2144	0.0053	-0.0001
279	SLU 32	0	-8.42	62.66	0.2451	0.0095	-0.0001
279	SLU 33	0	-7.94	60.91	0.2298	0.0073	-0.0001
279	SLU 34	0	-7.52	59.07	0.2166	0.0058	-0.0001
279	SLU 35	0	-8.5	62.67	0.2473	0.01	-0.0001
279	SLU 36	0	-8.02	60.93	0.232	0.0077	-0.0001
279	SLU 37	0	-8.4	62	0.2442	0.0099	-0.0001
279	SLU 38	0	-7.92	60.25	0.229	0.0077	-0.0001
279	SLU 39	0	-8.6	64.48	0.2504	0.0095	-0.0001
279	SLU 40	0	-8.12	62.74	0.2352	0.0073	-0.0001
279	SLU 41	0	-8.68	64.5	0.2526	0.01	-0.0001
279	SLU 42	0	-8.2	62.75	0.2374	0.0077	-0.0001
279	SLU 43	0	-8.23	64.03	0.2393	0.0081	-0.0001
279	SLU 44	0	-7.43	61.12	0.2138	0.0044	-0.0001
279	SLU 45	0	-8.41	64.72	0.2445	0.0086	-0.0001
279	SLU 46	0	-7.93	62.97	0.2293	0.0063	-0.0001
279	SLU 47	0	-7.51	61.13	0.216	0.0048	-0.0001
279	SLU 48	0	-8.49	64.74	0.2467	0.009	-0.0001
279	SLU 49	0	-8.01	62.99	0.2315	0.0068	-0.0001
279	SLU 50	0	-8.39	64.06	0.2437	0.009	-0.0001
279	SLU 51	0	-7.91	62.31	0.2284	0.0068	-0.0001
279	SLU 52	0	-8.27	66.98	0.2386	0.0055	-0.0001
279	SLU 53	0	-9.26	70.58	0.2693	0.0097	-0.0001
279	SLU 54	0	-8.78	68.84	0.254	0.0075	-0.0001
279	SLU 55	0	-8.35	67	0.2408	0.006	-0.0001
279	SLU 56	0	-9.34	70.16	0.2715	0.0102	-0.0001
279	SLU 57	0	-8.86	68.85	0.2562	0.008	-0.0001
279	SLU 58	0	-9.24	69.92	0.2685	0.0102	-0.0001
279	SLU 59	0	-8.76	68.18	0.2532	0.0079	-0.0001
279	SLU 60	0	-9.44	72.41	0.2747	0.0098	-0.0001
279	SLU 61	0	-8.95	70.66	0.2594	0.0075	-0.0001
279	SLU 62	0	-9.52	72.42	0.2769	0.0102	-0.0001
279	SLU 63	0	-9.04	70.67	0.2616	0.008	-0.0001
279	SLU 64	0	-9.07	69.46	0.2638	0.0094	-0.0001
279	SLU 65	0	-8.27	66.54	0.2384	0.0056	-0.0001
279	SLU 66	0	-9.25	70.14	0.2691	0.0099	-0.0001
279	SLU 67	0	-8.77	68.4	0.2538	0.0076	-0.0001
279	SLU 68	0	-8.35	66.56	0.2406	0.0061	-0.0001
279	SLU 69	0	-9.33	70.16	0.2713	0.0103	-0.0001
279	SLU 70	0	-8.85	68.41	0.256	0.0081	-0.0001
279	SLU 71	0	-9.23	69.48	0.2682	0.0103	-0.0001
279	SLU 72	0	-8.75	67.74	0.253	0.0081	-0.0001
279	SLU 73	0	-9.11	72.41	0.2631	0.0068	-0.0001
279	SLU 74	0	-10.1	76.01	0.2938	0.011	-0.0001
279	SLU 75	0	-9.62	74.26	0.2786	0.0088	-0.0001
279	SLU 76	0	-9.19	72.42	0.2653	0.0073	-0.0001
279	SLU 77	0	-10.18	76.02	0.296	0.0115	-0.0001
279	SLU 78	0	-9.7	74.27	0.2808	0.0093	-0.0001
279	SLU 79	0	-10.08	75.35	0.293	0.0115	-0.0001
279	SLU 80	0	-9.6	73.6	0.2777	0.0092	-0.0001
279	SLU 81	0	-10.28	77.83	0.2992	0.011	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
279	SLU 82		0	-9.79	76.08	0.2839	0.0088	-0.0001
279	SLU 83		0	-10.36	77.84	0.3014	0.0115	-0.0001
279	SLU 84		0	-9.88	76.1	0.2861	0.0093	-0.0001
279	SLE RA 1		0	-6.79	52.24	0.1975	0.0069	-0.0001
279	SLE RA 2		0	-6.26	50.29	0.1806	0.0044	-0.0001
279	SLE RA 3		0	-6.91	52.69	0.201	0.0072	-0.0001
279	SLE RA 4		0	-6.59	51.53	0.1909	0.0058	-0.0001
279	SLE RA 5		0	-6.31	50.3	0.1821	0.0048	-0.0001
279	SLE RA 6		0	-6.97	52.7	0.2025	0.0076	-0.0001
279	SLE RA 7		0	-6.65	51.54	0.1923	0.0061	-0.0001
279	SLE RA 8		0	-6.9	52.25	0.2005	0.0075	-0.0001
279	SLE RA 9		0	-6.58	51.09	0.1903	0.0061	-0.0001
279	SLE RA 10		0	-6.82	54.2	0.1971	0.0052	-0.0001
279	SLE RA 11		0	-7.48	56.6	0.2175	0.008	-0.0001
279	SLE RA 12		0	-7.16	55.44	0.2074	0.0065	-0.0001
279	SLE RA 13		0	-6.87	54.21	0.1986	0.0055	-0.0001
279	SLE RA 14		0	-7.53	56.61	0.219	0.0083	-0.0001
279	SLE RA 15		0	-7.21	55.45	0.2088	0.0068	-0.0001
279	SLE RA 16		0	-7.46	56.16	0.217	0.0083	-0.0001
279	SLE RA 17		0	-7.14	55	0.2068	0.0068	-0.0001
279	SLE RA 18		0	-7.6	57.82	0.2211	0.008	-0.0001
279	SLE RA 19		0	-7.28	56.65	0.2109	0.0066	-0.0001
279	SLE RA 20		0	-7.65	57.83	0.2226	0.0083	-0.0001
279	SLE RA 21		0	-7.33	56.66	0.2124	0.0069	-0.0001
279	SLE FR 1		0	-6.79	52.24	0.1975	0.0069	-0.0001
279	SLE FR 2		0	-6.68	51.85	0.1942	0.0064	-0.0001
279	SLE FR 3		0	-6.81	52.24	0.1981	0.007	-0.0001
279	SLE FR 4		0	-6.93	53.52	0.2012	0.0068	-0.0001
279	SLE FR 5		0	-7.05	53.91	0.2052	0.0074	-0.0001
279	SLE FR 6		0	-7.19	55.03	0.2093	0.0075	-0.0001
279	SLE QP 1		0	-6.79	52.24	0.1975	0.0069	-0.0001
279	SLE QP 2		0	-7.03	53.91	0.2046	0.0073	-0.0001
279	SLD 1		0.07	-3.6	35.56	0.1006	0.1064	0.0005
279	SLD 2		0.07	-3.6	35.56	0.1006	0.1064	0.0005
279	SLD 3		0.18	-7.19	42.56	0.2112	0.1824	0.0013
279	SLD 4		0.18	-7.19	42.56	0.2112	0.1824	0.0013
279	SLD 5		-0.16	-0.57	37.79	0.0056	-0.0782	-0.0011
279	SLD 6		-0.16	-0.57	37.79	0.0056	-0.0782	-0.0011
279	SLD 7		0.23	-12.51	61.12	0.3744	0.175	0.0016
279	SLD 8		0.23	-12.51	61.12	0.3744	0.175	0.0016
279	SLD 9		-0.23	-1.55	46.7	0.0348	-0.1605	-0.0017
279	SLD 10		-0.23	-1.55	46.7	0.0348	-0.1605	-0.0017
279	SLD 11		0.16	-13.5	70.03	0.4037	0.0928	0.001
279	SLD 12		0.16	-13.5	70.03	0.4037	0.0928	0.001
279	SLD 13		-0.18	-6.88	65.26	0.198	-0.1679	-0.0014
279	SLD 14		-0.18	-6.88	65.26	0.198	-0.1679	-0.0014
279	SLD 15		-0.06	-10.46	72.26	0.3087	-0.0919	-0.0006
279	SLD 16		-0.06	-10.46	72.26	0.3087	-0.0919	-0.0006
279	SLV 1		0.15	1	10.86	-0.0391	0.243	0.0012
279	SLV 2		0.15	1	10.86	-0.0391	0.243	0.0012
279	SLV 3		0.44	-7.37	27.37	0.2193	0.437	0.0033
279	SLV 4		0.44	-7.37	27.37	0.2193	0.437	0.0033
279	SLV 5		-0.4	8.07	15.96	-0.2604	-0.2162	-0.0028
279	SLV 6		-0.4	8.07	15.96	-0.2604	-0.2162	-0.0028
279	SLV 7		0.58	-19.83	70.98	0.6009	0.4304	0.004
279	SLV 8		0.58	-19.83	70.98	0.6009	0.4304	0.004
279	SLV 9		-0.58	5.76	36.84	-0.1917	-0.4159	-0.0042
279	SLV 10		-0.58	5.76	36.84	-0.1917	-0.4159	-0.0042
279	SLV 11		0.4	-22.14	91.86	0.6696	0.2307	0.0026
279	SLV 12		0.4	-22.14	91.86	0.6696	0.2307	0.0026
279	SLV 13		-0.44	-6.7	80.45	0.1899	-0.4225	-0.0034
279	SLV 14		-0.44	-6.7	80.45	0.1899	-0.4225	-0.0034
279	SLV 15		-0.14	-15.06	96.96	0.4483	-0.2285	-0.0014
279	SLV 16		-0.14	-15.06	96.96	0.4483	-0.2285	-0.0014
280	SLU 1		0	1.9	38.25	-0.2881	0.0005	0
280	SLU 2		0	1.9	38.22	-0.2873	0.0005	0
280	SLU 3		0	1.75	38.83	-0.2917	0.0006	0
280	SLU 4		0	1.75	38.81	-0.2912	0.0006	0
280	SLU 5		0	1.67	38.19	-0.2852	0.0006	0
280	SLU 6		0	1.53	38.81	-0.2895	0.0007	0
280	SLU 7		0	1.52	38.79	-0.2891	0.0007	0
280	SLU 8		0	1.45	38.21	-0.2839	0.0007	0
280	SLU 9		0	1.45	38.19	-0.2834	0.0007	0
280	SLU 10		0	2.24	44.41	-0.3362	0.0007	0
280	SLU 11		0	2.09	45.03	-0.3405	0.0007	0
280	SLU 12		0	2.09	45.01	-0.3401	0.0007	0
280	SLU 13		0	2.02	44.39	-0.3341	0.0007	0
280	SLU 14		0	1.87	45.01	-0.3384	0.0008	0
280	SLU 15		0	1.87	44.99	-0.3379	0.0008	0
280	SLU 16		0	1.8	44.4	-0.3328	0.0008	0
280	SLU 17		0	1.79	44.38	-0.3323	0.0008	0
280	SLU 18		0	2.39	47.1	-0.358	0.0007	0
280	SLU 19		0	2.39	47.08	-0.3575	0.0007	0
280	SLU 20		0	2.17	47.08	-0.3559	0.0008	0
280	SLU 21		0	2.16	47.06	-0.3554	0.0008	0
280	SLU 22		0	2.15	43.43	-0.3325	0.0006	0
280	SLU 23		0	2.15	43.39	-0.3317	0.0007	0
280	SLU 24		0	2	44.01	-0.336	0.0007	0
280	SLU 25		0	2	43.99	-0.3356	0.0007	0
280	SLU 26		0	1.92	43.37	-0.3296	0.0008	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
280	SLU 27	0	1.78	43.99	-0.3339	0.0008	0
280	SLU 28	0	1.77	43.97	-0.3334	0.0008	0
280	SLU 29	0	1.71	43.38	-0.3283	0.0008	0
280	SLU 30	0	1.7	43.36	-0.3278	0.0008	0
280	SLU 31	0	2.49	49.59	-0.3806	0.0008	0
280	SLU 32	0	2.34	50.21	-0.3849	0.0009	0
280	SLU 33	0	2.34	50.19	-0.3844	0.0009	0
280	SLU 34	0	2.27	49.57	-0.3785	0.0009	0
280	SLU 35	0	2.12	50.18	-0.3828	0.0009	0
280	SLU 36	0	2.12	50.17	-0.3823	0.001	0
280	SLU 37	0	2.05	49.58	-0.3772	0.001	0
280	SLU 38	0	2.04	49.56	-0.3767	0.001	0
280	SLU 39	0	2.64	52.28	-0.4024	0.0008	0
280	SLU 40	0	2.64	52.26	-0.4019	0.0008	0
280	SLU 41	0	2.42	52.26	-0.4003	0.0009	0
280	SLU 42	0	2.41	52.24	-0.3998	0.0009	0
280	SLU 43	0	2.39	47.95	-0.3594	0.0006	0
280	SLU 44	0	2.38	47.91	-0.3586	0.0006	0
280	SLU 45	0	2.24	48.53	-0.3629	0.0007	0
280	SLU 46	0	2.23	48.51	-0.3624	0.0007	0
280	SLU 47	0	2.16	47.89	-0.3565	0.0007	0
280	SLU 48	0	2.01	48.51	-0.3608	0.0008	0
280	SLU 49	0	2.01	48.49	-0.3603	0.0008	0
280	SLU 50	0	1.94	47.9	-0.3551	0.0008	0
280	SLU 51	0	1.94	47.88	-0.3547	0.0008	0
280	SLU 52	0	2.73	54.11	-0.4075	0.0008	0
280	SLU 53	0	2.58	54.73	-0.4118	0.0008	0
280	SLU 54	0	2.57	54.71	-0.4113	0.0008	0
280	SLU 55	0	2.5	54.09	-0.4053	0.0009	0
280	SLU 56	0	2.35	54.71	-0.4096	0.0009	0
280	SLU 57	0	2.35	54.69	-0.4092	0.0009	0
280	SLU 58	0	2.28	54.1	-0.404	0.0009	0
280	SLU 59	0	2.28	54.08	-0.4035	0.0009	0
280	SLU 60	0	2.88	56.8	-0.4292	0.0008	0
280	SLU 61	0	2.87	56.78	-0.4287	0.0008	0
280	SLU 62	0	2.65	56.78	-0.4271	0.0009	0
280	SLU 63	0	2.65	56.76	-0.4266	0.0009	0
280	SLU 64	0	2.64	53.12	-0.4038	0.0007	0
280	SLU 65	0	2.63	53.09	-0.403	0.0008	0
280	SLU 66	0	2.49	53.71	-0.4073	0.0008	0
280	SLU 67	0	2.48	53.69	-0.4068	0.0008	0
280	SLU 68	0	2.41	53.07	-0.4008	0.0009	0
280	SLU 69	0	2.26	53.69	-0.4052	0.0009	0
280	SLU 70	0	2.26	53.67	-0.4047	0.0009	0
280	SLU 71	0	2.19	53.08	-0.3995	0.0009	0
280	SLU 72	0	2.19	53.06	-0.399	0.0009	0
280	SLU 73	0	2.98	59.29	-0.4518	0.0009	0
280	SLU 74	0	2.83	59.9	-0.4562	0.001	0
280	SLU 75	0	2.82	59.89	-0.4557	0.001	0
280	SLU 76	0	2.75	59.27	-0.4497	0.001	0
280	SLU 77	0	2.6	59.88	-0.454	0.001	0
280	SLU 78	0	2.6	59.86	-0.4535	0.0011	0
280	SLU 79	0	2.53	59.28	-0.4484	0.0011	0
280	SLU 80	0	2.53	59.26	-0.4479	0.0011	0
280	SLU 81	0	3.13	61.98	-0.4736	0.0009	0
280	SLU 82	0	3.12	61.96	-0.4731	0.0009	0
280	SLU 83	0	2.9	61.95	-0.4715	0.001	0
280	SLU 84	0	2.9	61.94	-0.471	0.001	0
280	SLE RA 1	0	1.97	39.73	-0.3008	0.0005	0
280	SLE RA 2	0	1.97	39.71	-0.3003	0.0006	0
280	SLE RA 3	0	1.87	40.12	-0.3032	0.0006	0
280	SLE RA 4	0	1.87	40.1	-0.3028	0.0006	0
280	SLE RA 5	0	1.82	39.69	-0.2989	0.0006	0
280	SLE RA 6	0	1.72	40.1	-0.3018	0.0007	0
280	SLE RA 7	0	1.72	40.09	-0.3014	0.0007	0
280	SLE RA 8	0	1.68	39.7	-0.298	0.0007	0
280	SLE RA 9	0	1.67	39.69	-0.2977	0.0007	0
280	SLE RA 10	0	2.2	43.84	-0.3329	0.0006	0
280	SLE RA 11	0	2.1	44.25	-0.3358	0.0007	0
280	SLE RA 12	0	2.1	44.23	-0.3354	0.0007	0
280	SLE RA 13	0	2.05	43.82	-0.3315	0.0007	0
280	SLE RA 14	0	1.95	44.23	-0.3343	0.0007	0
280	SLE RA 15	0	1.95	44.22	-0.334	0.0008	0
280	SLE RA 16	0	1.9	43.83	-0.3306	0.0008	0
280	SLE RA 17	0	1.9	43.82	-0.3303	0.0008	0
280	SLE RA 18	0	2.3	45.63	-0.3474	0.0007	0
280	SLE RA 19	0	2.3	45.61	-0.3471	0.0007	0
280	SLE RA 20	0	2.15	45.61	-0.346	0.0007	0
280	SLE RA 21	0	2.15	45.6	-0.3457	0.0007	0
280	SLE FR 1	0	1.97	39.73	-0.3008	0.0005	0
280	SLE FR 2	0	1.97	39.72	-0.3007	0.0005	0
280	SLE FR 3	0	1.91	39.72	-0.3003	0.0006	0
280	SLE FR 4	0	2.07	41.49	-0.3147	0.0006	0
280	SLE FR 5	0	2.01	41.49	-0.3142	0.0006	0
280	SLE FR 6	0	2.14	42.68	-0.3241	0.0006	0
280	SLE QP 1	0	1.97	39.73	-0.3008	0.0005	0
280	SLE QP 2	0	2.07	41.5	-0.3148	0.0006	0
280	SLD 1	-0.12	3.42	39.33	-0.3638	-0.0746	0
280	SLD 2	-0.12	3.42	39.33	-0.3638	-0.0746	0
280	SLD 3	-0.16	-1.08	39.87	-0.1787	-0.0985	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
280	SLD 4	-0.16	-1.08	39.87	-0.1787	-0.0985	0
280	SLD 5	0.01	9.3	40.02	-0.6101	0.0142	0
280	SLD 6	0.01	9.3	40.02	-0.6101	0.0142	0
280	SLD 7	-0.1	-5.7	41.84	0.0067	-0.0653	-0.0001
280	SLD 8	-0.1	-5.7	41.84	0.0067	-0.0653	-0.0001
280	SLD 9	0.1	9.84	41.15	-0.6363	0.0665	0.0001
280	SLD 10	0.1	9.84	41.15	-0.6363	0.0665	0.0001
280	SLD 11	-0.01	-5.16	42.98	-0.0195	-0.013	0
280	SLD 12	-0.01	-5.16	42.98	-0.0195	-0.013	0
280	SLD 13	0.16	5.22	43.12	-0.4509	0.0996	0
280	SLD 14	0.16	5.22	43.12	-0.4509	0.0996	0
280	SLD 15	0.13	0.72	43.67	-0.2658	0.0758	0
280	SLD 16	0.13	0.72	43.67	-0.2658	0.0758	0
280	SLV 1	-0.3	5.21	36.39	-0.428	-0.1835	0
280	SLV 2	-0.3	5.21	36.39	-0.428	-0.1835	0
280	SLV 3	-0.38	-5.35	37.71	0.0055	-0.2438	-0.0001
280	SLV 4	-0.38	-5.35	37.71	0.0055	-0.2438	-0.0001
280	SLV 5	0.04	19.04	37.96	-1.0062	0.0369	0.0001
280	SLV 6	0.04	19.04	37.96	-1.0062	0.0369	0.0001
280	SLV 7	-0.24	-16.18	42.36	0.4387	-0.1643	-0.0001
280	SLV 8	-0.24	-16.18	42.36	0.4387	-0.1643	-0.0001
280	SLV 9	0.24	20.33	40.63	-1.0683	0.1655	0.0001
280	SLV 10	0.24	20.33	40.63	-1.0683	0.1655	0.0001
280	SLV 11	-0.03	-14.9	45.03	0.3766	-0.0358	-0.0001
280	SLV 12	-0.03	-14.9	45.03	0.3766	-0.0358	-0.0001
280	SLV 13	0.39	9.5	45.29	-0.6351	0.245	0.0001
280	SLV 14	0.39	9.5	45.29	-0.6351	0.245	0.0001
280	SLV 15	0.3	-1.07	46.61	-0.2016	0.1846	0
280	SLV 16	0.3	-1.07	46.61	-0.2016	0.1846	0
281	SLU 1	-0.01	-5.14	50.43	0.0549	-0.0462	-0.0001
281	SLU 2	-0.02	-4.22	47.13	0.0261	-0.0419	-0.0001
281	SLU 3	-0.01	-5.21	51.46	0.0546	-0.0474	-0.0001
281	SLU 4	-0.02	-4.66	49.48	0.0373	-0.0449	-0.0001
281	SLU 5	-0.02	-4.21	47.62	0.0242	-0.0426	-0.0001
281	SLU 6	-0.01	-5.2	51.96	0.0527	-0.0481	-0.0001
281	SLU 7	-0.02	-4.66	49.98	0.0354	-0.0456	-0.0001
281	SLU 8	-0.01	-5.12	51.42	0.0511	-0.0476	-0.0001
281	SLU 9	-0.02	-4.57	49.44	0.0339	-0.0451	-0.0001
281	SLU 10	-0.02	-4.77	52.89	0.0293	-0.0479	-0.0001
281	SLU 11	-0.02	-5.76	57.23	0.0578	-0.0534	-0.0001
281	SLU 12	-0.02	-5.22	55.25	0.0405	-0.0509	-0.0001
281	SLU 13	-0.02	-4.76	53.39	0.0274	-0.0486	-0.0001
281	SLU 14	-0.02	-5.76	57.73	0.0559	-0.0541	-0.0001
281	SLU 15	-0.02	-5.21	55.75	0.0386	-0.0516	-0.0001
281	SLU 16	-0.02	-5.67	57.19	0.0544	-0.0536	-0.0001
281	SLU 17	-0.02	-5.12	55.21	0.0371	-0.0511	-0.0001
281	SLU 18	-0.02	-5.92	58.66	0.0595	-0.0548	-0.0001
281	SLU 19	-0.02	-5.37	56.68	0.0422	-0.0522	-0.0001
281	SLU 20	-0.02	-5.91	59.16	0.0576	-0.0555	-0.0001
281	SLU 21	-0.02	-5.36	57.18	0.0403	-0.0529	-0.0001
281	SLU 22	-0.02	-5.67	55.98	0.0582	-0.052	-0.0001
281	SLU 23	-0.02	-4.76	52.68	0.0294	-0.0477	-0.0001
281	SLU 24	-0.02	-5.75	57.02	0.0579	-0.0533	-0.0001
281	SLU 25	-0.02	-5.2	55.04	0.0406	-0.0507	-0.0001
281	SLU 26	-0.02	-4.75	53.17	0.0275	-0.0485	-0.0001
281	SLU 27	-0.02	-5.74	57.51	0.056	-0.054	-0.0001
281	SLU 28	-0.02	-5.19	55.53	0.0387	-0.0514	-0.0001
281	SLU 29	-0.02	-5.65	56.97	0.0545	-0.0535	-0.0001
281	SLU 30	-0.02	-5.1	54.99	0.0372	-0.0509	-0.0001
281	SLU 31	-0.02	-5.31	58.44	0.0326	-0.0537	-0.0001
281	SLU 32	-0.02	-6.3	62.78	0.0611	-0.0593	-0.0001
281	SLU 33	-0.02	-5.75	60.8	0.0438	-0.0567	-0.0001
281	SLU 34	-0.02	-5.3	58.94	0.0308	-0.0544	-0.0001
281	SLU 35	-0.02	-6.29	63.28	0.0592	-0.06	-0.0001
281	SLU 36	-0.02	-5.74	61.3	0.042	-0.0574	-0.0001
281	SLU 37	-0.02	-6.2	62.74	0.0577	-0.0595	-0.0001
281	SLU 38	-0.02	-5.65	60.76	0.0404	-0.0569	-0.0001
281	SLU 39	-0.02	-6.46	64.21	0.0628	-0.0606	-0.0001
281	SLU 40	-0.02	-5.91	62.23	0.0455	-0.058	-0.0001
281	SLU 41	-0.02	-6.45	64.71	0.0609	-0.0613	-0.0001
281	SLU 42	-0.02	-5.9	62.73	0.0437	-0.0587	-0.0001
281	SLU 43	-0.02	-6.49	63.65	0.0702	-0.0581	-0.0001
281	SLU 44	-0.02	-5.58	60.35	0.0414	-0.0538	-0.0001
281	SLU 45	-0.02	-6.57	64.69	0.0699	-0.0593	-0.0001
281	SLU 46	-0.02	-6.02	62.71	0.0526	-0.0567	-0.0001
281	SLU 47	-0.02	-5.57	60.85	0.0395	-0.0545	-0.0001
281	SLU 48	-0.02	-6.56	65.19	0.068	-0.06	-0.0001
281	SLU 49	-0.02	-6.01	63.21	0.0507	-0.0574	-0.0001
281	SLU 50	-0.02	-6.47	64.64	0.0664	-0.0595	-0.0001
281	SLU 51	-0.02	-5.92	62.66	0.0492	-0.0569	-0.0001
281	SLU 52	-0.02	-6.13	66.11	0.0446	-0.0598	-0.0001
281	SLU 53	-0.02	-7.12	70.45	0.0731	-0.0653	-0.0001
281	SLU 54	-0.02	-6.57	68.47	0.0558	-0.0627	-0.0001
281	SLU 55	-0.02	-6.12	66.61	0.0427	-0.0605	-0.0001
281	SLU 56	-0.02	-7.11	70.95	0.0712	-0.066	-0.0001
281	SLU 57	-0.02	-6.56	68.97	0.054	-0.0634	-0.0001
281	SLU 58	-0.02	-7.02	70.41	0.0697	-0.0655	-0.0001
281	SLU 59	-0.02	-6.48	68.43	0.0524	-0.0629	-0.0001
281	SLU 60	-0.02	-7.28	71.89	0.0748	-0.0667	-0.0001
281	SLU 61	-0.02	-6.73	69.91	0.0575	-0.0641	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
281	SLU 62		-0.02	-7.27	72.38	0.0729	-0.0674	-0.0001
281	SLU 63		-0.02	-6.72	70.4	0.0556	-0.0648	-0.0001
281	SLU 64		-0.02	-7.03	69.2	0.0735	-0.0639	-0.0001
281	SLU 65		-0.02	-6.11	65.9	0.0447	-0.0596	-0.0001
281	SLU 66		-0.02	-7.11	70.24	0.0732	-0.0651	-0.0001
281	SLU 67		-0.02	-6.56	68.26	0.0559	-0.0625	-0.0001
281	SLU 68		-0.02	-6.1	66.4	0.0428	-0.0603	-0.0001
281	SLU 69		-0.02	-7.1	70.74	0.0713	-0.0658	-0.0001
281	SLU 70		-0.02	-6.55	68.76	0.0541	-0.0633	-0.0001
281	SLU 71		-0.02	-7.01	70.2	0.0698	-0.0653	-0.0001
281	SLU 72		-0.02	-6.46	68.22	0.0525	-0.0628	-0.0001
281	SLU 73		-0.02	-6.66	71.67	0.0479	-0.0656	-0.0001
281	SLU 74		-0.02	-7.66	76.01	0.0764	-0.0711	-0.0001
281	SLU 75		-0.02	-7.11	74.03	0.0591	-0.0685	-0.0001
281	SLU 76		-0.02	-6.65	72.16	0.0461	-0.0663	-0.0001
281	SLU 77		-0.02	-7.65	76.5	0.0746	-0.0718	-0.0001
281	SLU 78		-0.02	-7.1	74.52	0.0573	-0.0693	-0.0001
281	SLU 79		-0.02	-7.56	75.96	0.073	-0.0713	-0.0001
281	SLU 80		-0.02	-7.01	73.98	0.0557	-0.0688	-0.0001
281	SLU 81		-0.02	-7.82	77.44	0.0781	-0.0725	-0.0001
281	SLU 82		-0.02	-7.27	75.46	0.0608	-0.0699	-0.0001
281	SLU 83		-0.02	-7.81	77.94	0.0762	-0.0732	-0.0001
281	SLU 84		-0.02	-7.26	75.95	0.059	-0.0706	-0.0001
281	SLE RA 1		-0.01	-5.29	52.01	0.0558	-0.0479	-0.0001
281	SLE RA 2		-0.02	-4.68	49.81	0.0366	-0.045	-0.0001
281	SLE RA 3		-0.02	-5.34	52.7	0.0556	-0.0487	-0.0001
281	SLE RA 4		-0.02	-4.97	51.38	0.0441	-0.047	-0.0001
281	SLE RA 5		-0.02	-4.67	50.14	0.0354	-0.0455	-0.0001
281	SLE RA 6		-0.02	-5.33	53.04	0.0544	-0.0492	-0.0001
281	SLE RA 7		-0.02	-4.97	51.72	0.0428	-0.0474	-0.0001
281	SLE RA 8		-0.02	-5.28	52.67	0.0533	-0.0488	-0.0001
281	SLE RA 9		-0.02	-4.91	51.35	0.0418	-0.0471	-0.0001
281	SLE RA 10		-0.02	-5.05	53.65	0.0388	-0.049	-0.0001
281	SLE RA 11		-0.02	-5.71	56.55	0.0578	-0.0527	-0.0001
281	SLE RA 12		-0.02	-5.34	55.23	0.0462	-0.051	-0.0001
281	SLE RA 13		-0.02	-5.04	53.99	0.0375	-0.0495	-0.0001
281	SLE RA 14		-0.02	-5.7	56.88	0.0565	-0.0532	-0.0001
281	SLE RA 15		-0.02	-5.34	55.56	0.045	-0.0514	-0.0001
281	SLE RA 16		-0.02	-5.64	56.52	0.0555	-0.0528	-0.0001
281	SLE RA 17		-0.02	-5.28	55.2	0.044	-0.0511	-0.0001
281	SLE RA 18		-0.02	-5.81	57.5	0.0589	-0.0536	-0.0001
281	SLE RA 19		-0.02	-5.45	56.18	0.0474	-0.0519	-0.0001
281	SLE RA 20		-0.02	-5.81	57.83	0.0576	-0.0541	-0.0001
281	SLE RA 21		-0.02	-5.44	56.51	0.0461	-0.0523	-0.0001
281	SLE FR 1		-0.01	-5.29	52.01	0.0558	-0.0479	-0.0001
281	SLE FR 2		-0.01	-5.17	51.57	0.052	-0.0473	-0.0001
281	SLE FR 3		-0.01	-5.29	52.14	0.0553	-0.0481	-0.0001
281	SLE FR 4		-0.02	-5.32	53.22	0.0529	-0.049	-0.0001
281	SLE FR 5		-0.02	-5.44	53.79	0.0562	-0.0498	-0.0001
281	SLE FR 6		-0.02	-5.55	54.76	0.0573	-0.0507	-0.0001
281	SLE QP 1		-0.01	-5.29	52.01	0.0558	-0.0479	-0.0001
281	SLE QP 2		-0.02	-5.45	53.66	0.0567	-0.0496	-0.0001
281	SLD 1		0.17	-1.64	65.58	-0.0863	0.1039	-0.0002
281	SLD 2		0.17	-1.64	65.58	-0.0863	0.1039	-0.0002
281	SLD 3		0.02	-5.56	72.71	0.0777	0.0203	0.0002
281	SLD 4		0.02	-5.56	72.71	0.0777	0.0203	0.0002
281	SLD 5		0.27	1.64	46.41	-0.2348	0.1233	-0.0007
281	SLD 6		0.27	1.64	46.41	-0.2348	0.1233	-0.0007
281	SLD 7		-0.23	-11.43	70.19	0.3117	-0.1555	0.0006
281	SLD 8		-0.23	-11.43	70.19	0.3117	-0.1555	0.0006
281	SLD 9		0.2	0.53	37.12	-0.1982	0.0563	-0.0008
281	SLD 10		0.2	0.53	37.12	-0.1982	0.0563	-0.0008
281	SLD 11		-0.3	-12.53	60.9	0.3483	-0.2225	0.0005
281	SLD 12		-0.3	-12.53	60.9	0.3483	-0.2225	0.0005
281	SLD 13		-0.05	-5.33	34.61	0.0358	-0.1194	-0.0004
281	SLD 14		-0.05	-5.33	34.61	0.0358	-0.1194	-0.0004
281	SLD 15		-0.2	-9.25	41.74	0.1997	-0.2031	0
281	SLD 16		-0.2	-9.25	41.74	0.1997	-0.2031	0
281	SLV 1		0.42	3.54	81.54	-0.2837	0.3208	-0.0003
281	SLV 2		0.42	3.54	81.54	-0.2837	0.3208	-0.0003
281	SLV 3		0.05	-5.63	98.37	0.0983	0.113	0.0007
281	SLV 4		0.05	-5.63	98.37	0.0983	0.113	0.0007
281	SLV 5		0.68	11.16	36.51	-0.6247	0.3767	-0.0016
281	SLV 6		0.68	11.16	36.51	-0.6247	0.3767	-0.0016
281	SLV 7		-0.56	-19.41	92.59	0.6485	-0.316	0.0016
281	SLV 8		-0.56	-19.41	92.59	0.6485	-0.316	0.0016
281	SLV 9		0.53	8.52	14.73	-0.5351	0.2168	-0.0018
281	SLV 10		0.53	8.52	14.73	-0.5351	0.2168	-0.0018
281	SLV 11		-0.71	-22.05	70.81	0.7382	-0.4759	0.0014
281	SLV 12		-0.71	-22.05	70.81	0.7382	-0.4759	0.0014
281	SLV 13		-0.08	-5.26	8.95	0.0152	-0.2122	-0.0009
281	SLV 14		-0.08	-5.26	8.95	0.0152	-0.2122	-0.0009
281	SLV 15		-0.45	-14.43	25.78	0.3971	-0.42	0.0001
281	SLV 16		-0.45	-14.43	25.78	0.3971	-0.42	0.0001
282	SLU 1		0	-2.67	37.28	0.1328	-0.0016	0
282	SLU 2		0	-2.67	37.25	0.1326	-0.0016	0
282	SLU 3		0	-2.93	37.94	0.1455	-0.0016	0
282	SLU 4		0	-2.93	37.92	0.1454	-0.0016	0
282	SLU 5		0	-2.93	37.35	0.1452	-0.0015	0
282	SLU 6		0	-3.19	38.04	0.1581	-0.0015	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
282	SLU 7	0	-3.19	38.01	0.158	-0.0015	0
282	SLU 8	0	-3.19	37.48	0.158	-0.0015	0
282	SLU 9	0	-3.19	37.46	0.1579	-0.0015	0
282	SLU 10	0	-3.07	43.12	0.1527	-0.0018	0
282	SLU 11	0	-3.33	43.81	0.1656	-0.0018	0
282	SLU 12	0	-3.33	43.79	0.1655	-0.0018	0
282	SLU 13	0	-3.33	43.22	0.1654	-0.0017	0
282	SLU 14	0	-3.59	43.91	0.1783	-0.0017	0
282	SLU 15	0	-3.59	43.89	0.1782	-0.0017	0
282	SLU 16	0	-3.59	43.35	0.1781	-0.0017	0
282	SLU 17	0	-3.59	43.33	0.178	-0.0017	0
282	SLU 18	0	-3.24	45.67	0.1615	-0.0018	0
282	SLU 19	0	-3.24	45.65	0.1614	-0.0018	0
282	SLU 20	0	-3.51	45.77	0.1741	-0.0018	0
282	SLU 21	0	-3.5	45.75	0.174	-0.0018	0
282	SLU 22	0	-3.16	42.63	0.1571	-0.0017	0
282	SLU 23	0	-3.16	42.59	0.157	-0.0018	0
282	SLU 24	0	-3.43	43.28	0.1699	-0.0017	0
282	SLU 25	0	-3.43	43.26	0.1698	-0.0018	0
282	SLU 26	0	-3.42	42.69	0.1696	-0.0017	0
282	SLU 27	0	-3.69	43.38	0.1825	-0.0017	0
282	SLU 28	0	-3.69	43.36	0.1824	-0.0017	0
282	SLU 29	0	-3.69	42.83	0.1824	-0.0017	0
282	SLU 30	0	-3.69	42.8	0.1823	-0.0017	0
282	SLU 31	0	-3.57	48.46	0.1771	-0.0019	0
282	SLU 32	0	-3.83	49.16	0.19	-0.0019	0
282	SLU 33	0	-3.83	49.13	0.1899	-0.0019	0
282	SLU 34	0	-3.83	48.56	0.1897	-0.0019	0
282	SLU 35	0	-4.09	49.25	0.2026	-0.0019	0
282	SLU 36	0	-4.09	49.23	0.2025	-0.0019	0
282	SLU 37	0	-4.09	48.7	0.2025	-0.0018	0
282	SLU 38	0	-4.09	48.68	0.2024	-0.0018	0
282	SLU 39	0	-3.74	51.02	0.1859	-0.002	0
282	SLU 40	0	-3.74	51	0.1858	-0.002	0
282	SLU 41	0	-4	51.12	0.1985	-0.002	0
282	SLU 42	0	-4	51.09	0.1984	-0.002	0
282	SLU 43	0	-3.3	46.64	0.1643	-0.002	0
282	SLU 44	0	-3.3	46.6	0.1641	-0.002	0
282	SLU 45	0	-3.56	47.29	0.177	-0.002	0
282	SLU 46	0	-3.56	47.27	0.1769	-0.002	0
282	SLU 47	0	-3.56	46.7	0.1767	-0.002	0
282	SLU 48	0	-3.82	47.39	0.1896	-0.0019	0
282	SLU 49	0	-3.82	47.37	0.1895	-0.002	0
282	SLU 50	0	-3.82	46.83	0.1895	-0.0019	0
282	SLU 51	0	-3.82	46.81	0.1894	-0.0019	0
282	SLU 52	0	-3.7	52.47	0.1842	-0.0022	0
282	SLU 53	0	-3.97	53.16	0.1971	-0.0022	0
282	SLU 54	0	-3.96	53.14	0.197	-0.0022	0
282	SLU 55	0	-3.96	52.57	0.1968	-0.0021	0
282	SLU 56	0	-4.23	53.26	0.2098	-0.0021	0
282	SLU 57	0	-4.23	53.24	0.2097	-0.0021	0
282	SLU 58	0	-4.22	52.71	0.2096	-0.0021	0
282	SLU 59	0	-4.22	52.68	0.2095	-0.0021	0
282	SLU 60	0	-3.88	55.02	0.193	-0.0022	0
282	SLU 61	0	-3.88	55	0.1929	-0.0023	0
282	SLU 62	0	-4.14	55.12	0.2056	-0.0022	0
282	SLU 63	0	-4.14	55.1	0.2055	-0.0022	0
282	SLU 64	0	-3.8	51.98	0.1886	-0.0022	0
282	SLU 65	0	-3.8	51.94	0.1885	-0.0022	0
282	SLU 66	0	-4.06	52.64	0.2014	-0.0022	0
282	SLU 67	0	-4.06	52.61	0.2013	-0.0022	0
282	SLU 68	0	-4.06	52.04	0.2011	-0.0021	0
282	SLU 69	0	-4.32	52.73	0.214	-0.0021	0
282	SLU 70	0	-4.32	52.71	0.2139	-0.0021	0
282	SLU 71	0	-4.32	52.18	0.2139	-0.0021	0
282	SLU 72	0	-4.32	52.16	0.2138	-0.0021	0
282	SLU 73	0	-4.2	57.82	0.2086	-0.0024	0
282	SLU 74	0	-4.46	58.51	0.2215	-0.0023	0
282	SLU 75	0	-4.46	58.49	0.2214	-0.0023	0
282	SLU 76	0	-4.46	57.91	0.2212	-0.0023	0
282	SLU 77	0	-4.72	58.61	0.2341	-0.0023	0
282	SLU 78	0	-4.72	58.58	0.234	-0.0023	0
282	SLU 79	0	-4.72	58.05	0.234	-0.0023	0
282	SLU 80	0	-4.72	58.03	0.2339	-0.0023	0
282	SLU 81	0	-4.37	60.37	0.2174	-0.0024	0
282	SLU 82	0	-4.37	60.35	0.2173	-0.0024	0
282	SLU 83	0	-4.63	60.47	0.23	-0.0024	0
282	SLU 84	0	-4.63	60.45	0.2299	-0.0024	0
282	SLE RA 1	0	-2.81	38.81	0.1398	-0.0016	0
282	SLE RA 2	0	-2.81	38.79	0.1396	-0.0016	0
282	SLE RA 3	0	-2.99	39.25	0.1482	-0.0016	0
282	SLE RA 4	0	-2.99	39.23	0.1482	-0.0016	0
282	SLE RA 5	0	-2.98	38.85	0.1481	-0.0016	0
282	SLE RA 6	0	-3.16	39.31	0.1567	-0.0016	0
282	SLE RA 7	0	-3.16	39.3	0.1566	-0.0016	0
282	SLE RA 8	0	-3.16	38.94	0.1566	-0.0016	0
282	SLE RA 9	0	-3.16	38.93	0.1565	-0.0016	0
282	SLE RA 10	0	-3.08	42.7	0.1531	-0.0018	0
282	SLE RA 11	0	-3.25	43.16	0.1617	-0.0017	0
282	SLE RA 12	0	-3.25	43.15	0.1616	-0.0017	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
282	SLE RA 13		0	-3.25	42.77	0.1615	-0.0017	0
282	SLE RA 14		0	-3.43	43.23	0.1701	-0.0017	0
282	SLE RA 15		0	-3.43	43.21	0.17	-0.0017	0
282	SLE RA 16		0	-3.43	42.86	0.17	-0.0017	0
282	SLE RA 17		0	-3.43	42.84	0.1699	-0.0017	0
282	SLE RA 18		0	-3.19	44.4	0.1589	-0.0018	0
282	SLE RA 19		0	-3.19	44.39	0.1588	-0.0018	0
282	SLE RA 20		0	-3.37	44.47	0.1673	-0.0018	0
282	SLE RA 21		0	-3.37	44.45	0.1672	-0.0018	0
282	SLE FR 1		0	-2.81	38.81	0.1398	-0.0016	0
282	SLE FR 2		0	-2.81	38.81	0.1397	-0.0016	0
282	SLE FR 3		0	-2.88	38.84	0.1431	-0.0016	0
282	SLE FR 4		0	-2.93	40.48	0.1455	-0.0017	0
282	SLE FR 5		0	-3	40.52	0.1489	-0.0017	0
282	SLE FR 6		0	-3	41.61	0.1493	-0.0017	0
282	SLE QP 1		0	-2.81	38.81	0.1398	-0.0016	0
282	SLE QP 2		0	-2.93	40.49	0.1455	-0.0017	0
282	SLD 1		-0.09	-1.92	40.64	0.1037	-0.0793	-0.0001
282	SLD 2		-0.09	-1.92	40.64	0.1037	-0.0793	-0.0001
282	SLD 3		-0.13	-6.31	41.92	0.2859	-0.0549	-0.0001
282	SLD 4		-0.13	-6.31	41.92	0.2859	-0.0549	-0.0001
282	SLD 5		0.02	4.02	38.6	-0.1432	-0.0619	-0.0001
282	SLD 6		0.02	4.02	38.6	-0.1432	-0.0619	-0.0001
282	SLD 7		-0.09	-10.59	42.85	0.4638	0.0193	0
282	SLD 8		-0.09	-10.59	42.85	0.4638	0.0193	0
282	SLD 9		0.09	4.74	38.13	-0.1728	-0.0226	0
282	SLD 10		0.09	4.74	38.13	-0.1728	-0.0226	0
282	SLD 11		-0.03	-9.88	42.38	0.4342	0.0585	0.0001
282	SLD 12		-0.03	-9.88	42.38	0.4342	0.0585	0.0001
282	SLD 13		0.12	0.46	39.06	0.0052	0.0516	0.0001
282	SLD 14		0.12	0.46	39.06	0.0052	0.0516	0.0001
282	SLD 15		0.09	-3.93	40.34	0.1873	0.0759	0.0001
282	SLD 16		0.09	-3.93	40.34	0.1873	0.0759	0.0001
282	SLV 1		-0.21	-0.56	40.86	0.0468	-0.1914	-0.0003
282	SLV 2		-0.21	-0.56	40.86	0.0468	-0.1914	-0.0003
282	SLV 3		-0.3	-10.88	43.86	0.4759	-0.1311	-0.0003
282	SLV 4		-0.3	-10.88	43.86	0.4759	-0.1311	-0.0003
282	SLV 5		0.06	13.44	36.05	-0.5349	-0.1502	-0.0002
282	SLV 6		0.06	13.44	36.05	-0.5349	-0.1502	-0.0002
282	SLV 7		-0.22	-20.97	46.05	0.8954	0.0511	0
282	SLV 8		-0.22	-20.97	46.05	0.8954	0.0511	0
282	SLV 9		0.21	15.12	34.93	-0.6044	-0.0545	0
282	SLV 10		0.21	15.12	34.93	-0.6044	-0.0545	0
282	SLV 11		-0.07	-19.29	44.93	0.8259	0.1469	0.0002
282	SLV 12		-0.07	-19.29	44.93	0.8259	0.1469	0.0002
282	SLV 13		0.29	5.03	37.12	-0.1849	0.1277	0.0003
282	SLV 14		0.29	5.03	37.12	-0.1849	0.1277	0.0003
282	SLV 15		0.21	-5.29	40.12	0.2442	0.1881	0.0003
282	SLV 16		0.21	-5.29	40.12	0.2442	0.1881	0.0003
283	SLU 1		0.01	-0.06	56.18	0.0404	0.0053	0
283	SLU 2		0.01	0.04	55.7	0.0374	0.0052	0
283	SLU 3		0.01	-0.11	59.26	0.0446	0.0056	0
283	SLU 4		0.01	-0.05	58.97	0.0427	0.0056	0
283	SLU 5		0.01	0	58.36	0.0409	0.0055	0
283	SLU 6		0.01	-0.15	61.92	0.0481	0.0059	0
283	SLU 7		0.01	-0.09	61.63	0.0462	0.0059	0
283	SLU 8		0.01	-0.14	61.49	0.0474	0.0059	0
283	SLU 9		0.01	-0.08	61.21	0.0456	0.0058	0
283	SLU 10		0.01	-0.15	64.67	0.0492	0.006	0
283	SLU 11		0.01	-0.29	68.22	0.0564	0.0064	0
283	SLU 12		0.01	-0.23	67.94	0.0545	0.0063	0
283	SLU 13		0.01	-0.18	67.32	0.0527	0.0063	0
283	SLU 14		0.01	-0.33	70.88	0.0599	0.0067	0
283	SLU 15		0.01	-0.27	70.59	0.058	0.0066	0
283	SLU 16		0.01	-0.32	70.46	0.0592	0.0066	0
283	SLU 17		0.01	-0.26	70.17	0.0574	0.0066	0
283	SLU 18		0.01	-0.32	68.99	0.0573	0.0064	0
283	SLU 19		0.01	-0.26	68.7	0.0555	0.0063	0
283	SLU 20		0.01	-0.36	71.65	0.0608	0.0067	0
283	SLU 21		0.01	-0.3	71.36	0.059	0.0066	0
283	SLU 22		0.01	-0.23	65.39	0.0523	0.0061	0
283	SLU 23		0.01	-0.14	64.91	0.0492	0.0061	0
283	SLU 24		0.01	-0.28	68.46	0.0564	0.0064	0
283	SLU 25		0.01	-0.22	68.17	0.0546	0.0064	0
283	SLU 26		0.01	-0.17	67.56	0.0527	0.0064	0
283	SLU 27		0.01	-0.32	71.12	0.0599	0.0067	0
283	SLU 28		0.01	-0.26	70.83	0.0581	0.0067	0
283	SLU 29		0.01	-0.31	70.7	0.0593	0.0067	0
283	SLU 30		0.01	-0.25	70.41	0.0574	0.0067	0
283	SLU 31		0.01	-0.32	73.87	0.061	0.0068	0
283	SLU 32		0.02	-0.46	77.43	0.0682	0.0072	0
283	SLU 33		0.02	-0.4	77.14	0.0664	0.0072	0
283	SLU 34		0.01	-0.36	76.53	0.0645	0.0071	0
283	SLU 35		0.02	-0.5	80.08	0.0717	0.0075	0
283	SLU 36		0.02	-0.44	79.8	0.0699	0.0075	0
283	SLU 37		0.02	-0.49	79.66	0.0711	0.0075	0
283	SLU 38		0.02	-0.43	79.37	0.0692	0.0075	0
283	SLU 39		0.02	-0.49	78.19	0.0692	0.0072	0
283	SLU 40		0.02	-0.43	77.9	0.0673	0.0072	0
283	SLU 41		0.02	-0.53	80.85	0.0726	0.0075	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
283	SLU 42	0.02	-0.47	80.56	0.0708	0.0075	0
283	SLU 43	0.01	-0.02	69.88	0.0485	0.0065	0
283	SLU 44	0.01	0.08	69.4	0.0454	0.0065	0
283	SLU 45	0.01	-0.07	72.96	0.0526	0.0069	0
283	SLU 46	0.01	-0.01	72.67	0.0508	0.0068	0
283	SLU 47	0.01	0.04	72.06	0.0489	0.0068	0
283	SLU 48	0.02	-0.11	75.61	0.0561	0.0072	0
283	SLU 49	0.01	-0.05	75.33	0.0543	0.0071	0
283	SLU 50	0.01	-0.09	75.19	0.0555	0.0071	0
283	SLU 51	0.01	-0.04	74.9	0.0536	0.0071	0
283	SLU 52	0.02	-0.11	78.36	0.0572	0.0073	0
283	SLU 53	0.02	-0.25	81.92	0.0644	0.0076	0
283	SLU 54	0.02	-0.19	81.63	0.0626	0.0076	0
283	SLU 55	0.02	-0.14	81.02	0.0607	0.0076	0
283	SLU 56	0.02	-0.29	84.58	0.0679	0.0079	0
283	SLU 57	0.02	-0.23	84.29	0.0661	0.0079	0
283	SLU 58	0.02	-0.28	84.16	0.0673	0.0079	0
283	SLU 59	0.02	-0.22	83.87	0.0654	0.0079	0
283	SLU 60	0.02	-0.28	82.69	0.0654	0.0077	0
283	SLU 61	0.02	-0.22	82.4	0.0635	0.0076	0
283	SLU 62	0.02	-0.32	85.34	0.0688	0.008	0
283	SLU 63	0.02	-0.26	85.06	0.067	0.0079	0
283	SLU 64	0.02	-0.19	79.09	0.0603	0.0074	0
283	SLU 65	0.02	-0.1	78.6	0.0573	0.0073	0
283	SLU 66	0.02	-0.24	82.16	0.0645	0.0077	0
283	SLU 67	0.02	-0.18	81.87	0.0627	0.0077	0
283	SLU 68	0.02	-0.13	81.26	0.0608	0.0076	0
283	SLU 69	0.02	-0.28	84.82	0.068	0.008	0
283	SLU 70	0.02	-0.22	84.53	0.0661	0.008	0
283	SLU 71	0.02	-0.27	84.4	0.0673	0.008	0
283	SLU 72	0.02	-0.21	84.11	0.0655	0.008	0
283	SLU 73	0.02	-0.28	87.57	0.0691	0.0081	0
283	SLU 74	0.02	-0.42	91.13	0.0763	0.0085	0
283	SLU 75	0.02	-0.36	90.84	0.0745	0.0085	0
283	SLU 76	0.02	-0.31	90.23	0.0726	0.0084	0
283	SLU 77	0.02	-0.46	93.78	0.0798	0.0088	0
283	SLU 78	0.02	-0.4	93.49	0.078	0.0088	0
283	SLU 79	0.02	-0.45	93.36	0.0791	0.0088	0
283	SLU 80	0.02	-0.39	93.07	0.0773	0.0087	0
283	SLU 81	0.02	-0.45	91.89	0.0772	0.0085	0
283	SLU 82	0.02	-0.39	91.6	0.0754	0.0085	0
283	SLU 83	0.02	-0.49	94.55	0.0807	0.0088	0
283	SLU 84	0.02	-0.43	94.26	0.0789	0.0088	0
283	SLE RA 1	0.01	-0.11	58.81	0.0438	0.0055	0
283	SLE RA 2	0.01	-0.05	58.49	0.0418	0.0055	0
283	SLE RA 3	0.01	-0.14	60.86	0.0466	0.0057	0
283	SLE RA 4	0.01	-0.1	60.67	0.0454	0.0057	0
283	SLE RA 5	0.01	-0.07	60.26	0.0441	0.0057	0
283	SLE RA 6	0.01	-0.17	62.63	0.0489	0.0059	0
283	SLE RA 7	0.01	-0.13	62.44	0.0477	0.0059	0
283	SLE RA 8	0.01	-0.16	62.35	0.0485	0.0059	0
283	SLE RA 9	0.01	-0.12	62.16	0.0472	0.0059	0
283	SLE RA 10	0.01	-0.17	64.47	0.0497	0.006	0
283	SLE RA 11	0.01	-0.26	66.84	0.0544	0.0062	0
283	SLE RA 12	0.01	-0.22	66.65	0.0532	0.0062	0
283	SLE RA 13	0.01	-0.19	66.24	0.052	0.0062	0
283	SLE RA 14	0.01	-0.29	68.61	0.0568	0.0064	0
283	SLE RA 15	0.01	-0.25	68.42	0.0556	0.0064	0
283	SLE RA 16	0.01	-0.28	68.33	0.0563	0.0064	0
283	SLE RA 17	0.01	-0.24	68.14	0.0551	0.0064	0
283	SLE RA 18	0.01	-0.28	67.35	0.0551	0.0062	0
283	SLE RA 19	0.01	-0.24	67.16	0.0538	0.0062	0
283	SLE RA 20	0.01	-0.31	69.12	0.0574	0.0064	0
283	SLE RA 21	0.01	-0.27	68.93	0.0562	0.0064	0
283	SLE FR 1	0.01	-0.11	58.81	0.0438	0.0055	0
283	SLE FR 2	0.01	-0.1	58.75	0.0434	0.0055	0
283	SLE FR 3	0.01	-0.12	59.52	0.0447	0.0056	0
283	SLE FR 4	0.01	-0.15	61.31	0.0468	0.0057	0
283	SLE FR 5	0.01	-0.17	62.08	0.0481	0.0058	0
283	SLE FR 6	0.01	-0.2	63.08	0.0494	0.0059	0
283	SLE QP 1	0.01	-0.11	58.81	0.0438	0.0055	0
283	SLE QP 2	0.01	-0.16	61.37	0.0472	0.0057	0
283	SLD 1	0.17	2.89	62.61	-0.0494	0.1285	0.0005
283	SLD 2	0.17	2.89	62.61	-0.0494	0.1285	0.0005
283	SLD 3	0.2	-0.7	67.52	0.0668	0.1555	0.0007
283	SLD 4	0.2	-0.7	67.52	0.0668	0.1555	0.0007
283	SLD 5	0.01	6.2	54.3	-0.1579	0.0016	0
283	SLD 6	0.01	6.2	54.3	-0.1579	0.0016	0
283	SLD 7	0.11	-5.77	70.67	0.2292	0.0916	0.0004
283	SLD 8	0.11	-5.77	70.67	0.2292	0.0916	0.0004
283	SLD 9	-0.09	5.45	52.08	-0.1348	-0.0802	-0.0003
283	SLD 10	-0.09	5.45	52.08	-0.1348	-0.0802	-0.0003
283	SLD 11	0.01	-6.53	68.45	0.2523	0.0098	0
283	SLD 12	0.01	-6.53	68.45	0.2523	0.0098	0
283	SLD 13	-0.17	0.38	55.23	0.0276	-0.1441	-0.0006
283	SLD 14	-0.17	0.38	55.23	0.0276	-0.1441	-0.0006
283	SLD 15	-0.14	-3.21	60.14	0.1437	-0.1171	-0.0005
283	SLD 16	-0.14	-3.21	60.14	0.1437	-0.1171	-0.0005
283	SLV 1	0.37	7.07	64.21	-0.1817	0.3023	0.0012
283	SLV 2	0.37	7.07	64.21	-0.1817	0.3023	0.0012



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
283	SLV 3		0.44	-1.38	75.9	0.0916	0.3688	0.0015
283	SLV 4		0.44	-1.38	75.9	0.0916	0.3688	0.0015
283	SLV 5		0.01	14.82	44.49	-0.4361	-0.0061	0
283	SLV 6		0.01	14.82	44.49	-0.4361	-0.0061	0
283	SLV 7		0.25	-13.34	83.46	0.4751	0.2154	0.0009
283	SLV 8		0.25	-13.34	83.46	0.4751	0.2154	0.0009
283	SLV 9		-0.23	13.02	39.29	-0.3807	-0.204	-0.0008
283	SLV 10		-0.23	13.02	39.29	-0.3807	-0.204	-0.0008
283	SLV 11		0.01	-15.14	78.25	0.5304	0.0175	0
283	SLV 12		0.01	-15.14	78.25	0.5304	0.0175	0
283	SLV 13		-0.42	1.06	46.85	0.0027	-0.3573	-0.0014
283	SLV 14		-0.42	1.06	46.85	0.0027	-0.3573	-0.0014
283	SLV 15		-0.35	-7.39	58.54	0.2761	-0.2909	-0.0012
283	SLV 16		-0.35	-7.39	58.54	0.2761	-0.2909	-0.0012
284	SLU 1		-0.04	-8.41	50.69	0.3018	-0.005	-0.0005
284	SLU 2		-0.03	-7.48	47.22	0.2671	-0.0061	-0.0005
284	SLU 3		-0.04	-8.6	51.3	0.3086	-0.0049	-0.0005
284	SLU 4		-0.04	-8.05	49.23	0.2878	-0.0055	-0.0005
284	SLU 5		-0.03	-7.55	47.15	0.2693	-0.0058	-0.0005
284	SLU 6		-0.04	-8.67	51.23	0.3108	-0.0046	-0.0005
284	SLU 7		-0.04	-8.12	49.15	0.29	-0.0052	-0.0005
284	SLU 8		-0.04	-8.55	50.54	0.3062	-0.0045	-0.0005
284	SLU 9		-0.04	-7.99	48.47	0.2854	-0.0051	-0.0005
284	SLU 10		-0.04	-8.51	53.19	0.305	-0.0066	-0.0005
284	SLU 11		-0.04	-9.64	57.27	0.3464	-0.0054	-0.0006
284	SLU 12		-0.04	-9.08	55.19	0.3256	-0.006	-0.0006
284	SLU 13		-0.04	-8.58	53.12	0.3072	-0.0063	-0.0005
284	SLU 14		-0.04	-9.71	57.2	0.3486	-0.0051	-0.0006
284	SLU 15		-0.04	-9.15	55.12	0.3279	-0.0057	-0.0006
284	SLU 16		-0.04	-9.58	56.51	0.344	-0.005	-0.0006
284	SLU 17		-0.04	-9.02	54.43	0.3232	-0.0056	-0.0006
284	SLU 18		-0.04	-9.88	59.21	0.3558	-0.0058	-0.0006
284	SLU 19		-0.04	-9.33	57.13	0.335	-0.0064	-0.0006
284	SLU 20		-0.04	-9.95	59.14	0.358	-0.0055	-0.0006
284	SLU 21		-0.04	-9.4	57.06	0.3372	-0.0061	-0.0006
284	SLU 22		-0.04	-9.42	56.15	0.3385	-0.0054	-0.0006
284	SLU 23		-0.04	-8.49	52.68	0.3039	-0.0064	-0.0005
284	SLU 24		-0.04	-9.62	56.76	0.3453	-0.0052	-0.0006
284	SLU 25		-0.04	-9.06	54.68	0.3246	-0.0058	-0.0006
284	SLU 26		-0.04	-8.56	52.61	0.3061	-0.0061	-0.0005
284	SLU 27		-0.04	-9.69	56.69	0.3476	-0.0049	-0.0006
284	SLU 28		-0.04	-9.13	54.61	0.3268	-0.0055	-0.0006
284	SLU 29		-0.04	-9.56	56	0.3429	-0.0048	-0.0006
284	SLU 30		-0.04	-9	53.92	0.3222	-0.0054	-0.0006
284	SLU 31		-0.04	-9.52	58.65	0.3417	-0.007	-0.0006
284	SLU 32		-0.05	-10.65	62.73	0.3832	-0.0057	-0.0007
284	SLU 33		-0.04	-10.09	60.65	0.3624	-0.0064	-0.0006
284	SLU 34		-0.04	-9.59	58.58	0.3439	-0.0067	-0.0006
284	SLU 35		-0.05	-10.72	62.66	0.3854	-0.0054	-0.0007
284	SLU 36		-0.04	-10.16	60.58	0.3646	-0.0061	-0.0006
284	SLU 37		-0.05	-10.59	61.97	0.3808	-0.0053	-0.0007
284	SLU 38		-0.04	-10.03	59.89	0.36	-0.0059	-0.0006
284	SLU 39		-0.05	-10.9	64.67	0.3925	-0.0061	-0.0007
284	SLU 40		-0.05	-10.34	62.59	0.3718	-0.0067	-0.0007
284	SLU 41		-0.05	-10.97	64.6	0.3948	-0.0058	-0.0007
284	SLU 42		-0.05	-10.41	62.52	0.374	-0.0064	-0.0007
284	SLU 43		-0.05	-10.58	64.02	0.3797	-0.0064	-0.0007
284	SLU 44		-0.04	-9.65	60.56	0.3451	-0.0075	-0.0006
284	SLU 45		-0.05	-10.78	64.64	0.3865	-0.0063	-0.0007
284	SLU 46		-0.05	-10.22	62.56	0.3657	-0.0069	-0.0006
284	SLU 47		-0.04	-9.72	60.49	0.3473	-0.0072	-0.0006
284	SLU 48		-0.05	-10.85	64.57	0.3887	-0.006	-0.0007
284	SLU 49		-0.05	-10.29	62.49	0.368	-0.0066	-0.0006
284	SLU 50		-0.05	-10.72	63.88	0.3841	-0.0059	-0.0007
284	SLU 51		-0.05	-10.16	61.8	0.3633	-0.0065	-0.0006
284	SLU 52		-0.05	-10.69	66.52	0.3829	-0.008	-0.0007
284	SLU 53		-0.05	-11.81	70.6	0.4243	-0.0068	-0.0008
284	SLU 54		-0.05	-11.25	68.53	0.4036	-0.0074	-0.0007
284	SLU 55		-0.05	-10.76	66.45	0.3851	-0.0077	-0.0007
284	SLU 56		-0.05	-11.88	70.53	0.4266	-0.0065	-0.0008
284	SLU 57		-0.05	-11.32	68.45	0.4058	-0.0071	-0.0007
284	SLU 58		-0.05	-11.75	69.84	0.422	-0.0064	-0.0007
284	SLU 59		-0.05	-11.2	67.77	0.4012	-0.007	-0.0007
284	SLU 60		-0.05	-12.06	72.55	0.4337	-0.0072	-0.0008
284	SLU 61		-0.05	-11.5	70.47	0.4129	-0.0078	-0.0007
284	SLU 62		-0.05	-12.13	72.47	0.4359	-0.0069	-0.0008
284	SLU 63		-0.05	-11.57	70.39	0.4152	-0.0075	-0.0007
284	SLU 64		-0.05	-11.59	69.48	0.4164	-0.0068	-0.0007
284	SLU 65		-0.05	-10.67	66.02	0.3818	-0.0078	-0.0007
284	SLU 66		-0.05	-11.79	70.1	0.4233	-0.0066	-0.0007
284	SLU 67		-0.05	-11.23	68.02	0.4025	-0.0072	-0.0007
284	SLU 68		-0.05	-10.73	65.95	0.384	-0.0075	-0.0007
284	SLU 69		-0.05	-11.86	70.03	0.4255	-0.0063	-0.0007
284	SLU 70		-0.05	-11.3	67.95	0.4047	-0.0069	-0.0007
284	SLU 71		-0.05	-11.73	69.34	0.4209	-0.0062	-0.0007
284	SLU 72		-0.05	-11.18	67.26	0.4001	-0.0068	-0.0007
284	SLU 73		-0.05	-11.7	71.98	0.4196	-0.0084	-0.0007
284	SLU 74		-0.06	-12.82	76.06	0.4611	-0.0071	-0.0008
284	SLU 75		-0.05	-12.27	73.98	0.4403	-0.0078	-0.0008
284	SLU 76		-0.05	-11.77	71.91	0.4218	-0.0081	-0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
284	SLU 77			-0.06	-12.89	75.99	0.4633	-0.0068	-0.0008
284	SLU 78			-0.05	-12.34	73.91	0.4425	-0.0075	-0.0008
284	SLU 79			-0.06	-12.77	75.3	0.4587	-0.0067	-0.0008
284	SLU 80			-0.05	-12.21	73.22	0.4379	-0.0073	-0.0008
284	SLU 81			-0.06	-13.07	78	0.4705	-0.0075	-0.0008
284	SLU 82			-0.06	-12.51	75.93	0.4497	-0.0081	-0.0008
284	SLU 83			-0.06	-13.14	77.93	0.4727	-0.0072	-0.0008
284	SLU 84			-0.06	-12.58	75.85	0.4519	-0.0078	-0.0008
284	SLE RA 1			-0.04	-8.7	52.25	0.3123	-0.0051	-0.0006
284	SLE RA 2			-0.04	-8.08	49.94	0.2892	-0.0059	-0.0005
284	SLE RA 3			-0.04	-8.83	52.66	0.3168	-0.005	-0.0006
284	SLE RA 4			-0.04	-8.46	51.27	0.303	-0.0054	-0.0005
284	SLE RA 5			-0.04	-8.12	49.89	0.2906	-0.0057	-0.0005
284	SLE RA 6			-0.04	-8.87	52.61	0.3183	-0.0048	-0.0006
284	SLE RA 7			-0.04	-8.5	51.22	0.3044	-0.0053	-0.0005
284	SLE RA 8			-0.04	-8.79	52.15	0.3152	-0.0047	-0.0006
284	SLE RA 9			-0.04	-8.42	50.77	0.3014	-0.0052	-0.0005
284	SLE RA 10			-0.04	-8.77	53.92	0.3144	-0.0062	-0.0006
284	SLE RA 11			-0.04	-9.52	56.64	0.342	-0.0054	-0.0006
284	SLE RA 12			-0.04	-9.14	55.25	0.3282	-0.0058	-0.0006
284	SLE RA 13			-0.04	-8.81	53.87	0.3159	-0.006	-0.0006
284	SLE RA 14			-0.04	-9.56	56.59	0.3435	-0.0052	-0.0006
284	SLE RA 15			-0.04	-9.19	55.2	0.3297	-0.0056	-0.0006
284	SLE RA 16			-0.04	-9.48	56.13	0.3404	-0.0051	-0.0006
284	SLE RA 17			-0.04	-9.11	54.74	0.3266	-0.0055	-0.0006
284	SLE RA 18			-0.04	-9.68	57.93	0.3483	-0.0056	-0.0006
284	SLE RA 19			-0.04	-9.31	56.54	0.3344	-0.0061	-0.0006
284	SLE RA 20			-0.04	-9.73	57.88	0.3498	-0.0054	-0.0006
284	SLE RA 21			-0.04	-9.36	56.5	0.3359	-0.0059	-0.0006
284	SLE FR 1			-0.04	-8.7	52.25	0.3123	-0.0051	-0.0006
284	SLE FR 2			-0.04	-8.57	51.79	0.3076	-0.0053	-0.0005
284	SLE FR 3			-0.04	-8.72	52.23	0.3128	-0.0051	-0.0006
284	SLE FR 4			-0.04	-8.87	53.49	0.3184	-0.0054	-0.0006
284	SLE FR 5			-0.04	-9.01	53.93	0.3237	-0.0052	-0.0006
284	SLE FR 6			-0.04	-9.19	55.09	0.3303	-0.0054	-0.0006
284	SLE QP 1			-0.04	-8.7	52.25	0.3123	-0.0051	-0.0006
284	SLE QP 2			-0.04	-8.99	53.95	0.3231	-0.0053	-0.0006
284	SLD 1			-0.05	-5.16	34.25	0.1814	0.0417	-0.0003
284	SLD 2			-0.05	-5.16	34.25	0.1814	0.0417	-0.0003
284	SLD 3			0.09	-8.74	42.61	0.3133	0.0979	0.0013
284	SLD 4			0.09	-8.74	42.61	0.3133	0.0979	0.0013
284	SLD 5			-0.26	-2.41	35.37	0.0806	-0.0764	-0.003
284	SLD 6			-0.26	-2.41	35.37	0.0806	-0.0764	-0.003
284	SLD 7			0.22	-14.35	63.22	0.5201	0.1109	0.0025
284	SLD 8			0.22	-14.35	63.22	0.5201	0.1109	0.0025
284	SLD 9			-0.3	-3.64	44.68	0.126	-0.1215	-0.0036
284	SLD 10			-0.3	-3.64	44.68	0.126	-0.1215	-0.0036
284	SLD 11			0.18	-15.57	72.53	0.5656	0.0659	0.0018
284	SLD 12			0.18	-15.57	72.53	0.5656	0.0659	0.0018
284	SLD 13			-0.17	-9.24	65.3	0.3328	-0.1085	-0.0025
284	SLD 14			-0.17	-9.24	65.3	0.3328	-0.1085	-0.0025
284	SLD 15			-0.03	-12.83	73.65	0.4647	-0.0523	-0.0008
284	SLD 16			-0.03	-12.83	73.65	0.4647	-0.0523	-0.0008
284	SLV 1			-0.07	-0.01	7.73	-0.0088	0.1055	-0.0001
284	SLV 2			-0.07	-0.01	7.73	-0.0088	0.1055	-0.0001
284	SLV 3			0.29	-8.38	27.42	0.2996	0.2484	0.004
284	SLV 4			0.29	-8.38	27.42	0.2996	0.2484	0.004
284	SLV 5			-0.59	6.41	10.23	-0.2441	-0.1888	-0.0067
284	SLV 6			-0.59	6.41	10.23	-0.2441	-0.1888	-0.0067
284	SLV 7			0.6	-21.51	75.85	0.7837	0.2876	0.0071
284	SLV 8			0.6	-21.51	75.85	0.7837	0.2876	0.0071
284	SLV 9			-0.68	3.53	32.05	-0.1375	-0.2982	-0.0082
284	SLV 10			-0.68	3.53	32.05	-0.1375	-0.2982	-0.0082
284	SLV 11			0.51	-24.39	97.68	0.8903	0.1783	0.0056
284	SLV 12			0.51	-24.39	97.68	0.8903	0.1783	0.0056
284	SLV 13			-0.37	-9.6	80.49	0.3465	-0.259	-0.0051
284	SLV 14			-0.37	-9.6	80.49	0.3465	-0.259	-0.0051
284	SLV 15			-0.01	-17.98	100.17	0.6549	-0.116	-0.001
284	SLV 16			-0.01	-17.98	100.17	0.6549	-0.116	-0.001
285	SLU 1			0	-5.38	38.85	0.4736	0.0009	0
285	SLU 2			0	-5.36	38.8	0.4719	0.0009	0
285	SLU 3			0	-5.88	39.78	0.5099	0.001	0
285	SLU 4			0	-5.87	39.75	0.5089	0.001	0
285	SLU 5			0	-5.85	39.19	0.5051	0.001	0
285	SLU 6			0	-6.38	40.17	0.5431	0.0011	0
285	SLU 7			0	-6.36	40.14	0.5421	0.0011	0
285	SLU 8			0	-6.36	39.63	0.5401	0.0011	0
285	SLU 9			0	-6.35	39.6	0.5391	0.0011	0
285	SLU 10			0	-6.21	44.98	0.5476	0.0011	0
285	SLU 11			0	-6.74	45.97	0.5856	0.0012	0
285	SLU 12			0	-6.73	45.93	0.5845	0.0012	0
285	SLU 13			0	-6.7	45.37	0.5808	0.0012	0
285	SLU 14			0	-7.23	46.35	0.6188	0.0013	0
285	SLU 15			0	-7.22	46.32	0.6178	0.0013	0
285	SLU 16			0	-7.21	45.81	0.6157	0.0013	0
285	SLU 17			0	-7.2	45.78	0.6147	0.0013	0
285	SLU 18			0	-6.59	47.69	0.5817	0.0011	0
285	SLU 19			0	-6.58	47.66	0.5807	0.0012	0
285	SLU 20			0	-7.09	48.08	0.6149	0.0012	0
285	SLU 21			0	-7.08	48.04	0.6139	0.0013	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
285	SLU 22	0	-6.3	44.26	0.5541	0.0011	0
285	SLU 23	0	-6.28	44.21	0.5524	0.0011	0
285	SLU 24	0	-6.81	45.19	0.5903	0.0012	0
285	SLU 25	0	-6.8	45.16	0.5893	0.0012	0
285	SLU 26	0	-6.78	44.59	0.5856	0.0012	0
285	SLU 27	0	-7.3	45.57	0.6236	0.0013	0
285	SLU 28	0	-7.29	45.54	0.6226	0.0013	0
285	SLU 29	0	-7.28	45.03	0.6205	0.0013	0
285	SLU 30	0	-7.27	45	0.6195	0.0013	0
285	SLU 31	0	-7.14	50.39	0.628	0.0013	0
285	SLU 32	0	-7.66	51.37	0.666	0.0014	0
285	SLU 33	0	-7.65	51.34	0.665	0.0014	0
285	SLU 34	0	-7.63	50.78	0.6613	0.0014	0
285	SLU 35	0	-8.15	51.76	0.6993	0.0015	0
285	SLU 36	0	-8.14	51.73	0.6982	0.0015	0
285	SLU 37	0	-8.14	51.22	0.6962	0.0015	0
285	SLU 38	0	-8.13	51.18	0.6952	0.0015	0
285	SLU 39	0	-7.52	53.09	0.6622	0.0013	0
285	SLU 40	0	-7.51	53.06	0.6612	0.0014	0
285	SLU 41	0	-8.01	53.48	0.6954	0.0014	0
285	SLU 42	0	-8	53.45	0.6944	0.0015	0
285	SLU 43	0	-6.67	48.66	0.5881	0.001	0
285	SLU 44	0	-6.66	48.6	0.5864	0.0011	0
285	SLU 45	0	-7.18	49.59	0.6244	0.0011	0
285	SLU 46	0	-7.17	49.55	0.6234	0.0011	0
285	SLU 47	0	-7.15	48.99	0.6196	0.0012	0
285	SLU 48	0	-7.67	49.97	0.6576	0.0012	0
285	SLU 49	0	-7.66	49.94	0.6566	0.0012	0
285	SLU 50	0	-7.66	49.43	0.6546	0.0012	0
285	SLU 51	0	-7.65	49.4	0.6535	0.0013	0
285	SLU 52	0	-7.51	54.79	0.6621	0.0013	0
285	SLU 53	0	-8.03	55.77	0.7	0.0013	0
285	SLU 54	0	-8.02	55.74	0.699	0.0013	0
285	SLU 55	0	-8	55.17	0.6953	0.0014	0
285	SLU 56	0	-8.52	56.16	0.7333	0.0014	0
285	SLU 57	0	-8.51	56.12	0.7323	0.0014	0
285	SLU 58	0	-8.51	55.61	0.7302	0.0014	0
285	SLU 59	0	-8.5	55.58	0.7292	0.0015	0
285	SLU 60	0	-7.89	57.49	0.6962	0.0013	0
285	SLU 61	0	-7.88	57.46	0.6952	0.0013	0
285	SLU 62	0	-8.38	57.88	0.7294	0.0014	0
285	SLU 63	0	-8.37	57.85	0.7284	0.0014	0
285	SLU 64	0	-7.6	54.06	0.6686	0.0012	0
285	SLU 65	0	-7.58	54.01	0.6669	0.0013	0
285	SLU 66	0	-8.11	54.99	0.7048	0.0013	0
285	SLU 67	0	-8.09	54.96	0.7038	0.0014	0
285	SLU 68	0	-8.07	54.39	0.7001	0.0014	0
285	SLU 69	0	-8.6	55.38	0.7381	0.0014	0
285	SLU 70	0	-8.59	55.34	0.7371	0.0015	0
285	SLU 71	0	-8.58	54.84	0.735	0.0015	0
285	SLU 72	0	-8.57	54.8	0.734	0.0015	0
285	SLU 73	0	-8.43	60.19	0.7425	0.0015	0
285	SLU 74	0	-8.96	61.17	0.7805	0.0015	0
285	SLU 75	0	-8.95	61.14	0.7795	0.0015	0
285	SLU 76	0	-8.92	60.58	0.7758	0.0016	0
285	SLU 77	0	-9.45	61.56	0.8138	0.0016	0
285	SLU 78	0	-9.44	61.53	0.8127	0.0017	0
285	SLU 79	0	-9.43	61.02	0.8107	0.0017	0
285	SLU 80	0	-9.42	60.99	0.8097	0.0017	0
285	SLU 81	0	-8.82	62.9	0.7767	0.0015	0
285	SLU 82	0	-8.81	62.86	0.7756	0.0015	0
285	SLU 83	0	-9.31	63.28	0.8099	0.0016	0
285	SLU 84	0	-9.3	63.25	0.8089	0.0016	0
285	SLE RA 1	0	-5.64	40.4	0.4966	0.0009	0
285	SLE RA 2	0	-5.63	40.36	0.4955	0.0009	0
285	SLE RA 3	0	-5.98	41.02	0.5208	0.001	0
285	SLE RA 4	0	-5.97	41	0.5201	0.001	0
285	SLE RA 5	0	-5.96	40.62	0.5176	0.001	0
285	SLE RA 6	0	-6.31	41.27	0.5429	0.001	0
285	SLE RA 7	0	-6.3	41.25	0.5423	0.0011	0
285	SLE RA 8	0	-6.3	40.91	0.5409	0.0011	0
285	SLE RA 9	0	-6.29	40.89	0.5402	0.0011	0
285	SLE RA 10	0	-6.2	44.48	0.5459	0.0011	0
285	SLE RA 11	0	-6.55	45.14	0.5712	0.0011	0
285	SLE RA 12	0	-6.54	45.12	0.5705	0.0011	0
285	SLE RA 13	0	-6.53	44.74	0.5681	0.0011	0
285	SLE RA 14	0	-6.87	45.4	0.5934	0.0012	0
285	SLE RA 15	0	-6.87	45.38	0.5927	0.0012	0
285	SLE RA 16	0	-6.86	45.04	0.5914	0.0012	0
285	SLE RA 17	0	-6.86	45.02	0.5907	0.0012	0
285	SLE RA 18	0	-6.45	46.29	0.5687	0.0011	0
285	SLE RA 19	0	-6.45	46.27	0.568	0.0011	0
285	SLE RA 20	0	-6.78	46.55	0.5908	0.0012	0
285	SLE RA 21	0	-6.77	46.52	0.5901	0.0012	0
285	SLE FR 1	0	-5.64	40.4	0.4966	0.0009	0
285	SLE FR 2	0	-5.64	40.39	0.4964	0.0009	0
285	SLE FR 3	0	-5.77	40.5	0.5055	0.0009	0
285	SLE FR 4	0	-5.88	42.16	0.518	0.001	0
285	SLE FR 5	0	-6.02	42.27	0.5271	0.001	0
285	SLE FR 6	0	-6.05	43.34	0.5326	0.001	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
285	SLE QP 1	0	-5.64	40.4	0.4966	0.0009	0
285	SLE QP 2	0	-5.89	42.17	0.5182	0.001	0
285	SLD 1	-0.09	-2.54	39.5	0.3582	-0.0618	-0.0001
285	SLD 2	-0.09	-2.54	39.5	0.3582	-0.0618	-0.0001
285	SLD 3	-0.13	-7.29	40.82	0.5726	-0.0843	-0.0001
285	SLD 4	-0.13	-7.29	40.82	0.5726	-0.0843	-0.0001
285	SLD 5	0.02	2.34	39.35	0.1451	0.0162	0
285	SLD 6	0.02	2.34	39.35	0.1451	0.0162	0
285	SLD 7	-0.08	-13.52	43.77	0.8597	-0.0587	-0.0001
285	SLD 8	-0.08	-13.52	43.77	0.8597	-0.0587	-0.0001
285	SLD 9	0.09	1.75	40.56	0.1768	0.0606	0.0001
285	SLD 10	0.09	1.75	40.56	0.1768	0.0606	0.0001
285	SLD 11	-0.02	-14.11	44.98	0.8913	-0.0143	0
285	SLD 12	-0.02	-14.11	44.98	0.8913	-0.0143	0
285	SLD 13	0.13	-4.48	43.51	0.4638	0.0862	0.0001
285	SLD 14	0.13	-4.48	43.51	0.4638	0.0862	0.0001
285	SLD 15	0.1	-9.23	44.84	0.6782	0.0637	0.0001
285	SLD 16	0.1	-9.23	44.84	0.6782	0.0637	0.0001
285	SLV 1	-0.23	2.02	35.89	0.1404	-0.1523	-0.0002
285	SLV 2	-0.23	2.02	35.89	0.1404	-0.1523	-0.0002
285	SLV 3	-0.31	-9.19	39.03	0.6468	-0.2085	-0.0003
285	SLV 4	-0.31	-9.19	39.03	0.6468	-0.2085	-0.0003
285	SLV 5	0.05	13.48	35.52	-0.3633	0.0402	0
285	SLV 6	0.05	13.48	35.52	-0.3633	0.0402	0
285	SLV 7	-0.21	-23.87	45.99	1.3249	-0.1471	-0.0002
285	SLV 8	-0.21	-23.87	45.99	1.3249	-0.1471	-0.0002
285	SLV 9	0.22	12.1	38.34	-0.2885	0.149	0.0002
285	SLV 10	0.22	12.1	38.34	-0.2885	0.149	0.0002
285	SLV 11	-0.05	-25.25	48.81	1.3997	-0.0383	0
285	SLV 12	-0.05	-25.25	48.81	1.3997	-0.0383	0
285	SLV 13	0.31	-2.58	45.3	0.3896	0.2104	0.0003
285	SLV 14	0.31	-2.58	45.3	0.3896	0.2104	0.0003
285	SLV 15	0.23	-13.79	48.44	0.896	0.1542	0.0002
285	SLV 16	0.23	-13.79	48.44	0.896	0.1542	0.0002
286	SLU 1	0.12	-11.21	51.97	0.6763	0.0016	-0.0005
286	SLU 2	0.11	-9.85	47.9	0.5991	0.002	-0.0004
286	SLU 3	0.12	-11.41	52.98	0.6886	0.0016	-0.0005
286	SLU 4	0.12	-10.59	50.54	0.6423	0.0018	-0.0005
286	SLU 5	0.11	-9.88	48.35	0.6018	0.002	-0.0004
286	SLU 6	0.13	-11.44	53.43	0.6914	0.0016	-0.0005
286	SLU 7	0.12	-10.63	50.99	0.645	0.0018	-0.0005
286	SLU 8	0.12	-11.28	52.86	0.6818	0.0016	-0.0005
286	SLU 9	0.12	-10.46	50.42	0.6355	0.0018	-0.0005
286	SLU 10	0.13	-11.11	54.07	0.6799	0.0023	-0.0005
286	SLU 11	0.14	-12.67	59.15	0.7695	0.0019	-0.0005
286	SLU 12	0.13	-11.85	56.71	0.7231	0.0022	-0.0005
286	SLU 13	0.13	-11.15	54.51	0.6827	0.0023	-0.0005
286	SLU 14	0.14	-12.71	59.59	0.7722	0.0019	-0.0005
286	SLU 15	0.14	-11.89	57.15	0.7259	0.0022	-0.0005
286	SLU 16	0.14	-12.54	59.03	0.7627	0.0019	-0.0005
286	SLU 17	0.13	-11.73	56.59	0.7163	0.0022	-0.0005
286	SLU 18	0.14	-13.01	60.78	0.7918	0.0021	-0.0005
286	SLU 19	0.14	-12.2	58.34	0.7455	0.0023	-0.0005
286	SLU 20	0.15	-13.05	61.23	0.7946	0.0021	-0.0006
286	SLU 21	0.14	-12.23	58.78	0.7482	0.0023	-0.0005
286	SLU 22	0.14	-12.43	57.85	0.7536	0.0019	-0.0005
286	SLU 23	0.13	-11.06	53.78	0.6763	0.0023	-0.0005
286	SLU 24	0.14	-12.63	58.86	0.7659	0.0019	-0.0005
286	SLU 25	0.13	-11.81	56.41	0.7195	0.0022	-0.0005
286	SLU 26	0.13	-11.1	54.22	0.6791	0.0023	-0.0005
286	SLU 27	0.14	-12.66	59.3	0.7686	0.0019	-0.0005
286	SLU 28	0.14	-11.85	56.86	0.7223	0.0022	-0.0005
286	SLU 29	0.14	-12.5	58.74	0.7591	0.0019	-0.0005
286	SLU 30	0.13	-11.68	56.29	0.7127	0.0021	-0.0005
286	SLU 31	0.14	-12.33	59.94	0.7572	0.0026	-0.0005
286	SLU 32	0.16	-13.89	65.02	0.8467	0.0023	-0.0006
286	SLU 33	0.15	-13.07	62.58	0.8004	0.0025	-0.0006
286	SLU 34	0.14	-12.36	60.39	0.7599	0.0026	-0.0005
286	SLU 35	0.16	-13.93	65.47	0.8495	0.0023	-0.0006
286	SLU 36	0.15	-13.11	63.03	0.8031	0.0025	-0.0006
286	SLU 37	0.16	-13.76	64.9	0.8399	0.0022	-0.0006
286	SLU 38	0.15	-12.95	62.46	0.7936	0.0025	-0.0006
286	SLU 39	0.16	-14.23	66.66	0.869	0.0024	-0.0006
286	SLU 40	0.15	-13.41	64.21	0.8227	0.0026	-0.0006
286	SLU 41	0.16	-14.27	67.1	0.8718	0.0024	-0.0006
286	SLU 42	0.16	-13.45	64.66	0.8254	0.0026	-0.0006
286	SLU 43	0.15	-14.15	65.55	0.8527	0.002	-0.0006
286	SLU 44	0.14	-12.79	61.48	0.7755	0.0024	-0.0005
286	SLU 45	0.16	-14.35	66.56	0.8651	0.002	-0.0006
286	SLU 46	0.15	-13.54	64.12	0.8187	0.0022	-0.0006
286	SLU 47	0.15	-12.83	61.92	0.7782	0.0024	-0.0006
286	SLU 48	0.16	-14.39	67.01	0.8678	0.002	-0.0006
286	SLU 49	0.15	-13.57	64.56	0.8215	0.0022	-0.0006
286	SLU 50	0.16	-14.23	66.44	0.8582	0.002	-0.0006
286	SLU 51	0.15	-13.41	64	0.8119	0.0022	-0.0006
286	SLU 52	0.16	-14.05	67.65	0.8563	0.0027	-0.0006
286	SLU 53	0.17	-15.62	72.73	0.9459	0.0023	-0.0007
286	SLU 54	0.17	-14.8	70.28	0.8995	0.0026	-0.0006
286	SLU 55	0.16	-14.09	68.09	0.8591	0.0027	-0.0006
286	SLU 56	0.17	-15.65	73.17	0.9486	0.0023	-0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
286	SLU 57	0.17	-14.84	70.73	0.9023	0.0026	-0.0006
286	SLU 58	0.17	-15.49	72.61	0.9391	0.0023	-0.0007
286	SLU 59	0.17	-14.67	70.16	0.8927	0.0025	-0.0006
286	SLU 60	0.18	-15.96	74.36	0.9682	0.0024	-0.0007
286	SLU 61	0.17	-15.14	71.92	0.9219	0.0027	-0.0006
286	SLU 62	0.18	-15.99	74.8	0.971	0.0024	-0.0007
286	SLU 63	0.17	-15.18	72.36	0.9246	0.0027	-0.0007
286	SLU 64	0.17	-15.37	71.43	0.93	0.0023	-0.0006
286	SLU 65	0.16	-14.01	67.35	0.8527	0.0027	-0.0006
286	SLU 66	0.17	-15.57	72.44	0.9423	0.0023	-0.0006
286	SLU 67	0.17	-14.75	69.99	0.8959	0.0025	-0.0006
286	SLU 68	0.16	-14.05	67.8	0.8555	0.0027	-0.0006
286	SLU 69	0.17	-15.61	72.88	0.945	0.0023	-0.0007
286	SLU 70	0.17	-14.79	70.44	0.8987	0.0025	-0.0006
286	SLU 71	0.17	-15.44	72.31	0.9355	0.0023	-0.0006
286	SLU 72	0.17	-14.63	69.87	0.8891	0.0025	-0.0006
286	SLU 73	0.17	-15.27	73.52	0.9336	0.003	-0.0007
286	SLU 74	0.19	-16.83	78.6	1.0231	0.0026	-0.0007
286	SLU 75	0.18	-16.02	76.16	0.9768	0.0029	-0.0007
286	SLU 76	0.18	-15.31	73.96	0.9363	0.003	-0.0007
286	SLU 77	0.19	-16.87	79.05	1.0259	0.0026	-0.0007
286	SLU 78	0.18	-16.05	76.6	0.9795	0.0029	-0.0007
286	SLU 79	0.19	-16.71	78.48	1.0163	0.0026	-0.0007
286	SLU 80	0.18	-15.89	76.04	0.97	0.0028	-0.0007
286	SLU 81	0.19	-17.18	80.23	1.0455	0.0027	-0.0007
286	SLU 82	0.19	-16.36	77.79	0.9991	0.003	-0.0007
286	SLU 83	0.19	-17.21	80.68	1.0482	0.0027	-0.0007
286	SLU 84	0.19	-16.4	78.24	1.0019	0.003	-0.0007
286	SLE RA 1	0.13	-11.56	53.65	0.6984	0.0017	-0.0005
286	SLE RA 2	0.12	-10.65	50.94	0.6469	0.0019	-0.0005
286	SLE RA 3	0.13	-11.69	54.33	0.7066	0.0017	-0.0005
286	SLE RA 4	0.12	-11.14	52.7	0.6757	0.0018	-0.0005
286	SLE RA 5	0.12	-10.67	51.23	0.6487	0.0019	-0.0005
286	SLE RA 6	0.13	-11.71	54.62	0.7084	0.0017	-0.0005
286	SLE RA 7	0.13	-11.17	52.99	0.6775	0.0018	-0.0005
286	SLE RA 8	0.13	-11.6	54.24	0.7021	0.0017	-0.0005
286	SLE RA 9	0.12	-11.06	52.62	0.6712	0.0018	-0.0005
286	SLE RA 10	0.13	-11.49	55.05	0.7008	0.0022	-0.0005
286	SLE RA 11	0.14	-12.53	58.44	0.7605	0.0019	-0.0005
286	SLE RA 12	0.13	-11.99	56.81	0.7296	0.0021	-0.0005
286	SLE RA 13	0.13	-11.52	55.34	0.7026	0.0022	-0.0005
286	SLE RA 14	0.14	-12.56	58.73	0.7623	0.0019	-0.0005
286	SLE RA 15	0.14	-12.01	57.1	0.7314	0.0021	-0.0005
286	SLE RA 16	0.14	-12.45	58.36	0.7559	0.0019	-0.0005
286	SLE RA 17	0.13	-11.9	56.73	0.725	0.0021	-0.0005
286	SLE RA 18	0.14	-12.76	59.52	0.7754	0.002	-0.0005
286	SLE RA 19	0.14	-12.22	57.9	0.7445	0.0022	-0.0005
286	SLE RA 20	0.14	-12.78	59.82	0.7772	0.002	-0.0005
286	SLE RA 21	0.14	-12.24	58.19	0.7463	0.0022	-0.0005
286	SLE FR 1	0.13	-11.56	53.65	0.6984	0.0017	-0.0005
286	SLE FR 2	0.12	-11.37	53.11	0.6881	0.0017	-0.0005
286	SLE FR 3	0.13	-11.57	53.77	0.6991	0.0017	-0.0005
286	SLE FR 4	0.13	-11.74	54.87	0.7112	0.0018	-0.0005
286	SLE FR 5	0.13	-11.93	55.53	0.7222	0.0018	-0.0005
286	SLE FR 6	0.13	-12.16	56.59	0.7369	0.0018	-0.0005
286	SLE QP 1	0.13	-11.56	53.65	0.6984	0.0017	-0.0005
286	SLE QP 2	0.13	-11.92	55.41	0.7215	0.0018	-0.0005
286	SLD 1	0.14	-12.96	68.12	0.8037	0.0819	-0.0006
286	SLD 2	0.14	-12.96	68.12	0.8037	0.0819	-0.0006
286	SLD 3	0.26	-17.09	77.36	1.0154	0.0302	-0.0007
286	SLD 4	0.26	-17.09	77.36	1.0154	0.0302	-0.0007
286	SLD 5	-0.05	-5.97	45.21	0.4251	0.1042	-0.0004
286	SLD 6	-0.05	-5.97	45.21	0.4251	0.1042	-0.0004
286	SLD 7	0.35	-19.73	76.01	1.1307	-0.0682	-0.0007
286	SLD 8	0.35	-19.73	76.01	1.1307	-0.0682	-0.0007
286	SLD 9	-0.09	-4.11	34.82	0.3122	0.0717	-0.0003
286	SLD 10	-0.09	-4.11	34.82	0.3122	0.0717	-0.0003
286	SLD 11	0.31	-17.86	65.61	1.0179	-0.1007	-0.0006
286	SLD 12	0.31	-17.86	65.61	1.0179	-0.1007	-0.0006
286	SLD 13	0.01	-6.75	33.47	0.4276	-0.0266	-0.0003
286	SLD 14	0.01	-6.75	33.47	0.4276	-0.0266	-0.0003
286	SLD 15	0.12	-10.87	42.71	0.6393	-0.0783	-0.0004
286	SLD 16	0.12	-10.87	42.71	0.6393	-0.0783	-0.0004
286	SLV 1	0.14	-14.38	85.15	0.9132	0.1955	-0.0008
286	SLV 2	0.14	-14.38	85.15	0.9132	0.1955	-0.0008
286	SLV 3	0.43	-24.06	106.89	1.4114	0.0672	-0.001
286	SLV 4	0.43	-24.06	106.89	1.4114	0.0672	-0.001
286	SLV 5	-0.3	2.03	31.36	0.0235	0.2545	-0.0003
286	SLV 6	-0.3	2.03	31.36	0.0235	0.2545	-0.0003
286	SLV 7	0.66	-30.24	103.83	1.6839	-0.1732	-0.001
286	SLV 8	0.66	-30.24	103.83	1.6839	-0.1732	-0.001
286	SLV 9	-0.4	6.41	7	-0.241	0.1768	0
286	SLV 10	-0.4	6.41	7	-0.241	0.1768	0
286	SLV 11	0.57	-25.86	79.46	1.4194	-0.251	-0.0007
286	SLV 12	0.57	-25.86	79.46	1.4194	-0.251	-0.0007
286	SLV 13	-0.17	0.23	3.93	0.0316	-0.0636	0
286	SLV 14	-0.17	0.23	3.93	0.0316	-0.0636	0
286	SLV 15	0.12	-9.46	25.67	0.5297	-0.1919	-0.0002
286	SLV 16	0.12	-9.46	25.67	0.5297	-0.1919	-0.0002
287	SLU 1	0	-4.12	37.42	0.1675	-0.0009	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
287	SLU 2	0	-4.12	37.37	0.1673	-0.0009	0
287	SLU 3	0	-4.42	38.34	0.1812	-0.0009	0
287	SLU 4	0	-4.42	38.31	0.1811	-0.0009	0
287	SLU 5	0	-4.39	37.78	0.1806	-0.0009	0
287	SLU 6	0	-4.69	38.75	0.1944	-0.0009	0
287	SLU 7	0	-4.69	38.72	0.1943	-0.0009	0
287	SLU 8	0	-4.67	38.24	0.194	-0.0009	0
287	SLU 9	0	-4.67	38.21	0.1939	-0.0009	0
287	SLU 10	0	-4.75	43.18	0.192	-0.0011	0
287	SLU 11	0	-5.05	44.14	0.2059	-0.0011	0
287	SLU 12	0	-5.04	44.11	0.2058	-0.0011	0
287	SLU 13	0	-5.02	43.58	0.2053	-0.0011	0
287	SLU 14	0	-5.32	44.55	0.2191	-0.001	0
287	SLU 15	0	-5.32	44.52	0.219	-0.001	0
287	SLU 16	0	-5.3	44.04	0.2187	-0.001	0
287	SLU 17	0	-5.29	44.01	0.2186	-0.001	0
287	SLU 18	0	-5.02	45.71	0.2028	-0.0012	0
287	SLU 19	0	-5.02	45.68	0.2027	-0.0012	0
287	SLU 20	0	-5.29	46.12	0.216	-0.0011	0
287	SLU 21	0	-5.29	46.09	0.2159	-0.0011	0
287	SLU 22	0	-4.83	42.84	0.1964	-0.0011	0
287	SLU 23	0	-4.83	42.79	0.1963	-0.0011	0
287	SLU 24	0	-5.12	43.75	0.2102	-0.001	0
287	SLU 25	0	-5.12	43.72	0.2101	-0.0011	0
287	SLU 26	0	-5.1	43.2	0.2095	-0.001	0
287	SLU 27	0	-5.4	44.16	0.2234	-0.001	0
287	SLU 28	0	-5.39	44.13	0.2233	-0.001	0
287	SLU 29	0	-5.37	43.66	0.2229	-0.001	0
287	SLU 30	0	-5.37	43.63	0.2228	-0.001	0
287	SLU 31	0	-5.45	48.59	0.221	-0.0012	0
287	SLU 32	0	-5.75	49.55	0.2349	-0.0012	0
287	SLU 33	0	-5.75	49.52	0.2348	-0.0012	0
287	SLU 34	0	-5.73	49	0.2342	-0.0012	0
287	SLU 35	0	-6.02	49.96	0.2481	-0.0012	0
287	SLU 36	0	-6.02	49.93	0.248	-0.0012	0
287	SLU 37	0	-6	49.46	0.2476	-0.0011	0
287	SLU 38	0	-6	49.43	0.2475	-0.0011	0
287	SLU 39	0	-5.73	51.13	0.2317	-0.0013	0
287	SLU 40	0	-5.72	51.1	0.2316	-0.0013	0
287	SLU 41	0	-6	51.54	0.245	-0.0012	0
287	SLU 42	0	-6	51.51	0.2449	-0.0012	0
287	SLU 43	0	-5.12	46.8	0.2078	-0.0012	0
287	SLU 44	0	-5.11	46.74	0.2076	-0.0012	0
287	SLU 45	0	-5.41	47.71	0.2215	-0.0012	0
287	SLU 46	0	-5.41	47.68	0.2214	-0.0012	0
287	SLU 47	0	-5.39	47.15	0.2209	-0.0011	0
287	SLU 48	0	-5.68	48.12	0.2347	-0.0011	0
287	SLU 49	0	-5.68	48.09	0.2347	-0.0011	0
287	SLU 50	0	-5.66	47.61	0.2343	-0.0011	0
287	SLU 51	0	-5.66	47.58	0.2342	-0.0011	0
287	SLU 52	0	-5.74	52.55	0.2323	-0.0013	0
287	SLU 53	0	-6.04	53.51	0.2462	-0.0013	0
287	SLU 54	0	-6.04	53.48	0.2461	-0.0013	0
287	SLU 55	0	-6.02	52.96	0.2456	-0.0013	0
287	SLU 56	0	-6.31	53.92	0.2594	-0.0013	0
287	SLU 57	0	-6.31	53.89	0.2594	-0.0013	0
287	SLU 58	0	-6.29	53.41	0.259	-0.0012	0
287	SLU 59	0	-6.29	53.38	0.2589	-0.0013	0
287	SLU 60	0	-6.01	55.08	0.2431	-0.0014	0
287	SLU 61	0	-6.01	55.05	0.243	-0.0014	0
287	SLU 62	0	-6.29	55.49	0.2563	-0.0014	0
287	SLU 63	0	-6.29	55.46	0.2562	-0.0014	0
287	SLU 64	0	-5.82	52.21	0.2367	-0.0013	0
287	SLU 65	0	-5.82	52.16	0.2366	-0.0013	0
287	SLU 66	0	-6.12	53.12	0.2505	-0.0013	0
287	SLU 67	0	-6.12	53.09	0.2504	-0.0013	0
287	SLU 68	0	-6.09	52.57	0.2498	-0.0013	0
287	SLU 69	0	-6.39	53.53	0.2637	-0.0012	0
287	SLU 70	0	-6.39	53.5	0.2636	-0.0012	0
287	SLU 71	0	-6.37	53.03	0.2632	-0.0012	0
287	SLU 72	0	-6.37	53	0.2631	-0.0012	0
287	SLU 73	0	-6.45	57.96	0.2613	-0.0015	0
287	SLU 74	0	-6.75	58.92	0.2752	-0.0014	0
287	SLU 75	0	-6.74	58.89	0.2751	-0.0014	0
287	SLU 76	0	-6.72	58.37	0.2745	-0.0014	0
287	SLU 77	0	-7.02	59.33	0.2884	-0.0014	0
287	SLU 78	0	-7.02	59.3	0.2883	-0.0014	0
287	SLU 79	0	-7	58.83	0.2879	-0.0014	0
287	SLU 80	0	-7	58.8	0.2878	-0.0014	0
287	SLU 81	0	-6.72	60.5	0.272	-0.0015	0
287	SLU 82	0	-6.72	60.47	0.2719	-0.0015	0
287	SLU 83	0	-6.99	60.91	0.2853	-0.0015	0
287	SLU 84	0	-6.99	60.88	0.2852	-0.0015	0
287	SLE RA 1	0	-4.32	38.97	0.1757	-0.001	0
287	SLE RA 2	0	-4.32	38.94	0.1756	-0.001	0
287	SLE RA 3	0	-4.52	39.58	0.1849	-0.001	0
287	SLE RA 4	0	-4.52	39.56	0.1848	-0.001	0
287	SLE RA 5	0	-4.5	39.21	0.1845	-0.001	0
287	SLE RA 6	0	-4.7	39.85	0.1937	-0.0009	0
287	SLE RA 7	0	-4.7	39.83	0.1937	-0.0009	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
287	SLE RA 8		0	-4.69	39.52	0.1934	-0.0009	0
287	SLE RA 9		0	-4.69	39.5	0.1933	-0.0009	0
287	SLE RA 10		0	-4.74	42.81		-0.0011	0
287	SLE RA 11		0	-4.94	43.45	0.2014	-0.0011	0
287	SLE RA 12		0	-4.94	43.43	0.2013	-0.0011	0
287	SLE RA 13		0	-4.92	43.08	0.2009	-0.0011	0
287	SLE RA 14		0	-5.12	43.72	0.2102	-0.001	0
287	SLE RA 15		0	-5.12	43.7	0.2101	-0.001	0
287	SLE RA 16		0	-5.11	43.38	0.2099	-0.001	0
287	SLE RA 17		0	-5.11	43.36	0.2098	-0.001	0
287	SLE RA 18		0	-4.92	44.5	0.1993	-0.0011	0
287	SLE RA 19		0	-4.92	44.48	0.1992	-0.0011	0
287	SLE RA 20		0	-5.1	44.77	0.2081	-0.0011	0
287	SLE RA 21		0	-5.1	44.75	0.208	-0.0011	0
287	SLE FR 1		0	-4.32	38.97	0.1757	-0.001	0
287	SLE FR 2		0	-4.32	38.96	0.1757	-0.001	0
287	SLE FR 3		0	-4.4	39.08	0.1793	-0.001	0
287	SLE FR 4		0	-4.5	40.62	0.1828	-0.001	0
287	SLE FR 5		0	-4.58	40.74	0.1863	-0.001	0
287	SLE FR 6		0	-4.62	41.73	0.1875	-0.0011	0
287	SLE QP 1		0	-4.32	38.97	0.1757	-0.001	0
287	SLE QP 2		0	-4.5	40.63	0.1828	-0.001	0
287	SLD 1	-0.03	-3.49	40.21	0.1378	-0.0325	-0.0002	0
287	SLD 2	-0.03	-3.49	40.21	0.1378	-0.0325	-0.0002	0
287	SLD 3	-0.06	-7.85	42.78	0.3352	-0.0529	-0.0001	0
287	SLD 4	-0.06	-7.85	42.78	0.3352	-0.0529	-0.0001	0
287	SLD 5	0.04	2.41	36.6	-0.1302	0.0205	-0.0001	0
287	SLD 6	0.04	2.41	36.6	-0.1302	0.0205	-0.0001	0
287	SLD 7	-0.07	-12.12	45.18	0.5281	-0.0476	0	0
287	SLD 8	-0.07	-12.12	45.18	0.5281	-0.0476	0	0
287	SLD 9	0.06	3.11	36.08	-0.1624	0.0455	0	0
287	SLD 10	0.06	3.11	36.08	-0.1624	0.0455	0	0
287	SLD 11	-0.04	-11.41	44.66	0.4958	-0.0226	0.0001	0
287	SLD 12	-0.04	-11.41	44.66	0.4958	-0.0226	0.0001	0
287	SLD 13	0.06	-1.16	38.48	0.0304	0.0509	0.0001	0
287	SLD 14	0.06	-1.16	38.48	0.0304	0.0509	0.0001	0
287	SLD 15	0.03	-5.51	41.05	0.2279	0.0304	0.0002	0
287	SLD 16	0.03	-5.51	41.05	0.2279	0.0304	0.0002	0
287	SLV 1	-0.07	-2.12	39.62	0.0765	-0.0773	-0.0004	0
287	SLV 2	-0.07	-2.12	39.62	0.0765	-0.0773	-0.0004	0
287	SLV 3	-0.15	-12.38	45.71	0.5417	-0.1274	-0.0003	0
287	SLV 4	-0.15	-12.38	45.71	0.5417	-0.1274	-0.0003	0
287	SLV 5	0.09	11.77	31.09	-0.5547	0.0521	-0.0003	0
287	SLV 6	0.09	11.77	31.09	-0.5547	0.0521	-0.0003	0
287	SLV 7	-0.16	-22.43	51.39	0.9961	-0.115	0	0
287	SLV 8	-0.16	-22.43	51.39	0.9961	-0.115	0	0
287	SLV 9	0.16	13.42	29.87	-0.6305	0.1129	0	0
287	SLV 10	0.16	13.42	29.87	-0.6305	0.1129	0	0
287	SLV 11	-0.09	-20.78	50.17	0.9204	-0.0541	0.0003	0
287	SLV 12	-0.09	-20.78	50.17	0.9204	-0.0541	0.0003	0
287	SLV 13	0.15	3.37	35.55	-0.1761	0.1254	0.0003	0
287	SLV 14	0.15	3.37	35.55	-0.1761	0.1254	0.0003	0
287	SLV 15	0.07	-6.89	41.64	0.2891	0.0753	0.0004	0
287	SLV 16	0.07	-6.89	41.64	0.2891	0.0753	0.0004	0
288	SLU 1	0.01	-0.73	60.82	0.0025	0.0052	0.0001	0
288	SLU 2	0.01	-0.64	60.31	-0.0004	0.005	0.0001	0
288	SLU 3	0.01	-0.81	64.26	0.004	0.0055	0.0001	0
288	SLU 4	0.01	-0.76	63.95	0.0022	0.0054	0.0001	0
288	SLU 5	0.01	-0.71	63.3	0.0008	0.0053	0.0001	0
288	SLU 6	0.01	-0.88	67.24	0.0052	0.0057	0.0001	0
288	SLU 7	0.01	-0.82	66.93	0.0034	0.0056	0.0001	0
288	SLU 8	0.01	-0.86	66.78	0.005	0.0057	0.0001	0
288	SLU 9	0.01	-0.81	66.48	0.0032	0.0056	0.0001	0
288	SLU 10	0.01	-0.91	69.93	0.0041	0.0058	0.0001	0
288	SLU 11	0.02	-1.08	73.87	0.0085	0.0062	0.0001	0
288	SLU 12	0.02	-1.02	73.57	0.0067	0.0061	0.0001	0
288	SLU 13	0.02	-0.97	72.91	0.0053	0.006	0.0001	0
288	SLU 14	0.02	-1.14	76.86	0.0097	0.0065	0.0001	0
288	SLU 15	0.02	-1.09	76.55	0.008	0.0064	0.0001	0
288	SLU 16	0.02	-1.13	76.4	0.0095	0.0064	0.0001	0
288	SLU 17	0.02	-1.07	76.1	0.0077	0.0064	0.0001	0
288	SLU 18	0.02	-1.11	74.56	0.009	0.0062	0.0001	0
288	SLU 19	0.02	-1.06	74.26	0.0072	0.0061	0.0001	0
288	SLU 20	0.02	-1.18	77.54	0.0102	0.0065	0.0001	0
288	SLU 21	0.02	-1.12	77.24	0.0085	0.0064	0.0001	0
288	SLU 22	0.02	-1	70.78	0.0072	0.006	0.0001	0
288	SLU 23	0.01	-0.9	70.27	0.0042	0.0058	0.0001	0
288	SLU 24	0.02	-1.07	74.21	0.0086	0.0063	0.0001	0
288	SLU 25	0.02	-1.02	73.91	0.0068	0.0062	0.0001	0
288	SLU 26	0.02	-0.97	73.25	0.0055	0.0061	0.0001	0
288	SLU 27	0.02	-1.14	77.19	0.0099	0.0065	0.0001	0
288	SLU 28	0.02	-1.08	76.89	0.0081	0.0065	0.0001	0
288	SLU 29	0.02	-1.13	76.74	0.0097	0.0065	0.0001	0
288	SLU 30	0.02	-1.07	76.44	0.0079	0.0064	0.0001	0
288	SLU 31	0.02	-1.17	79.89	0.0087	0.0066	0.0001	0
288	SLU 32	0.02	-1.34	83.83	0.0132	0.007	0.0001	0
288	SLU 33	0.02	-1.28	83.53	0.0114	0.0069	0.0001	0
288	SLU 34	0.02	-1.23	82.87	0.01	0.0068	0.0001	0
288	SLU 35	0.02	-1.41	86.81	0.0144	0.0073	0.0001	0
288	SLU 36	0.02	-1.35	86.51	0.0126	0.0072	0.0001	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
288	SLU 37	0.02	-1.39	86.36	0.0142	0.0072	0.0001
288	SLU 38	0.02	-1.34	86.05	0.0124	0.0072	0.0001
288	SLU 39	0.02	-1.38	84.52	0.0136	0.007	0.0001
288	SLU 40	0.02	-1.32	84.21	0.0119	0.007	0.0001
288	SLU 41	0.02	-1.44	87.5	0.0149	0.0073	0.0001
288	SLU 42	0.02	-1.39	87.2	0.0131	0.0072	0.0001
288	SLU 43	0.02	-0.86	75.65	0.0017	0.0064	0.0001
288	SLU 44	0.02	-0.77	75.15	-0.0013	0.0063	0.0001
288	SLU 45	0.02	-0.94	79.09	0.0032	0.0067	0.0001
288	SLU 46	0.02	-0.89	78.78	0.0014	0.0067	0.0001
288	SLU 47	0.02	-0.84	78.13	0	0.0066	0.0001
288	SLU 48	0.02	-1.01	82.07	0.0044	0.007	0.0001
288	SLU 49	0.02	-0.95	81.77	0.0026	0.0069	0.0001
288	SLU 50	0.02	-0.99	81.61	0.0042	0.007	0.0001
288	SLU 51	0.02	-0.94	81.31	0.0024	0.0069	0.0001
288	SLU 52	0.02	-1.04	84.76	0.0033	0.007	0.0001
288	SLU 53	0.02	-1.21	88.71	0.0077	0.0075	0.0001
288	SLU 54	0.02	-1.15	88.4	0.0059	0.0074	0.0001
288	SLU 55	0.02	-1.1	87.75	0.0045	0.0073	0.0001
288	SLU 56	0.02	-1.27	91.69	0.0089	0.0077	0.0001
288	SLU 57	0.02	-1.22	91.39	0.0071	0.0077	0.0001
288	SLU 58	0.02	-1.26	91.23	0.0087	0.0077	0.0001
288	SLU 59	0.02	-1.2	90.93	0.0069	0.0076	0.0001
288	SLU 60	0.02	-1.24	89.39	0.0082	0.0075	0.0001
288	SLU 61	0.02	-1.19	89.09	0.0064	0.0074	0.0001
288	SLU 62	0.02	-1.31	92.37	0.0094	0.0078	0.0001
288	SLU 63	0.02	-1.25	92.07	0.0076	0.0077	0.0001
288	SLU 64	0.02	-1.13	85.61	0.0064	0.0072	0.0001
288	SLU 65	0.02	-1.03	85.1	0.0034	0.0071	0.0001
288	SLU 66	0.02	-1.2	89.04	0.0078	0.0075	0.0001
288	SLU 67	0.02	-1.15	88.74	0.006	0.0075	0.0001
288	SLU 68	0.02	-1.1	88.08	0.0046	0.0074	0.0001
288	SLU 69	0.02	-1.27	92.03	0.009	0.0078	0.0001
288	SLU 70	0.02	-1.21	91.72	0.0073	0.0077	0.0001
288	SLU 71	0.02	-1.26	91.57	0.0088	0.0078	0.0001
288	SLU 72	0.02	-1.2	91.27	0.007	0.0077	0.0001
288	SLU 73	0.02	-1.3	94.72	0.0079	0.0079	0.0001
288	SLU 74	0.02	-1.47	98.66	0.0123	0.0083	0.0001
288	SLU 75	0.02	-1.41	98.36	0.0105	0.0082	0.0001
288	SLU 76	0.02	-1.36	97.7	0.0091	0.0081	0.0001
288	SLU 77	0.02	-1.54	101.64	0.0136	0.0085	0.0001
288	SLU 78	0.02	-1.48	101.34	0.0118	0.0085	0.0001
288	SLU 79	0.02	-1.52	101.19	0.0133	0.0085	0.0001
288	SLU 80	0.02	-1.47	100.89	0.0116	0.0084	0.0001
288	SLU 81	0.02	-1.51	99.35	0.0128	0.0083	0.0001
288	SLU 82	0.02	-1.45	99.05	0.011	0.0082	0.0001
288	SLU 83	0.02	-1.57	102.33	0.0141	0.0086	0.0001
288	SLU 84	0.02	-1.52	102.03	0.0123	0.0085	0.0001
288	SLE RA 1	0.01	-0.81	63.66	0.0039	0.0054	0.0001
288	SLE RA 2	0.01	-0.75	63.33	0.0019	0.0053	0.0001
288	SLE RA 3	0.01	-0.86	65.95	0.0048	0.0056	0.0001
288	SLE RA 4	0.01	-0.82	65.75	0.0036	0.0055	0.0001
288	SLE RA 5	0.01	-0.79	65.31	0.0027	0.0055	0.0001
288	SLE RA 6	0.01	-0.9	67.94	0.0057	0.0058	0.0001
288	SLE RA 7	0.01	-0.87	67.74	0.0045	0.0057	0.0001
288	SLE RA 8	0.01	-0.9	67.64	0.0055	0.0057	0.0001
288	SLE RA 9	0.01	-0.86	67.44	0.0043	0.0057	0.0001
288	SLE RA 10	0.01	-0.92	69.74	0.0049	0.0058	0.0001
288	SLE RA 11	0.02	-1.04	72.37	0.0078	0.0061	0.0001
288	SLE RA 12	0.02	-1	72.17	0.0067	0.006	0.0001
288	SLE RA 13	0.02	-0.97	71.73	0.0057	0.006	0.0001
288	SLE RA 14	0.02	-1.08	74.36	0.0087	0.0063	0.0001
288	SLE RA 15	0.02	-1.04	74.15	0.0075	0.0062	0.0001
288	SLE RA 16	0.02	-1.07	74.05	0.0085	0.0062	0.0001
288	SLE RA 17	0.02	-1.04	73.85	0.0073	0.0062	0.0001
288	SLE RA 18	0.02	-1.06	72.82	0.0082	0.0061	0.0001
288	SLE RA 19	0.02	-1.03	72.62	0.007	0.006	0.0001
288	SLE RA 20	0.02	-1.11	74.81	0.009	0.0063	0.0001
288	SLE RA 21	0.02	-1.07	74.61	0.0078	0.0062	0.0001
288	SLE FR 1	0.01	-0.81	63.66	0.0039	0.0054	0.0001
288	SLE FR 2	0.01	-0.8	63.6	0.0035	0.0054	0.0001
288	SLE FR 3	0.01	-0.83	64.46	0.0042	0.0055	0.0001
288	SLE FR 4	0.01	-0.87	66.34	0.0048	0.0056	0.0001
288	SLE FR 5	0.01	-0.9	67.21	0.0055	0.0057	0.0001
288	SLE FR 6	0.01	-0.94	68.24	0.006	0.0058	0.0001
288	SLE QP 1	0.01	-0.81	63.66	0.0039	0.0054	0.0001
288	SLE QP 2	0.01	-0.89	66.41	0.0052	0.0056	0.0001
288	SLD 1	-0.15	1.98	67.62	-0.008	0.1081	-0.0013
288	SLD 2	-0.15	1.98	67.62	-0.008	0.1081	-0.0013
288	SLD 3	-0.12	-1.38	73.87	0.1033	0.1271	-0.0011
288	SLD 4	-0.12	-1.38	73.87	0.1033	0.1271	-0.0011
288	SLD 5	-0.07	5.07	57.3	-0.1676	0.0076	-0.0007
288	SLD 6	-0.07	5.07	57.3	-0.1676	0.0076	-0.0007
288	SLD 7	0.01	-6.12	78.12	0.2034	0.0708	0
288	SLD 8	0.01	-6.12	78.12	0.2034	0.0708	0
288	SLD 9	0.02	4.35	54.7	-0.1931	-0.0596	0.0001
288	SLD 10	0.02	4.35	54.7	-0.1931	-0.0596	0.0001
288	SLD 11	0.1	-6.84	75.52	0.1779	0.0036	0.0008
288	SLD 12	0.1	-6.84	75.52	0.1779	0.0036	0.0008
288	SLD 13	0.15	-0.39	58.96	-0.093	-0.1159	0.0013



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
288	SLD 14		0.15	-0.39	58.96	-0.093	-0.1159	0.0013	
288	SLD 15		0.18	-3.75	65.2	0.0183	-0.0969	0.0015	
288	SLD 16		0.18	-3.75	65.2	0.0183	-0.0969	0.0015	
288	SLV 1		-0.37	5.9	69.16	-0.0241	0.2472	-0.0033	
288	SLV 2		-0.37	5.9	69.16	-0.0241	0.2472	-0.0033	
288	SLV 3		-0.31	-1.99	84.03	0.2374	0.2926	-0.0028	
288	SLV 4		-0.31	-1.99	84.03	0.2374	0.2926	-0.0028	
288	SLV 5		-0.19	13.12	44.7	-0.4002	0.0093	-0.0017	
288	SLV 6		-0.19	13.12	44.7	-0.4002	0.0093	-0.0017	
288	SLV 7		0.01	-13.19	94.24	0.4714	0.1606	0	
288	SLV 8		0.01	-13.19	94.24	0.4714	0.1606	0	
288	SLV 9		0.02	11.41	38.59	-0.4611	-0.1493	0.0002	
288	SLV 10		0.02	11.41	38.59	-0.4611	-0.1493	0.0002	
288	SLV 11		0.22	-14.89	88.13	0.4105	0.002	0.0019	
288	SLV 12		0.22	-14.89	88.13	0.4105	0.002	0.0019	
288	SLV 13		0.33	0.22	48.8	-0.2271	-0.2814	0.0029	
288	SLV 14		0.33	0.22	48.8	-0.2271	-0.2814	0.0029	
288	SLV 15		0.39	-7.67	63.66	0.0344	-0.236	0.0034	
288	SLV 16		0.39	-7.67	63.66	0.0344	-0.236	0.0034	
289	SLU 1		-0.08	3.31	24.12	-0.0252	-0.0057	0.0021	
289	SLU 2		-0.08	3.33	24.15	-0.0269	-0.0057	0.0021	
289	SLU 3		-0.08	3.4	24.84	-0.0257	-0.0058	0.0021	
289	SLU 4		-0.08	3.42	24.87	-0.0267	-0.0058	0.0021	
289	SLU 5		-0.08	3.39	24.64	-0.0275	-0.0058	0.0021	
289	SLU 6		-0.08	3.47	25.33	-0.0263	-0.0059	0.0022	
289	SLU 7		-0.08	3.48	25.35	-0.0273	-0.0059	0.0022	
289	SLU 8		-0.08	3.43	25.08	-0.0264	-0.0058	0.0021	
289	SLU 9		-0.08	3.45	25.1	-0.0274	-0.0058	0.0021	
289	SLU 10		-0.09	3.82	27.84	-0.029	-0.0067	0.0024	
289	SLU 11		-0.09	3.89	28.53	-0.0278	-0.0069	0.0025	
289	SLU 12		-0.09	3.91	28.55	-0.0288	-0.0069	0.0025	
289	SLU 13		-0.09	3.88	28.32	-0.0296	-0.0068	0.0024	
289	SLU 14		-0.09	3.96	29.01	-0.0284	-0.0069	0.0025	
289	SLU 15		-0.09	3.97	29.03	-0.0294	-0.0069	0.0025	
289	SLU 16		-0.09	3.92	28.76	-0.0285	-0.0069	0.0025	
289	SLU 17		-0.09	3.94	28.79	-0.0295	-0.0068	0.0025	
289	SLU 18		-0.09	4.01	29.38	-0.0283	-0.0071	0.0026	
289	SLU 19		-0.09	4.02	29.4	-0.0293	-0.0071	0.0026	
289	SLU 20		-0.09	4.07	29.86	-0.0289	-0.0072	0.0026	
289	SLU 21		-0.09	4.09	29.88	-0.0299	-0.0072	0.0026	
289	SLU 22		-0.09	3.77	27.62	-0.0273	-0.0066	0.0024	
289	SLU 23		-0.09	3.8	27.66	-0.0289	-0.0066	0.0024	
289	SLU 24		-0.09	3.87	28.35	-0.0277	-0.0068	0.0025	
289	SLU 25		-0.09	3.88	28.37	-0.0287	-0.0068	0.0025	
289	SLU 26		-0.09	3.86	28.14	-0.0295	-0.0067	0.0024	
289	SLU 27		-0.09	3.93	28.83	-0.0283	-0.0069	0.0025	
289	SLU 28		-0.09	3.94	28.86	-0.0293	-0.0068	0.0025	
289	SLU 29		-0.09	3.9	28.59	-0.0284	-0.0068	0.0025	
289	SLU 30		-0.09	3.91	28.61	-0.0294	-0.0068	0.0025	
289	SLU 31		-0.1	4.29	31.35	-0.031	-0.0076	0.0027	
289	SLU 32		-0.1	4.36	32.03	-0.0298	-0.0078	0.0028	
289	SLU 33		-0.1	4.37	32.06	-0.0308	-0.0078	0.0028	
289	SLU 34		-0.1	4.35	31.83	-0.0316	-0.0077	0.0028	
289	SLU 35		-0.1	4.42	32.52	-0.0304	-0.0079	0.0028	
289	SLU 36		-0.1	4.43	32.54	-0.0314	-0.0079	0.0028	
289	SLU 37		-0.1	4.39	32.27	-0.0306	-0.0078	0.0028	
289	SLU 38		-0.1	4.4	32.29	-0.0316	-0.0078	0.0028	
289	SLU 39		-0.1	4.47	32.89	-0.0303	-0.0081	0.0029	
289	SLU 40		-0.1	4.49	32.91	-0.0313	-0.0081	0.0029	
289	SLU 41		-0.11	4.54	33.37	-0.0309	-0.0081	0.0029	
289	SLU 42		-0.11	4.55	33.39	-0.0319	-0.0081	0.0029	
289	SLU 43		-0.09	4.14	30.15	-0.0321	-0.0071	0.0026	
289	SLU 44		-0.09	4.17	30.19	-0.0338	-0.0071	0.0026	
289	SLU 45		-0.1	4.24	30.88	-0.0326	-0.0072	0.0027	
289	SLU 46		-0.1	4.25	30.9	-0.0336	-0.0072	0.0026	
289	SLU 47		-0.1	4.23	30.67	-0.0344	-0.0071	0.0026	
289	SLU 48		-0.1	4.3	31.36	-0.0331	-0.0073	0.0027	
289	SLU 49		-0.1	4.31	31.38	-0.0341	-0.0073	0.0027	
289	SLU 50		-0.1	4.27	31.11	-0.0333	-0.0072	0.0027	
289	SLU 51		-0.1	4.28	31.13	-0.0343	-0.0072	0.0027	
289	SLU 52		-0.11	4.66	33.87	-0.0359	-0.0081	0.0029	
289	SLU 53		-0.11	4.73	34.56	-0.0347	-0.0082	0.003	
289	SLU 54		-0.11	4.74	34.58	-0.0357	-0.0082	0.003	
289	SLU 55		-0.11	4.72	34.35	-0.0365	-0.0082	0.003	
289	SLU 56		-0.11	4.79	35.04	-0.0353	-0.0083	0.003	
289	SLU 57		-0.11	4.8	35.06	-0.0363	-0.0083	0.003	
289	SLU 58		-0.11	4.76	34.8	-0.0354	-0.0082	0.003	
289	SLU 59		-0.11	4.77	34.82	-0.0364	-0.0082	0.003	
289	SLU 60		-0.11	4.84	35.41	-0.0352	-0.0085	0.0031	
289	SLU 61		-0.11	4.86	35.43	-0.0362	-0.0085	0.0031	
289	SLU 62		-0.11	4.91	35.89	-0.0358	-0.0086	0.0031	
289	SLU 63		-0.11	4.92	35.92	-0.0367	-0.0086	0.0031	
289	SLU 64		-0.11	4.61	33.66	-0.0341	-0.008	0.0029	
289	SLU 65		-0.11	4.63	33.69	-0.0358	-0.008	0.0029	
289	SLU 66		-0.11	4.7	34.38	-0.0346	-0.0082	0.003	
289	SLU 67		-0.11	4.71	34.41	-0.0356	-0.0082	0.003	
289	SLU 68		-0.11	4.69	34.18	-0.0364	-0.0081	0.0029	
289	SLU 69		-0.11	4.76	34.86	-0.0352	-0.0082	0.003	
289	SLU 70		-0.11	4.78	34.89	-0.0362	-0.0082	0.003	
289	SLU 71		-0.11	4.73	34.62	-0.0353	-0.0082	0.003	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
289	SLU 72			-0.11	4.75	34.64	-0.0363	-0.0082	0.003
289	SLU 73			-0.12	5.12	37.38	-0.0379	-0.009	0.0032
289	SLU 74			-0.12	5.19	38.07	-0.0367	-0.0092	0.0033
289	SLU 75			-0.12	5.2	38.09	-0.0377	-0.0092	0.0033
289	SLU 76			-0.12	5.18	37.86	-0.0385	-0.0091	0.0033
289	SLU 77			-0.12	5.25	38.55	-0.0373	-0.0093	0.0033
289	SLU 78			-0.12	5.27	38.57	-0.0383	-0.0092	0.0033
289	SLU 79			-0.12	5.22	38.3	-0.0374	-0.0092	0.0033
289	SLU 80			-0.12	5.24	38.33	-0.0384	-0.0092	0.0033
289	SLU 81			-0.12	5.31	38.92	-0.0372	-0.0095	0.0034
289	SLU 82			-0.12	5.32	38.94	-0.0382	-0.0095	0.0034
289	SLU 83			-0.12	5.37	39.4	-0.0378	-0.0095	0.0034
289	SLU 84			-0.12	5.38	39.42	-0.0388	-0.0095	0.0034
289	SLE RA 1			-0.08	3.44	25.12	-0.0258	-0.006	0.0022
289	SLE RA 2			-0.08	3.46	25.14	-0.0269	-0.006	0.0022
289	SLE RA 3			-0.08	3.5	25.6	-0.0261	-0.0061	0.0022
289	SLE RA 4			-0.08	3.51	25.62	-0.0268	-0.0061	0.0022
289	SLE RA 5			-0.08	3.5	25.46	-0.0273	-0.006	0.0022
289	SLE RA 6			-0.08	3.55	25.92	-0.0265	-0.0061	0.0022
289	SLE RA 7			-0.08	3.56	25.94	-0.0272	-0.0061	0.0022
289	SLE RA 8			-0.08	3.53	25.76	-0.0266	-0.0061	0.0022
289	SLE RA 9			-0.08	3.53	25.78	-0.0273	-0.0061	0.0022
289	SLE RA 10			-0.09	3.78	27.6	-0.0283	-0.0066	0.0024
289	SLE RA 11			-0.09	3.83	28.06	-0.0275	-0.0067	0.0024
289	SLE RA 12			-0.09	3.84	28.07	-0.0282	-0.0067	0.0024
289	SLE RA 13			-0.09	3.82	27.92	-0.0287	-0.0067	0.0024
289	SLE RA 14			-0.09	3.87	28.38	-0.0279	-0.0068	0.0025
289	SLE RA 15			-0.09	3.88	28.4	-0.0286	-0.0068	0.0025
289	SLE RA 16			-0.09	3.85	28.22	-0.028	-0.0067	0.0024
289	SLE RA 17			-0.09	3.86	28.23	-0.0287	-0.0067	0.0024
289	SLE RA 18			-0.09	3.91	28.63	-0.0278	-0.0069	0.0025
289	SLE RA 19			-0.09	3.92	28.64	-0.0285	-0.0069	0.0025
289	SLE RA 20			-0.09	3.95	28.95	-0.0282	-0.007	0.0025
289	SLE RA 21			-0.09	3.96	28.96	-0.0289	-0.007	0.0025
289	SLE FR 1			-0.08	3.44	25.12	-0.0258	-0.006	0.0022
289	SLE FR 2			-0.08	3.45	25.12	-0.026	-0.006	0.0022
289	SLE FR 3			-0.08	3.46	25.25	-0.026	-0.006	0.0022
289	SLE FR 4			-0.08	3.59	26.18	-0.0266	-0.0062	0.0023
289	SLE FR 5			-0.08	3.6	26.3	-0.0266	-0.0063	0.0023
289	SLE FR 6			-0.08	3.68	26.87	-0.0268	-0.0064	0.0023
289	SLE QP 1			-0.08	3.44	25.12	-0.0258	-0.006	0.0022
289	SLE QP 2			-0.08	3.58	26.17	-0.0264	-0.0062	0.0023
289	SLD 1			-0.05	3.32	24.32	-0.0849	-0.0026	0.0014
289	SLD 2			-0.05	3.32	24.32	-0.0849	-0.0026	0.0014
289	SLD 3			-0.08	2.44	21.04	-0.0246	-0.0053	0.0021
289	SLD 4			-0.08	2.44	21.04	-0.0246	-0.0053	0.0021
289	SLD 5			-0.04	4.84	30.59	-0.1355	-0.0011	0.001
289	SLD 6			-0.04	4.84	30.59	-0.1355	-0.0011	0.001
289	SLD 7			-0.12	1.9	19.66	0.0657	-0.01	0.0032
289	SLD 8			-0.12	1.9	19.66	0.0657	-0.01	0.0032
289	SLD 9			-0.05	5.26	32.68	-0.1185	-0.0025	0.0013
289	SLD 10			-0.05	5.26	32.68	-0.1185	-0.0025	0.0013
289	SLD 11			-0.13	2.32	21.75	0.0827	-0.0114	0.0035
289	SLD 12			-0.13	2.32	21.75	0.0827	-0.0114	0.0035
289	SLD 13			-0.09	4.73	31.3	-0.0283	-0.0072	0.0024
289	SLD 14			-0.09	4.73	31.3	-0.0283	-0.0072	0.0024
289	SLD 15			-0.11	3.84	28.02	0.0321	-0.0099	0.0031
289	SLD 16			-0.11	3.84	28.02	0.0321	-0.0099	0.0031
289	SLV 1			-0.01	2.97	21.84	-0.1652	0.0024	0.0002
289	SLV 2			-0.01	2.97	21.84	-0.1652	0.0024	0.0002
289	SLV 3			-0.07	0.87	13.99	-0.0226	-0.0042	0.0019
289	SLV 4			-0.07	0.87	13.99	-0.0226	-0.0042	0.0019
289	SLV 5			0.03	6.58	36.78	-0.2844	0.0064	-0.0009
289	SLV 6			0.03	6.58	36.78	-0.2844	0.0064	-0.0009
289	SLV 7			-0.17	-0.41	10.61	0.1911	-0.0157	0.0047
289	SLV 8			-0.17	-0.41	10.61	0.1911	-0.0157	0.0047
289	SLV 9			0.01	7.58	41.73	-0.2439	0.0032	-0.0001
289	SLV 10			0.01	7.58	41.73	-0.2439	0.0032	-0.0001
289	SLV 11			-0.2	0.59	15.56	0.2316	-0.0189	0.0054
289	SLV 12			-0.2	0.59	15.56	0.2316	-0.0189	0.0054
289	SLV 13			-0.09	6.29	38.35	-0.0303	-0.0083	0.0027
289	SLV 14			-0.09	6.29	38.35	-0.0303	-0.0083	0.0027
289	SLV 15			-0.15	4.2	30.5	0.1124	-0.0149	0.0043
289	SLV 16			-0.15	4.2	30.5	0.1124	-0.0149	0.0043
290	SLU 1			-0.08	-9.15	55.18	0.4591	-0.0087	-0.0007
290	SLU 2			-0.07	-8.28	50.71	0.4039	-0.0085	-0.0005
290	SLU 3			-0.08	-9.33	55.8	0.4681	-0.0086	-0.0007
290	SLU 4			-0.08	-8.81	53.12	0.435	-0.0085	-0.0006
290	SLU 5			-0.07	-8.32	50.56	0.4059	-0.0083	-0.0005
290	SLU 6			-0.08	-9.38	55.66	0.4701	-0.0084	-0.0007
290	SLU 7			-0.08	-8.86	52.98	0.437	-0.0083	-0.0006
290	SLU 8			-0.08	-9.25	54.89	0.4631	-0.0083	-0.0007
290	SLU 9			-0.08	-8.72	52.21	0.43	-0.0082	-0.0006
290	SLU 10			-0.08	-9.36	57.43	0.4577	-0.01	-0.0006
290	SLU 11			-0.09	-10.42	62.52	0.5219	-0.0102	-0.0008
290	SLU 12			-0.09	-9.89	59.84	0.4888	-0.01	-0.0007
290	SLU 13			-0.08	-9.41	57.28	0.4597	-0.0098	-0.0006
290	SLU 14			-0.09	-10.46	62.37	0.5239	-0.01	-0.0008
290	SLU 15			-0.09	-9.94	59.69	0.4908	-0.0098	-0.0007
290	SLU 16			-0.09	-10.33	61.6	0.5169	-0.0098	-0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
290	SLU 17	-0.09	-9.81	58.92	0.4838	-0.0097	-0.0007
290	SLU 18	-0.09	-10.7	64.77	0.5359	-0.0109	-0.0008
290	SLU 19	-0.09	-10.18	62.09	0.5028	-0.0108	-0.0007
290	SLU 20	-0.09	-10.75	64.62	0.5379	-0.0107	-0.0008
290	SLU 21	-0.09	-10.22	61.94	0.5048	-0.0106	-0.0007
290	SLU 22	-0.09	-10.2	61.26	0.5114	-0.0099	-0.0008
290	SLU 23	-0.08	-9.32	56.79	0.4562	-0.0097	-0.0006
290	SLU 24	-0.09	-10.38	61.89	0.5205	-0.0098	-0.0008
290	SLU 25	-0.09	-9.86	59.2	0.4874	-0.0097	-0.0007
290	SLU 26	-0.08	-9.37	56.65	0.4582	-0.0095	-0.0006
290	SLU 27	-0.09	-10.43	61.74	0.5225	-0.0096	-0.0008
290	SLU 28	-0.09	-9.9	59.06	0.4894	-0.0095	-0.0007
290	SLU 29	-0.09	-10.29	60.97	0.5155	-0.0095	-0.0008
290	SLU 30	-0.09	-9.77	58.29	0.4823	-0.0093	-0.0007
290	SLU 31	-0.09	-10.41	63.51	0.51	-0.0112	-0.0007
290	SLU 32	-0.1	-11.46	68.6	0.5742	-0.0114	-0.0009
290	SLU 33	-0.1	-10.94	65.92	0.5411	-0.0112	-0.0008
290	SLU 34	-0.09	-10.46	63.36	0.512	-0.011	-0.0007
290	SLU 35	-0.1	-11.51	68.45	0.5763	-0.0112	-0.0009
290	SLU 36	-0.1	-10.99	65.77	0.5431	-0.011	-0.0008
290	SLU 37	-0.1	-11.38	67.68	0.5692	-0.011	-0.0009
290	SLU 38	-0.1	-10.85	65	0.5361	-0.0109	-0.0008
290	SLU 39	-0.1	-11.75	70.85	0.5883	-0.0121	-0.0009
290	SLU 40	-0.1	-11.22	68.17	0.5551	-0.0119	-0.0008
290	SLU 41	-0.1	-11.8	70.71	0.5903	-0.0119	-0.0009
290	SLU 42	-0.1	-11.27	68.03	0.5571	-0.0117	-0.0008
290	SLU 43	-0.1	-11.54	69.65	0.5789	-0.0109	-0.0008
290	SLU 44	-0.09	-10.66	65.18	0.5237	-0.0107	-0.0007
290	SLU 45	-0.1	-11.72	70.27	0.5879	-0.0108	-0.0009
290	SLU 46	-0.1	-11.19	67.59	0.5548	-0.0107	-0.0008
290	SLU 47	-0.09	-10.71	65.03	0.5257	-0.0105	-0.0007
290	SLU 48	-0.1	-11.77	70.13	0.5899	-0.0106	-0.0009
290	SLU 49	-0.1	-11.24	67.44	0.5568	-0.0105	-0.0008
290	SLU 50	-0.1	-11.63	69.36	0.5829	-0.0105	-0.0009
290	SLU 51	-0.1	-11.11	66.67	0.5498	-0.0104	-0.0008
290	SLU 52	-0.1	-11.75	71.89	0.5775	-0.0122	-0.0008
290	SLU 53	-0.11	-12.8	76.99	0.6417	-0.0124	-0.001
290	SLU 54	-0.11	-12.28	74.31	0.6086	-0.0122	-0.0009
290	SLU 55	-0.1	-11.8	71.75	0.5795	-0.012	-0.0008
290	SLU 56	-0.11	-12.85	76.84	0.6437	-0.0122	-0.001
290	SLU 57	-0.11	-12.33	74.16	0.6106	-0.012	-0.0009
290	SLU 58	-0.11	-12.72	76.07	0.6367	-0.012	-0.001
290	SLU 59	-0.11	-12.19	73.39	0.6036	-0.0119	-0.0009
290	SLU 60	-0.12	-13.09	79.24	0.6557	-0.0131	-0.001
290	SLU 61	-0.11	-12.56	76.56	0.6226	-0.013	-0.0009
290	SLU 62	-0.12	-13.13	79.09	0.6577	-0.0129	-0.001
290	SLU 63	-0.11	-12.61	76.41	0.6246	-0.0128	-0.0009
290	SLU 64	-0.11	-12.59	75.73	0.6312	-0.0121	-0.0009
290	SLU 65	-0.1	-11.71	71.26	0.576	-0.0119	-0.0008
290	SLU 66	-0.11	-12.77	76.35	0.6403	-0.012	-0.001
290	SLU 67	-0.11	-12.24	73.67	0.6071	-0.0119	-0.0009
290	SLU 68	-0.1	-11.76	71.12	0.578	-0.0117	-0.0008
290	SLU 69	-0.11	-12.81	76.21	0.6423	-0.0118	-0.001
290	SLU 70	-0.11	-12.29	73.53	0.6091	-0.0117	-0.0009
290	SLU 71	-0.11	-12.68	75.44	0.6353	-0.0117	-0.001
290	SLU 72	-0.11	-12.16	72.76	0.6021	-0.0115	-0.0009
290	SLU 73	-0.11	-12.8	77.98	0.6298	-0.0134	-0.0009
290	SLU 74	-0.12	-13.85	83.07	0.694	-0.0136	-0.001
290	SLU 75	-0.12	-13.33	80.39	0.6609	-0.0134	-0.001
290	SLU 76	-0.11	-12.84	77.83	0.6318	-0.0132	-0.0009
290	SLU 77	-0.12	-13.9	82.92	0.696	-0.0134	-0.0011
290	SLU 78	-0.12	-13.37	80.24	0.6629	-0.0132	-0.001
290	SLU 79	-0.12	-13.76	82.15	0.689	-0.0132	-0.0011
290	SLU 80	-0.12	-13.24	79.47	0.6559	-0.0131	-0.001
290	SLU 81	-0.12	-14.13	85.32	0.708	-0.0143	-0.0011
290	SLU 82	-0.12	-13.61	82.64	0.6749	-0.0142	-0.001
290	SLU 83	-0.12	-14.18	85.18	0.7101	-0.0141	-0.0011
290	SLU 84	-0.12	-13.66	82.49	0.6769	-0.0139	-0.001
290	SLE RA 1	-0.08	-9.45	56.92	0.4741	-0.009	-0.0007
290	SLE RA 2	-0.08	-8.87	53.94	0.4373	-0.0089	-0.0006
290	SLE RA 3	-0.08	-9.57	57.33	0.4801	-0.009	-0.0007
290	SLE RA 4	-0.08	-9.22	55.55	0.458	-0.0089	-0.0007
290	SLE RA 5	-0.08	-8.9	53.84	0.4386	-0.0088	-0.0006
290	SLE RA 6	-0.08	-9.6	57.24	0.4814	-0.0089	-0.0007
290	SLE RA 7	-0.08	-9.25	55.45	0.4593	-0.0088	-0.0007
290	SLE RA 8	-0.08	-9.51	56.72	0.4767	-0.0088	-0.0007
290	SLE RA 9	-0.08	-9.16	54.93	0.4547	-0.0087	-0.0007
290	SLE RA 10	-0.09	-9.59	58.41	0.4731	-0.0099	-0.0007
290	SLE RA 11	-0.09	-10.29	61.81	0.5159	-0.01	-0.0008
290	SLE RA 12	-0.09	-9.94	60.02	0.4938	-0.0099	-0.0007
290	SLE RA 13	-0.09	-9.62	58.32	0.4744	-0.0098	-0.0007
290	SLE RA 14	-0.09	-10.33	61.71	0.5173	-0.0099	-0.0008
290	SLE RA 15	-0.09	-9.98	59.92	0.4952	-0.0098	-0.0007
290	SLE RA 16	-0.09	-10.24	61.2	0.5126	-0.0098	-0.0008
290	SLE RA 17	-0.09	-9.89	59.41	0.4905	-0.0097	-0.0007
290	SLE RA 18	-0.09	-10.48	63.31	0.5253	-0.0105	-0.0008
290	SLE RA 19	-0.09	-10.13	61.52	0.5032	-0.0104	-0.0007
290	SLE RA 20	-0.09	-10.52	63.21	0.5266	-0.0104	-0.0008
290	SLE RA 21	-0.09	-10.17	61.43	0.5045	-0.0103	-0.0007
290	SLE FR 1	-0.08	-9.45	56.92	0.4741	-0.009	-0.0007



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
290	SLE FR 2	-0.08	-9.33	56.32	0.4667	-0.009	-0.0007
290	SLE FR 3	-0.08	-9.46	56.88	0.4746	-0.009	-0.0007
290	SLE FR 4	-0.08	-9.64	58.24	0.4821	-0.0094	-0.0007
290	SLE FR 5	-0.09	-9.77	58.8	0.49	-0.0094	-0.0007
290	SLE FR 6	-0.09	-9.97	60.11	0.4997	-0.0098	-0.0007
290	SLE QP 1	-0.08	-9.45	56.92	0.4741	-0.009	-0.0007
290	SLE QP 2	-0.09	-9.76	58.84	0.4894	-0.0095	-0.0007
290	SLD 1	0	-6.12	35.2	0.2867	0.0175	-0.0034
290	SLD 2	0	-6.12	35.2	0.2867	0.0175	-0.0034
290	SLD 3	-0.08	-8.96	46.54	0.4655	0.0063	-0.0047
290	SLD 4	-0.08	-8.96	46.54	0.4655	0.0063	-0.0047
290	SLD 5	0.06	-4.37	34.54	0.1574	0.0156	0.0004
290	SLD 6	0.06	-4.37	34.54	0.1574	0.0156	0.0004
290	SLD 7	-0.21	-13.82	72.35	0.7534	-0.0217	-0.0038
290	SLD 8	-0.21	-13.82	72.35	0.7534	-0.0217	-0.0038
290	SLD 9	0.04	-5.7	45.32	0.2254	0.0027	0.0024
290	SLD 10	0.04	-5.7	45.32	0.2254	0.0027	0.0024
290	SLD 11	-0.23	-15.16	83.13	0.8214	-0.0345	-0.0018
290	SLD 12	-0.23	-15.16	83.13	0.8214	-0.0345	-0.0018
290	SLD 13	-0.09	-10.56	71.13	0.5133	-0.0253	0.0033
290	SLD 14	-0.09	-10.56	71.13	0.5133	-0.0253	0.0033
290	SLD 15	-0.17	-13.4	82.47	0.6921	-0.0365	0.002
290	SLD 16	-0.17	-13.4	82.47	0.6921	-0.0365	0.002
290	SLV 1	0.13	-1.24	3.38	0.0145	0.0552	-0.0072
290	SLV 2	0.13	-1.24	3.38	0.0145	0.0552	-0.0072
290	SLV 3	-0.07	-7.88	30.06	0.4329	0.027	-0.0105
290	SLV 4	-0.07	-7.88	30.06	0.4329	0.027	-0.0105
290	SLV 5	0.29	2.87	1.73	-0.2876	0.0527	0.0022
290	SLV 6	0.29	2.87	1.73	-0.2876	0.0527	0.0022
290	SLV 7	-0.39	-19.27	90.67	1.107	-0.0413	-0.0085
290	SLV 8	-0.39	-19.27	90.67	1.107	-0.0413	-0.0085
290	SLV 9	0.22	-0.25	27.01	-0.1282	0.0223	0.0071
290	SLV 10	0.22	-0.25	27.01	-0.1282	0.0223	0.0071
290	SLV 11	-0.46	-22.39	115.94	1.2664	-0.0716	-0.0037
290	SLV 12	-0.46	-22.39	115.94	1.2664	-0.0716	-0.0037
290	SLV 13	-0.1	-11.64	87.62	0.5459	-0.046	0.009
290	SLV 14	-0.1	-11.64	87.62	0.5459	-0.046	0.009
290	SLV 15	-0.3	-18.28	114.29	0.9643	-0.0742	0.0058
290	SLV 16	-0.3	-18.28	114.29	0.9643	-0.0742	0.0058
291	SLU 1	0	-2.58	38.73	-0.1693	0.0005	0
291	SLU 2	0	-2.58	38.65	-0.1686	0.0005	0
291	SLU 3	0	-2.9	39.98	-0.1696	0.0006	0
291	SLU 4	0	-2.89	39.93	-0.1692	0.0006	0
291	SLU 5	0	-2.9	39.43	-0.1651	0.0006	0
291	SLU 6	0	-3.22	40.76	-0.1661	0.0007	0
291	SLU 7	0	-3.22	40.71	-0.1657	0.0007	0
291	SLU 8	0	-3.23	40.29	-0.1622	0.0007	0
291	SLU 9	0	-3.23	40.25	-0.1618	0.0007	0
291	SLU 10	0	-2.97	44.7	-0.1978	0.0007	0
291	SLU 11	0	-3.29	46.02	-0.1988	0.0007	0
291	SLU 12	0	-3.29	45.98	-0.1984	0.0007	0
291	SLU 13	0	-3.3	45.48	-0.1943	0.0007	0
291	SLU 14	0	-3.62	46.81	-0.1953	0.0008	0
291	SLU 15	0	-3.62	46.76	-0.1949	0.0008	0
291	SLU 16	0	-3.63	46.34	-0.1914	0.0008	0
291	SLU 17	0	-3.63	46.29	-0.191	0.0008	0
291	SLU 18	0	-3.15	47.36	-0.2109	0.0007	0
291	SLU 19	0	-3.15	47.32	-0.2105	0.0007	0
291	SLU 20	0	-3.47	48.15	-0.2074	0.0008	0
291	SLU 21	0	-3.47	48.1	-0.207	0.0008	0
291	SLU 22	0	-3.01	44.24	-0.1964	0.0007	0
291	SLU 23	0	-3.01	44.17	-0.1957	0.0007	0
291	SLU 24	0	-3.33	45.49	-0.1968	0.0007	0
291	SLU 25	0	-3.32	45.45	-0.1964	0.0007	0
291	SLU 26	0	-3.33	44.95	-0.1922	0.0007	0
291	SLU 27	0	-3.65	46.28	-0.1933	0.0008	0
291	SLU 28	0	-3.65	46.23	-0.1929	0.0008	0
291	SLU 29	0	-3.66	45.81	-0.1894	0.0008	0
291	SLU 30	0	-3.66	45.77	-0.189	0.0008	0
291	SLU 31	0	-3.41	50.22	-0.2249	0.0008	0
291	SLU 32	0	-3.72	51.54	-0.226	0.0009	0
291	SLU 33	0	-3.72	51.5	-0.2255	0.0009	0
291	SLU 34	0	-3.73	51	-0.2214	0.0009	0
291	SLU 35	0	-4.05	52.32	-0.2224	0.001	0
291	SLU 36	0	-4.05	52.28	-0.222	0.001	0
291	SLU 37	0	-4.06	51.86	-0.2186	0.001	0
291	SLU 38	0	-4.06	51.81	-0.2182	0.001	0
291	SLU 39	0	-3.58	52.88	-0.2381	0.0009	0
291	SLU 40	0	-3.58	52.84	-0.2377	0.0009	0
291	SLU 41	0	-3.91	53.67	-0.2346	0.0009	0
291	SLU 42	0	-3.9	53.62	-0.2342	0.0009	0
291	SLU 43	0	-3.21	48.45	-0.2107	0.0006	0
291	SLU 44	0	-3.2	48.38	-0.21	0.0006	0
291	SLU 45	0	-3.52	49.7	-0.2111	0.0007	0
291	SLU 46	0	-3.52	49.66	-0.2107	0.0007	0
291	SLU 47	0	-3.53	49.16	-0.2065	0.0007	0
291	SLU 48	0	-3.85	50.48	-0.2076	0.0008	0
291	SLU 49	0	-3.84	50.44	-0.2072	0.0008	0
291	SLU 50	0	-3.86	50.02	-0.2037	0.0008	0
291	SLU 51	0	-3.86	49.97	-0.2033	0.0008	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
291	SLU 52		0	-3.6	54.42	-0.2392	0.0008	0
291	SLU 53		0	-3.92	55.75	-0.2403	0.0008	0
291	SLU 54		0	-3.92	55.7	-0.2399	0.0008	0
291	SLU 55		0	-3.93	55.21	-0.2357	0.0008	0
291	SLU 56		0	-4.24	56.53	-0.2368	0.0009	0
291	SLU 57		0	-4.24	56.49	-0.2364	0.0009	0
291	SLU 58		0	-4.26	56.06	-0.2329	0.0009	0
291	SLU 59		0	-4.25	56.02	-0.2325	0.0009	0
291	SLU 60		0	-3.78	57.09	-0.2524	0.0008	0
291	SLU 61		0	-3.77	57.04	-0.252	0.0008	0
291	SLU 62		0	-4.1	57.87	-0.2489	0.0009	0
291	SLU 63		0	-4.1	57.83	-0.2485	0.0009	0
291	SLU 64		0	-3.64	53.97	-0.2379	0.0008	0
291	SLU 65		0	-3.64	53.89	-0.2372	0.0008	0
291	SLU 66		0	-3.95	55.22	-0.2382	0.0008	0
291	SLU 67		0	-3.95	55.18	-0.2378	0.0008	0
291	SLU 68		0	-3.96	54.68	-0.2337	0.0009	0
291	SLU 69		0	-4.28	56	-0.2347	0.0009	0
291	SLU 70		0	-4.28	55.96	-0.2343	0.0009	0
291	SLU 71		0	-4.29	55.54	-0.2308	0.0009	0
291	SLU 72		0	-4.29	55.49	-0.2304	0.0009	0
291	SLU 73		0	-4.03	59.94	-0.2664	0.0009	0
291	SLU 74		0	-4.35	61.27	-0.2674	0.001	0
291	SLU 75		0	-4.35	61.22	-0.267	0.001	0
291	SLU 76		0	-4.36	60.73	-0.2629	0.001	0
291	SLU 77		0	-4.68	62.05	-0.2639	0.0011	0
291	SLU 78		0	-4.67	62.01	-0.2635	0.0011	0
291	SLU 79		0	-4.69	61.58	-0.26	0.0011	0
291	SLU 80		0	-4.68	61.54	-0.2596	0.0011	0
291	SLU 81		0	-4.21	62.61	-0.2796	0.001	0
291	SLU 82		0	-4.2	62.56	-0.2791	0.001	0
291	SLU 83		0	-4.53	63.39	-0.276	0.001	0
291	SLU 84		0	-4.53	63.35	-0.2756	0.001	0
291	SLE RA 1		0	-2.7	40.3	-0.177	0.0006	0
291	SLE RA 2		0	-2.7	40.25	-0.1766	0.0006	0
291	SLE RA 3		0	-2.91	41.14	-0.1773	0.0006	0
291	SLE RA 4		0	-2.91	41.11	-0.177	0.0006	0
291	SLE RA 5		0	-2.92	40.77	-0.1742	0.0006	0
291	SLE RA 6		0	-3.13	41.66	-0.1749	0.0007	0
291	SLE RA 7		0	-3.13	41.63	-0.1747	0.0007	0
291	SLE RA 8		0	-3.14	41.35	-0.1723	0.0007	0
291	SLE RA 9		0	-3.14	41.32	-0.1721	0.0007	0
291	SLE RA 10		0	-2.97	44.28	-0.196	0.0006	0
291	SLE RA 11		0	-3.18	45.17	-0.1967	0.0007	0
291	SLE RA 12		0	-3.18	45.14	-0.1964	0.0007	0
291	SLE RA 13		0	-3.18	44.81	-0.1937	0.0007	0
291	SLE RA 14		0	-3.4	45.69	-0.1944	0.0008	0
291	SLE RA 15		0	-3.39	45.66	-0.1941	0.0008	0
291	SLE RA 16		0	-3.4	45.38	-0.1918	0.0008	0
291	SLE RA 17		0	-3.4	45.35	-0.1915	0.0008	0
291	SLE RA 18		0	-3.08	46.06	-0.2048	0.0007	0
291	SLE RA 19		0	-3.08	46.03	-0.2045	0.0007	0
291	SLE RA 20		0	-3.3	46.58	-0.2025	0.0007	0
291	SLE RA 21		0	-3.3	46.55	-0.2022	0.0007	0
291	SLE FR 1		0	-2.7	40.3	-0.177	0.0006	0
291	SLE FR 2		0	-2.7	40.29	-0.1769	0.0006	0
291	SLE FR 3		0	-2.79	40.51	-0.1761	0.0006	0
291	SLE FR 4		0	-2.82	42.02	-0.1853	0.0006	0
291	SLE FR 5		0	-2.91	42.24	-0.1844	0.0006	0
291	SLE FR 6		0	-2.89	43.18	-0.1909	0.0006	0
291	SLE QP 1		0	-2.7	40.3	-0.177	0.0006	0
291	SLE QP 2		0	-2.82	42.03	-0.1853	0.0006	0
291	SLD 1		-0.06	-1.42	38.81	-0.2398	-0.0532	-0.0002
291	SLD 2		-0.06	-1.42	38.81	-0.2398	-0.0532	-0.0002
291	SLD 3		-0.03	-5.99	41.06	-0.0534	-0.0356	-0.0002
291	SLD 4		-0.03	-5.99	41.06	-0.0534	-0.0356	-0.0002
291	SLD 5		-0.06	4.53	37.65	-0.4843	-0.0423	0
291	SLD 6		-0.06	4.53	37.65	-0.4843	-0.0423	0
291	SLD 7		0.03	-10.7	45.15	0.1369	0.0165	-0.0001
291	SLD 8		0.03	-10.7	45.15	0.1369	0.0165	-0.0001
291	SLD 9		-0.03	5.07	38.91	-0.5076	-0.0153	0.0001
291	SLD 10		-0.03	5.07	38.91	-0.5076	-0.0153	0.0001
291	SLD 11		0.06	-10.17	46.41	0.1136	0.0435	0
291	SLD 12		0.06	-10.17	46.41	0.1136	0.0435	0
291	SLD 13		0.03	0.35	43	-0.3173	0.0367	0.0002
291	SLD 14		0.03	0.35	43	-0.3173	0.0367	0.0002
291	SLD 15		0.06	-4.22	45.25	-0.1309	0.0544	0.0002
291	SLD 16		0.06	-4.22	45.25	-0.1309	0.0544	0.0002
291	SLV 1		-0.14	0.44	34.45	-0.3115	-0.1308	-0.0004
291	SLV 2		-0.14	0.44	34.45	-0.3115	-0.1308	-0.0004
291	SLV 3		-0.07	-10.3	39.79	0.1253	-0.0873	-0.0005
291	SLV 4		-0.07	-10.3	39.79	0.1253	-0.0873	-0.0005
291	SLV 5		-0.14	14.46	31.65	-0.8857	-0.1048	0
291	SLV 6		-0.14	14.46	31.65	-0.8857	-0.1048	0
291	SLV 7		0.08	-21.36	49.46	0.5703	0.0402	-0.0003
291	SLV 8		0.08	-21.36	49.46	0.5703	0.0402	-0.0003
291	SLV 9		-0.08	15.72	34.6	-0.941	-0.039	0.0003
291	SLV 10		-0.08	15.72	34.6	-0.941	-0.039	0.0003
291	SLV 11		0.15	-20.09	52.41	0.515	0.106	0
291	SLV 12		0.15	-20.09	52.41	0.515	0.106	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
291	SLV 13		0.08	4.66	44.27	-0.496	0.0885	0.0005
291	SLV 14		0.08	4.66	44.27	-0.496	0.0885	0.0005
291	SLV 15		0.14	-6.08	49.61	-0.0592	0.132	0.0004
291	SLV 16		0.14	-6.08	49.61	-0.0592	0.132	0.0004
292	SLU 1		4.94	-8.97	55.69	0.1675	0.0507	-0.0015
292	SLU 2		4.64	-7.96	50.73	0.1412	0.0512	-0.0013
292	SLU 3		5.05	-9.13	56.73	0.1699	0.0521	-0.0016
292	SLU 4		4.86	-8.52	53.75	0.1541	0.0524	-0.0014
292	SLU 5		4.7	-8.01	51.15	0.1412	0.0528	-0.0012
292	SLU 6		5.11	-9.17	57.15	0.1699	0.0536	-0.0015
292	SLU 7		4.93	-8.57	54.17	0.1541	0.0539	-0.0014
292	SLU 8		5.07	-9.05	56.54	0.1676	0.0538	-0.0015
292	SLU 9		4.89	-8.45	53.56	0.1518	0.0541	-0.0013
292	SLU 10		5.36	-8.99	57.63	0.1587	0.0618	-0.0014
292	SLU 11		5.77	-10.16	63.63	0.1874	0.0627	-0.0017
292	SLU 12		5.58	-9.55	60.65	0.1716	0.063	-0.0015
292	SLU 13		5.42	-9.04	58.05	0.1587	0.0634	-0.0014
292	SLU 14		5.83	-10.2	64.05	0.1874	0.0642	-0.0017
292	SLU 15		5.65	-9.6	61.07	0.1716	0.0645	-0.0015
292	SLU 16		5.79	-10.08	63.44	0.1851	0.0644	-0.0016
292	SLU 17		5.61	-9.48	60.46	0.1693	0.0647	-0.0015
292	SLU 18		5.97	-10.44	65.55	0.1925	0.0659	-0.0017
292	SLU 19		5.79	-9.84	62.57	0.1767	0.0662	-0.0015
292	SLU 20		6.04	-10.48	65.97	0.1925	0.0674	-0.0017
292	SLU 21		5.85	-9.88	63	0.1768	0.0677	-0.0015
292	SLU 22		5.61	-9.95	62.21	0.1843	0.0601	-0.0017
292	SLU 23		5.3	-8.95	57.25	0.158	0.0607	-0.0014
292	SLU 24		5.71	-10.11	63.25	0.1867	0.0615	-0.0017
292	SLU 25		5.53	-9.51	60.27	0.1709	0.0618	-0.0015
292	SLU 26		5.37	-8.99	57.67	0.158	0.0622	-0.0014
292	SLU 27		5.78	-10.15	63.67	0.1867	0.063	-0.0017
292	SLU 28		5.59	-9.55	60.69	0.1709	0.0633	-0.0015
292	SLU 29		5.74	-10.04	63.06	0.1843	0.0632	-0.0016
292	SLU 30		5.55	-9.43	60.08	0.1686	0.0635	-0.0015
292	SLU 31		6.02	-9.98	64.15	0.1755	0.0712	-0.0015
292	SLU 32		6.43	-11.14	70.15	0.2042	0.0721	-0.0018
292	SLU 33		6.25	-10.54	67.17	0.1884	0.0724	-0.0016
292	SLU 34		6.09	-10.02	64.57	0.1755	0.0728	-0.0015
292	SLU 35		6.5	-11.18	70.57	0.2042	0.0736	-0.0018
292	SLU 36		6.31	-10.58	67.59	0.1884	0.0739	-0.0016
292	SLU 37		6.46	-11.07	69.96	0.2018	0.0738	-0.0018
292	SLU 38		6.27	-10.46	66.98	0.1861	0.0741	-0.0016
292	SLU 39		6.64	-11.42	72.07	0.2093	0.0753	-0.0018
292	SLU 40		6.46	-10.82	69.09	0.1935	0.0756	-0.0017
292	SLU 41		6.7	-11.47	72.5	0.2093	0.0768	-0.0018
292	SLU 42		6.52	-10.86	69.52	0.1935	0.0771	-0.0017
292	SLU 43		6.2	-11.32	70.16	0.212	0.0627	-0.002
292	SLU 44		5.89	-10.32	65.2	0.1857	0.0632	-0.0017
292	SLU 45		6.3	-11.48	71.2	0.2144	0.0641	-0.002
292	SLU 46		6.12	-10.88	68.22	0.1986	0.0644	-0.0018
292	SLU 47		5.96	-10.36	65.62	0.1857	0.0648	-0.0017
292	SLU 48		6.36	-11.52	71.62	0.2144	0.0656	-0.002
292	SLU 49		6.18	-10.92	68.64	0.1987	0.0659	-0.0018
292	SLU 50		6.33	-11.41	71.01	0.2121	0.0658	-0.0019
292	SLU 51		6.14	-10.8	68.03	0.1963	0.0661	-0.0018
292	SLU 52		6.61	-11.35	72.1	0.2032	0.0738	-0.0018
292	SLU 53		7.02	-12.51	78.1	0.2319	0.0747	-0.0021
292	SLU 54		6.84	-11.91	75.12	0.2161	0.075	-0.0019
292	SLU 55		6.68	-11.39	72.52	0.2032	0.0754	-0.0018
292	SLU 56		7.08	-12.55	78.52	0.2319	0.0762	-0.0021
292	SLU 57		6.9	-11.95	75.54	0.2162	0.0765	-0.0019
292	SLU 58		7.05	-12.44	77.91	0.2296	0.0764	-0.0021
292	SLU 59		6.86	-11.83	74.93	0.2138	0.0767	-0.0019
292	SLU 60		7.23	-12.79	80.02	0.237	0.0779	-0.0021
292	SLU 61		7.04	-12.19	77.04	0.2212	0.0782	-0.002
292	SLU 62		7.29	-12.83	80.44	0.2371	0.0794	-0.0021
292	SLU 63		7.11	-12.23	77.47	0.2213	0.0797	-0.002
292	SLU 64		6.87	-12.3	76.68	0.2288	0.0721	-0.0021
292	SLU 65		6.56	-11.3	71.72	0.2025	0.0726	-0.0018
292	SLU 66		6.97	-12.46	77.72	0.2312	0.0735	-0.0021
292	SLU 67		6.78	-11.86	74.74	0.2154	0.0738	-0.0019
292	SLU 68		6.62	-11.34	72.14	0.2025	0.0742	-0.0018
292	SLU 69		7.03	-12.5	78.14	0.2312	0.075	-0.0021
292	SLU 70		6.85	-11.9	75.17	0.2154	0.0753	-0.0019
292	SLU 71		6.99	-12.39	77.53	0.2289	0.0752	-0.0021
292	SLU 72		6.81	-11.79	74.55	0.2131	0.0755	-0.0019
292	SLU 73		7.28	-12.33	78.62	0.22	0.0832	-0.0019
292	SLU 74		7.69	-13.49	84.62	0.2487	0.0841	-0.0022
292	SLU 75		7.5	-12.89	81.64	0.2329	0.0844	-0.0021
292	SLU 76		7.34	-12.37	79.05	0.22	0.0848	-0.0019
292	SLU 77		7.75	-13.53	85.04	0.2487	0.0856	-0.0022
292	SLU 78		7.57	-12.93	82.07	0.2329	0.0859	-0.002
292	SLU 79		7.71	-13.42	84.43	0.2463	0.0858	-0.0022
292	SLU 80		7.53	-12.82	81.46	0.2306	0.0861	-0.002
292	SLU 81		7.89	-13.78	86.54	0.2538	0.0873	-0.0023
292	SLU 82		7.71	-13.17	83.56	0.238	0.0876	-0.0021
292	SLU 83		7.96	-13.82	86.97	0.2538	0.0888	-0.0023
292	SLU 84		7.77	-13.22	83.99	0.238	0.0891	-0.0021
292	SLE RA 1		5.14	-9.25	57.55	0.1723	0.0534	-0.0016
292	SLE RA 2		4.93	-8.58	54.25	0.1548	0.0538	-0.0014



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
292	SLE RA 3	5.2	-9.35	58.24	0.1739	0.0543	-0.0016
292	SLE RA 4	5.08	-8.95	56.26	0.1634	0.0545	-0.0015
292	SLE RA 5	4.97	-8.61	54.53	0.1548	0.0548	-0.0014
292	SLE RA 6	5.25	-9.38	58.53	0.1739	0.0553	-0.0016
292	SLE RA 7	5.12	-8.98	56.54	0.1634	0.0555	-0.0015
292	SLE RA 8	5.22	-9.31	58.12	0.1723	0.0554	-0.0016
292	SLE RA 9	5.1	-8.9	56.13	0.1618	0.0557	-0.0014
292	SLE RA 10	5.41	-9.27	58.85	0.1664	0.0608	-0.0015
292	SLE RA 11	5.68	-10.04	62.85	0.1856	0.0614	-0.0017
292	SLE RA 12	5.56	-9.64	60.86	0.175	0.0616	-0.0016
292	SLE RA 13	5.45	-9.29	59.13	0.1665	0.0618	-0.0015
292	SLE RA 14	5.73	-10.07	63.13	0.1856	0.0624	-0.0017
292	SLE RA 15	5.6	-9.67	61.14	0.1751	0.0626	-0.0016
292	SLE RA 16	5.7	-9.99	62.72	0.184	0.0625	-0.0016
292	SLE RA 17	5.58	-9.59	60.74	0.1735	0.0627	-0.0015
292	SLE RA 18	5.82	-10.23	64.13	0.189	0.0635	-0.0017
292	SLE RA 19	5.7	-9.83	62.14	0.1785	0.0637	-0.0016
292	SLE RA 20	5.86	-10.26	64.41	0.189	0.0645	-0.0017
292	SLE RA 21	5.74	-9.86	62.42	0.1785	0.0647	-0.0016
292	SLE FR 1	5.14	-9.25	57.55	0.1723	0.0534	-0.0016
292	SLE FR 2	5.09	-9.11	56.89	0.1688	0.0535	-0.0015
292	SLE FR 3	5.15	-9.26	57.67	0.1723	0.0538	-0.0016
292	SLE FR 4	5.3	-9.41	58.86	0.1738	0.0565	-0.0016
292	SLE FR 5	5.36	-9.55	59.64	0.1773	0.0568	-0.0016
292	SLE FR 6	5.48	-9.74	60.84	0.1807	0.0585	-0.0016
292	SLE QP 1	5.14	-9.25	57.55	0.1723	0.0534	-0.0016
292	SLE QP 2	5.34	-9.54	59.53	0.1773	0.0564	-0.0016
292	SLD 1	8.13	-10.76	73.87	0.1799	0.1529	0
292	SLD 2	8.13	-10.76	73.87	0.1799	0.1529	0
292	SLD 3	9.05	-13.57	85.88	0.2761	0.1739	-0.001
292	SLD 4	9.05	-13.57	85.88	0.2761	0.1739	-0.001
292	SLD 5	4.79	-5.65	45.61	0.0322	0.0537	0.0004
292	SLD 6	4.79	-5.65	45.61	0.0322	0.0537	0.0004
292	SLD 7	7.85	-15.01	85.65	0.3528	0.1234	-0.0029
292	SLD 8	7.85	-15.01	85.65	0.3528	0.1234	-0.0029
292	SLD 9	2.84	-4.08	33.4	0.0018	-0.0105	-0.0003
292	SLD 10	2.84	-4.08	33.4	0.0018	-0.0105	-0.0003
292	SLD 11	5.9	-13.43	73.44	0.3224	0.0592	-0.0036
292	SLD 12	5.9	-13.43	73.44	0.3224	0.0592	-0.0036
292	SLD 13	1.63	-5.52	33.17	0.0786	-0.061	-0.0023
292	SLD 14	1.63	-5.52	33.17	0.0786	-0.061	-0.0023
292	SLD 15	2.55	-8.32	45.18	0.1747	-0.0401	-0.0032
292	SLD 16	2.55	-8.32	45.18	0.1747	-0.0401	-0.0032
292	SLV 1	11.87	-12.41	93.11	0.1852	0.282	0.0022
292	SLV 2	11.87	-12.41	93.11	0.1852	0.282	0.0022
292	SLV 3	14.04	-18.97	121.31	0.4095	0.3321	-0.0001
292	SLV 4	14.04	-18.97	121.31	0.4095	0.3321	-0.0001
292	SLV 5	4.02	-0.46	26.83	-0.1604	0.048	0.003
292	SLV 6	4.02	-0.46	26.83	-0.1604	0.048	0.003
292	SLV 7	11.23	-22.32	120.83	0.5871	0.2152	-0.0047
292	SLV 8	11.23	-22.32	120.83	0.5871	0.2152	-0.0047
292	SLV 9	-0.55	3.23	-1.78	-0.2324	-0.1024	0.0014
292	SLV 10	-0.55	3.23	-1.78	-0.2324	-0.1024	0.0014
292	SLV 11	6.66	-18.63	92.22	0.5151	0.0649	-0.0062
292	SLV 12	6.66	-18.63	92.22	0.5151	0.0649	-0.0062
292	SLV 13	-3.36	-0.12	-2.25	-0.0548	-0.2192	-0.0031
292	SLV 14	-3.36	-0.12	-2.25	-0.0548	-0.2192	-0.0031
292	SLV 15	-1.19	-6.68	25.95	0.1694	-0.1691	-0.0054
292	SLV 16	-1.19	-6.68	25.95	0.1694	-0.1691	-0.0054
293	SLU 1	1.34	-0.12	39.85	0.0073	0.173	0.0003
293	SLU 2	1.51	-0.11	36.53	0.0047	0.1694	0.0003
293	SLU 3	1.39	-0.12	40.56	0.0072	0.1779	0.0003
293	SLU 4	1.49	-0.11	38.57	0.0057	0.1757	0.0003
293	SLU 5	1.58	-0.11	36.82	0.0046	0.1734	0.0003
293	SLU 6	1.46	-0.12	40.84	0.0071	0.1818	0.0003
293	SLU 7	1.56	-0.12	38.85	0.0055	0.1797	0.0003
293	SLU 8	1.47	-0.12	40.42	0.007	0.1809	0.0003
293	SLU 9	1.57	-0.11	38.43	0.0055	0.1788	0.0003
293	SLU 10	1.89	-0.12	41.51	0.0057	0.2007	0.0003
293	SLU 11	1.77	-0.14	45.53	0.0082	0.2091	0.0004
293	SLU 12	1.87	-0.13	43.54	0.0067	0.207	0.0004
293	SLU 13	1.95	-0.12	41.79	0.0056	0.2047	0.0003
293	SLU 14	1.84	-0.14	45.82	0.008	0.2131	0.0004
293	SLU 15	1.94	-0.13	43.83	0.0065	0.2109	0.0004
293	SLU 16	1.85	-0.14	45.4	0.008	0.2122	0.0004
293	SLU 17	1.95	-0.13	43.41	0.0065	0.21	0.0004
293	SLU 18	1.88	-0.14	46.95	0.0087	0.2177	0.0004
293	SLU 19	1.98	-0.13	44.96	0.0072	0.2156	0.0004
293	SLU 20	1.95	-0.14	47.24	0.0085	0.2216	0.0004
293	SLU 21	2.05	-0.13	45.25	0.007	0.2195	0.0004
293	SLU 22	1.68	-0.13	44.54	0.008	0.2017	0.0004
293	SLU 23	1.84	-0.12	41.23	0.0055	0.1981	0.0003
293	SLU 24	1.73	-0.14	45.25	0.008	0.2066	0.0004
293	SLU 25	1.83	-0.13	43.26	0.0064	0.2044	0.0004
293	SLU 26	1.91	-0.12	41.51	0.0054	0.2021	0.0003
293	SLU 27	1.79	-0.14	45.53	0.0078	0.2105	0.0004
293	SLU 28	1.89	-0.13	43.55	0.0063	0.2084	0.0004
293	SLU 29	1.81	-0.14	45.11	0.0078	0.2096	0.0004
293	SLU 30	1.91	-0.13	43.13	0.0062	0.2075	0.0004
293	SLU 31	2.22	-0.14	46.2	0.0065	0.2294	0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
293	SLU 32		2.1	-0.15	50.22	0.0089	0.2379	0.0004
293	SLU 33		2.21	-0.14	48.23	0.0074	0.2357	0.0004
293	SLU 34		2.29	-0.14	46.49	0.0063	0.2334	0.0004
293	SLU 35		2.17	-0.15	50.51	0.0088	0.2418	0.0004
293	SLU 36		2.27	-0.14	48.52	0.0073	0.2397	0.0004
293	SLU 37		2.18	-0.15	50.09	0.0087	0.2409	0.0004
293	SLU 38		2.29	-0.14	48.1	0.0072	0.2387	0.0004
293	SLU 39		2.21	-0.15	51.65	0.0095	0.2464	0.0004
293	SLU 40		2.32	-0.15	49.66	0.0079	0.2443	0.0004
293	SLU 41		2.28	-0.16	51.93	0.0093	0.2503	0.0004
293	SLU 42		2.38	-0.15	49.94	0.0078	0.2482	0.0004
293	SLU 43		1.63	-0.15	50.19	0.0092	0.2151	0.0004
293	SLU 44		1.8	-0.14	46.88	0.0067	0.2115	0.0004
293	SLU 45		1.68	-0.15	50.9	0.0091	0.2199	0.0004
293	SLU 46		1.78	-0.15	48.91	0.0076	0.2178	0.0004
293	SLU 47		1.87	-0.14	47.17	0.0065	0.2154	0.0004
293	SLU 48		1.75	-0.15	51.19	0.009	0.2239	0.0004
293	SLU 49		1.85	-0.15	49.2	0.0075	0.2217	0.0004
293	SLU 50		1.76	-0.15	50.77	0.0089	0.223	0.0004
293	SLU 51		1.86	-0.14	48.78	0.0074	0.2208	0.0004
293	SLU 52		2.18	-0.15	51.85	0.0076	0.2428	0.0004
293	SLU 53		2.06	-0.17	55.87	0.0101	0.2512	0.0005
293	SLU 54		2.16	-0.16	53.89	0.0086	0.2491	0.0004
293	SLU 55		2.24	-0.15	52.14	0.0075	0.2467	0.0004
293	SLU 56		2.12	-0.17	56.16	0.01	0.2551	0.0005
293	SLU 57		2.23	-0.16	54.17	0.0084	0.253	0.0005
293	SLU 58		2.14	-0.17	55.74	0.0099	0.2542	0.0005
293	SLU 59		2.24	-0.16	53.75	0.0084	0.2521	0.0004
293	SLU 60		2.17	-0.17	57.3	0.0106	0.2598	0.0005
293	SLU 61		2.27	-0.16	55.31	0.0091	0.2576	0.0005
293	SLU 62		2.24	-0.17	57.59	0.0105	0.2637	0.0005
293	SLU 63		2.34	-0.16	55.6	0.0089	0.2616	0.0005
293	SLU 64		1.96	-0.16	54.89	0.01	0.2438	0.0005
293	SLU 65		2.13	-0.15	51.57	0.0074	0.2402	0.0004
293	SLU 66		2.01	-0.17	55.59	0.0099	0.2486	0.0005
293	SLU 67		2.12	-0.16	53.6	0.0084	0.2465	0.0004
293	SLU 68		2.2	-0.15	51.86	0.0073	0.2442	0.0004
293	SLU 69		2.08	-0.17	55.88	0.0097	0.2526	0.0005
293	SLU 70		2.18	-0.16	53.89	0.0082	0.2504	0.0004
293	SLU 71		2.09	-0.17	55.46	0.0097	0.2517	0.0005
293	SLU 72		2.2	-0.16	53.47	0.0082	0.2495	0.0004
293	SLU 73		2.51	-0.17	56.54	0.0084	0.2715	0.0005
293	SLU 74		2.39	-0.18	60.57	0.0109	0.2799	0.0005
293	SLU 75		2.49	-0.17	58.58	0.0093	0.2778	0.0005
293	SLU 76		2.58	-0.17	56.83	0.0083	0.2754	0.0005
293	SLU 77		2.46	-0.18	60.85	0.0107	0.2839	0.0005
293	SLU 78		2.56	-0.18	58.86	0.0092	0.2817	0.0005
293	SLU 79		2.47	-0.18	60.43	0.0107	0.2829	0.0005
293	SLU 80		2.57	-0.17	58.44	0.0091	0.2808	0.0005
293	SLU 81		2.5	-0.18	61.99	0.0114	0.2885	0.0005
293	SLU 82		2.6	-0.18	60	0.0098	0.2863	0.0005
293	SLU 83		2.57	-0.19	62.28	0.0112	0.2924	0.0005
293	SLU 84		2.67	-0.18	60.29	0.0097	0.2903	0.0005
293	SLE RA 1		1.44	-0.12	41.19	0.0075	0.1812	0.0003
293	SLE RA 2		1.55	-0.12	38.98	0.0058	0.1788	0.0003
293	SLE RA 3		1.47	-0.12	41.66	0.0074	0.1844	0.0003
293	SLE RA 4		1.54	-0.12	40.33	0.0064	0.183	0.0003
293	SLE RA 5		1.59	-0.12	39.17	0.0057	0.1815	0.0003
293	SLE RA 6		1.52	-0.13	41.85	0.0074	0.1871	0.0003
293	SLE RA 7		1.58	-0.12	40.53	0.0063	0.1856	0.0003
293	SLE RA 8		1.52	-0.12	41.57	0.0073	0.1865	0.0003
293	SLE RA 9		1.59	-0.12	40.25	0.0063	0.185	0.0003
293	SLE RA 10		1.8	-0.13	42.29	0.0065	0.1997	0.0004
293	SLE RA 11		1.72	-0.13	44.98	0.0081	0.2053	0.0004
293	SLE RA 12		1.79	-0.13	43.65	0.0071	0.2039	0.0004
293	SLE RA 13		1.85	-0.13	42.49	0.0064	0.2023	0.0004
293	SLE RA 14		1.77	-0.14	45.17	0.008	0.2079	0.0004
293	SLE RA 15		1.83	-0.13	43.84	0.007	0.2065	0.0004
293	SLE RA 16		1.78	-0.13	44.89	0.008	0.2073	0.0004
293	SLE RA 17		1.84	-0.13	43.56	0.007	0.2059	0.0004
293	SLE RA 18		1.8	-0.14	45.93	0.0084	0.211	0.0004
293	SLE RA 19		1.86	-0.13	44.6	0.0074	0.2096	0.0004
293	SLE RA 20		1.84	-0.14	46.12	0.0083	0.2136	0.0004
293	SLE RA 21		1.91	-0.13	44.79	0.0073	0.2122	0.0004
293	SLE FR 1		1.44	-0.12	41.19	0.0075	0.1812	0.0003
293	SLE FR 2		1.46	-0.12	40.75	0.0072	0.1807	0.0003
293	SLE FR 3		1.45	-0.12	41.27	0.0075	0.1823	0.0003
293	SLE FR 4		1.57	-0.13	42.17	0.0074	0.1897	0.0003
293	SLE FR 5		1.56	-0.13	42.69	0.0077	0.1912	0.0004
293	SLE FR 6		1.62	-0.13	43.56	0.008	0.1961	0.0004
293	SLE QP 1		1.44	-0.12	41.19	0.0075	0.1812	0.0003
293	SLE QP 2		1.55	-0.13	42.61	0.0078	0.1901	0.0004
293	SLD 1		5.71	-0.17	51.47	-0.0396	0.3722	0.0004
293	SLD 2		5.71	-0.17	51.47	-0.0396	0.3722	0.0004
293	SLD 3		4.87	-0.21	59.11	0.0064	0.4124	0.0005
293	SLD 4		4.87	-0.21	59.11	0.0064	0.4124	0.0005
293	SLD 5		4.07	-0.07	33.68	-0.0761	0.1837	0.0003
293	SLD 6		4.07	-0.07	33.68	-0.0761	0.1837	0.0003
293	SLD 7		1.27	-0.22	59.14	0.077	0.3179	0.0005
293	SLD 8		1.27	-0.22	59.14	0.077	0.3179	0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
293	SLD 9		1.82	-0.04	26.07	-0.0614	0.0624	0.0002
293	SLD 10		1.82	-0.04	26.07	-0.0614	0.0624	0.0002
293	SLD 11		-0.98	-0.18	51.54	0.0916	0.1966	0.0004
293	SLD 12		-0.98	-0.18	51.54	0.0916	0.1966	0.0004
293	SLD 13		-1.78	-0.04	26.11	0.0092	-0.0321	0.0002
293	SLD 14		-1.78	-0.04	26.11	0.0092	-0.0321	0.0002
293	SLD 15		-2.62	-0.08	33.75	0.0551	0.0081	0.0003
293	SLD 16		-2.62	-0.08	33.75	0.0551	0.0081	0.0003
293	SLV 1		11.3	-0.23	63.36	-0.1088	0.6165	0.0005
293	SLV 2		11.3	-0.23	63.36	-0.1088	0.6165	0.0005
293	SLV 3		9.35	-0.33	81.3	0.0042	0.711	0.0007
293	SLV 4		9.35	-0.33	81.3	0.0042	0.711	0.0007
293	SLV 5		7.43	0	21.61	-0.1986	0.1747	0.0002
293	SLV 6		7.43	0	21.61	-0.1986	0.1747	0.0002
293	SLV 7		0.93	-0.34	81.44	0.1781	0.4898	0.0007
293	SLV 8		0.93	-0.34	81.44	0.1781	0.4898	0.0007
293	SLV 9		2.16	0.09	3.78	-0.1625	-0.1095	0
293	SLV 10		2.16	0.09	3.78	-0.1625	-0.1095	0
293	SLV 11		-4.34	-0.25	63.6	0.2141	0.2056	0.0005
293	SLV 12		-4.34	-0.25	63.6	0.2141	0.2056	0.0005
293	SLV 13		-6.26	0.08	3.92	0.0114	-0.3307	0
293	SLV 14		-6.26	0.08	3.92	0.0114	-0.3307	0
293	SLV 15		-8.21	-0.02	21.86	0.1244	-0.2362	0.0002
293	SLV 16		-8.21	-0.02	21.86	0.1244	-0.2362	0.0002
294	SLU 1		-1.23	0.01	34.22	-0.0357	-0.0919	0
294	SLU 2		-0.91	0.01	31.7	-0.0356	-0.0773	0
294	SLU 3		-1.22	0.01	34.8	-0.0369	-0.0927	0
294	SLU 4		-1.03	0.01	33.29	-0.0369	-0.0839	0
294	SLU 5		-0.87	0.01	31.94	-0.0363	-0.0757	0
294	SLU 6		-1.18	0.01	35.04	-0.0376	-0.0911	0
294	SLU 7		-0.99	0.01	33.53	-0.0376	-0.0823	0
294	SLU 8		-1.14	0.01	34.7	-0.0371	-0.0887	0
294	SLU 9		-0.95	0.01	33.19	-0.037	-0.08	0
294	SLU 10		-0.87	0.01	36.03	-0.0398	-0.0812	0
294	SLU 11		-1.18	0.01	39.12	-0.0411	-0.0966	0
294	SLU 12		-0.99	0.01	37.61	-0.041	-0.0878	0
294	SLU 13		-0.82	0.01	36.27	-0.0405	-0.0796	0
294	SLU 14		-1.14	0.01	39.36	-0.0418	-0.095	0
294	SLU 15		-0.95	0.01	37.85	-0.0417	-0.0863	0
294	SLU 16		-1.09	0.01	39.02	-0.0412	-0.0927	0
294	SLU 17		-0.9	0.01	37.51	-0.0412	-0.0839	0
294	SLU 18		-1.17	0.01	40.4	-0.0417	-0.0975	0
294	SLU 19		-0.98	0.01	38.89	-0.0416	-0.0887	0
294	SLU 20		-1.12	0.01	40.64	-0.0423	-0.0959	0
294	SLU 21		-0.93	0.01	39.13	-0.0423	-0.0871	0
294	SLU 22		-1.21	0.01	38.28	-0.0401	-0.0966	0
294	SLU 23		-0.89	0.01	35.77	-0.04	-0.082	0
294	SLU 24		-1.21	0.01	38.86	-0.0413	-0.0974	0
294	SLU 25		-1.02	0.01	37.35	-0.0413	-0.0886	0
294	SLU 26		-0.85	0.01	36.01	-0.0407	-0.0804	0
294	SLU 27		-1.16	0.01	39.1	-0.042	-0.0958	0
294	SLU 28		-0.97	0.01	37.59	-0.0419	-0.0871	0
294	SLU 29		-1.12	0.01	38.76	-0.0414	-0.0935	0
294	SLU 30		-0.93	0.01	37.25	-0.0414	-0.0847	0
294	SLU 31		-0.85	0.01	40.09	-0.0442	-0.0859	0
294	SLU 32		-1.17	0.01	43.18	-0.0455	-0.1013	0
294	SLU 33		-0.98	0.01	41.68	-0.0454	-0.0925	0
294	SLU 34		-0.81	0.01	40.33	-0.0449	-0.0844	0
294	SLU 35		-1.12	0.01	43.42	-0.0461	-0.0997	0
294	SLU 36		-0.93	0.01	41.92	-0.0461	-0.091	0
294	SLU 37		-1.08	0.01	43.08	-0.0456	-0.0974	0
294	SLU 38		-0.89	0.01	41.58	-0.0456	-0.0886	0
294	SLU 39		-1.15	0.01	44.46	-0.046	-0.1022	0
294	SLU 40		-0.96	0.01	42.95	-0.046	-0.0934	0
294	SLU 41		-1.1	0.01	44.7	-0.0467	-0.1006	0
294	SLU 42		-0.92	0.01	43.19	-0.0467	-0.0919	0
294	SLU 43		-1.6	0.01	43.09	-0.0449	-0.1178	0
294	SLU 44		-1.28	0.01	40.58	-0.0449	-0.1032	0
294	SLU 45		-1.6	0.01	43.67	-0.0461	-0.1186	0
294	SLU 46		-1.41	0.01	42.16	-0.0461	-0.1099	0
294	SLU 47		-1.24	0.01	40.82	-0.0455	-0.1017	0
294	SLU 48		-1.55	0.01	43.91	-0.0468	-0.117	0
294	SLU 49		-1.36	0.01	42.4	-0.0468	-0.1083	0
294	SLU 50		-1.51	0.01	43.57	-0.0463	-0.1147	0
294	SLU 51		-1.32	0.01	42.06	-0.0462	-0.1059	0
294	SLU 52		-1.24	0.01	44.9	-0.049	-0.1071	0
294	SLU 53		-1.55	0.01	47.99	-0.0503	-0.1225	0
294	SLU 54		-1.37	0.01	46.49	-0.0503	-0.1138	0
294	SLU 55		-1.2	0.01	45.14	-0.0497	-0.1056	0
294	SLU 56		-1.51	0.01	48.23	-0.051	-0.121	0
294	SLU 57		-1.32	0.01	46.73	-0.0509	-0.1122	0
294	SLU 58		-1.47	0.01	47.89	-0.0504	-0.1186	0
294	SLU 59		-1.28	0.01	46.39	-0.0504	-0.1099	0
294	SLU 60		-1.54	0.01	49.27	-0.0509	-0.1234	0
294	SLU 61		-1.35	0.01	47.76	-0.0508	-0.1146	0
294	SLU 62		-1.49	0.01	49.51	-0.0515	-0.1218	0
294	SLU 63		-1.3	0.01	48	-0.0515	-0.1131	0
294	SLU 64		-1.58	0.01	47.15	-0.0493	-0.1225	0
294	SLU 65		-1.27	0.01	44.64	-0.0492	-0.1079	0
294	SLU 66		-1.58	0.01	47.73	-0.0505	-0.1233	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
294	SLU 67			-1.39	0.01	46.22	-0.0505	-0.1146	0
294	SLU 68			-1.22	0.01	44.88	-0.0499	-0.1064	0
294	SLU 69			-1.53	0.01	47.97	-0.0512	-0.1218	0
294	SLU 70			-1.35	0.01	46.46	-0.0512	-0.113	0
294	SLU 71			-1.49	0.01	47.63	-0.0507	-0.1194	0
294	SLU 72			-1.3	0.01	46.12	-0.0506	-0.1107	0
294	SLU 73			-1.23	0.01	48.96	-0.0534	-0.1119	0
294	SLU 74			-1.54	0.01	52.06	-0.0547	-0.1272	0
294	SLU 75			-1.35	0.01	50.55	-0.0546	-0.1185	0
294	SLU 76			-1.18	0.01	49.2	-0.0541	-0.1103	0
294	SLU 77			-1.49	0.01	52.3	-0.0554	-0.1257	0
294	SLU 78			-1.3	0.01	50.79	-0.0553	-0.1169	0
294	SLU 79			-1.45	0.01	51.96	-0.0548	-0.1233	0
294	SLU 80			-1.26	0.01	50.45	-0.0548	-0.1146	0
294	SLU 81			-1.52	0.01	53.33	-0.0553	-0.1281	0
294	SLU 82			-1.33	0.01	51.82	-0.0552	-0.1194	0
294	SLU 83			-1.48	0.01	53.57	-0.0559	-0.1266	0
294	SLU 84			-1.29	0.01	52.06	-0.0559	-0.1178	0
294	SLE RA 1			-1.22	0.01	35.38	-0.037	-0.0932	0
294	SLE RA 2			-1.01	0.01	33.7	-0.0369	-0.0835	0
294	SLE RA 3			-1.22	0.01	35.76	-0.0378	-0.0937	0
294	SLE RA 4			-1.09	0.01	34.76	-0.0378	-0.0879	0
294	SLE RA 5			-0.98	0.01	33.86	-0.0374	-0.0825	0
294	SLE RA 6			-1.19	0.01	35.92	-0.0382	-0.0927	0
294	SLE RA 7			-1.06	0.01	34.92	-0.0382	-0.0869	0
294	SLE RA 8			-1.16	0.01	35.7	-0.0379	-0.0911	0
294	SLE RA 9			-1.03	0.01	34.69	-0.0378	-0.0853	0
294	SLE RA 10			-0.98	0.01	36.59	-0.0397	-0.0861	0
294	SLE RA 11			-1.19	0.01	38.65	-0.0406	-0.0964	0
294	SLE RA 12			-1.07	0.01	37.64	-0.0405	-0.0905	0
294	SLE RA 13			-0.95	0.01	36.75	-0.0401	-0.0851	0
294	SLE RA 14			-1.16	0.01	38.81	-0.041	-0.0953	0
294	SLE RA 15			-1.04	0.01	37.8	-0.041	-0.0895	0
294	SLE RA 16			-1.13	0.01	38.58	-0.0406	-0.0937	0
294	SLE RA 17			-1.01	0.01	37.58	-0.0406	-0.0879	0
294	SLE RA 18			-1.18	0.01	39.5	-0.0409	-0.0969	0
294	SLE RA 19			-1.06	0.01	38.49	-0.0409	-0.0911	0
294	SLE RA 20			-1.15	0.01	39.66	-0.0414	-0.0959	0
294	SLE RA 21			-1.03	0.01	38.65	-0.0413	-0.0901	0
294	SLE FR 1			-1.22	0.01	35.38	-0.037	-0.0932	0
294	SLE FR 2			-1.18	0.01	35.04	-0.037	-0.0913	0
294	SLE FR 3			-1.21	0.01	35.44	-0.0371	-0.0928	0
294	SLE FR 4			-1.17	0.01	36.28	-0.0381	-0.0924	0
294	SLE FR 5			-1.2	0.01	36.68	-0.0383	-0.0939	0
294	SLE FR 6			-1.2	0.01	37.44	-0.0389	-0.0951	0
294	SLE QP 1			-1.22	0.01	35.38	-0.037	-0.0932	0
294	SLE QP 2			-1.21	0.01	36.61	-0.0382	-0.0943	0
294	SLD 1			2.98	0.13	42.69	-0.1318	0.0971	0.0003
294	SLD 2			2.98	0.13	42.69	-0.1318	0.0971	0.0003
294	SLD 3			2.22	0.06	48.29	-0.0368	0.0665	0.0002
294	SLD 4			2.22	0.06	48.29	-0.0368	0.0665	0.0002
294	SLD 5			1.19	0.15	29.94	-0.2103	0.0096	0.0002
294	SLD 6			1.19	0.15	29.94	-0.2103	0.0096	0.0002
294	SLD 7			-1.33	-0.08	48.61	0.1063	-0.0926	0
294	SLD 8			-1.33	-0.08	48.61	0.1063	-0.0926	0
294	SLD 9			-1.09	0.1	24.61	-0.1826	-0.0961	0.0001
294	SLD 10			-1.09	0.1	24.61	-0.1826	-0.0961	0.0001
294	SLD 11			-3.61	-0.13	43.29	0.134	-0.1983	-0.0002
294	SLD 12			-3.61	-0.13	43.29	0.134	-0.1983	-0.0002
294	SLD 13			-4.64	-0.04	24.94	-0.0395	-0.2551	-0.0001
294	SLD 14			-4.64	-0.04	24.94	-0.0395	-0.2551	-0.0001
294	SLD 15			-5.4	-0.11	30.54	0.0555	-0.2858	-0.0002
294	SLD 16			-5.4	-0.11	30.54	0.0555	-0.2858	-0.0002
294	SLV 1			8.59	0.3	50.82	-0.2686	0.3534	0.0006
294	SLV 2			8.59	0.3	50.82	-0.2686	0.3534	0.0006
294	SLV 3			6.82	0.13	64.02	-0.0347	0.2815	0.0004
294	SLV 4			6.82	0.13	64.02	-0.0347	0.2815	0.0004
294	SLV 5			4.41	0.35	20.86	-0.4621	0.149	0.0004
294	SLV 6			4.41	0.35	20.86	-0.4621	0.149	0.0004
294	SLV 7			-1.48	-0.21	64.85	0.3177	-0.0906	-0.0001
294	SLV 8			-1.48	-0.21	64.85	0.3177	-0.0906	-0.0001
294	SLV 9			-0.93	0.23	8.38	-0.394	-0.0981	0.0002
294	SLV 10			-0.93	0.23	8.38	-0.394	-0.0981	0.0002
294	SLV 11			-6.83	-0.33	52.36	0.3858	-0.3376	-0.0004
294	SLV 12			-6.83	-0.33	52.36	0.3858	-0.3376	-0.0004
294	SLV 13			-9.24	-0.11	9.21	-0.0416	-0.4702	-0.0004
294	SLV 14			-9.24	-0.11	9.21	-0.0416	-0.4702	-0.0004
294	SLV 15			-11	-0.28	22.4	0.1923	-0.542	-0.0005
294	SLV 16			-11	-0.28	22.4	0.1923	-0.542	-0.0005
295	SLU 1			-1.25	0.1	30.45	-0.0794	0.0226	-0.0003
295	SLU 2			-0.97	0.1	28.48	-0.0769	0.0283	-0.0003
295	SLU 3			-1.23	0.11	30.94	-0.0818	0.0252	-0.0003
295	SLU 4			-1.06	0.1	29.76	-0.0803	0.0286	-0.0003
295	SLU 5			-0.92	0.1	28.69	-0.0782	0.0314	-0.0003
295	SLU 6			-1.18	0.11	31.15	-0.0831	0.0283	-0.0003
295	SLU 7			-1.01	0.11	29.97	-0.0816	0.0317	-0.0003
295	SLU 8			-1.14	0.11	30.87	-0.082	0.0288	-0.0003
295	SLU 9			-0.98	0.1	29.69	-0.0805	0.0322	-0.0003
295	SLU 10			-0.95	0.11	32.41	-0.0863	0.0392	-0.0003
295	SLU 11			-1.21	0.12	34.87	-0.0913	0.0361	-0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
295	SLU 12			-1.04	0.12	33.69	-0.0898	0.0395	-0.0003
295	SLU 13			-0.9	0.11	32.62	-0.0876	0.0423	-0.0003
295	SLU 14			-1.16	0.12	35.08	-0.0926	0.0392	-0.0003
295	SLU 15			-0.99	0.12	33.9	-0.0911	0.0426	-0.0003
295	SLU 16			-1.12	0.12	34.8	-0.0914	0.0397	-0.0003
295	SLU 17			-0.96	0.12	33.62	-0.0899	0.0431	-0.0003
295	SLU 18			-1.22	0.12	36.06	-0.0929	0.0382	-0.0003
295	SLU 19			-1.05	0.12	34.88	-0.0914	0.0416	-0.0003
295	SLU 20			-1.17	0.12	36.27	-0.0942	0.0413	-0.0003
295	SLU 21			-1	0.12	35.09	-0.0927	0.0447	-0.0003
295	SLU 22			-1.24	0.12	34.11	-0.0891	0.0326	-0.0003
295	SLU 23			-0.96	0.11	32.15	-0.0866	0.0384	-0.0003
295	SLU 24			-1.22	0.12	34.6	-0.0916	0.0352	-0.0003
295	SLU 25			-1.06	0.12	33.43	-0.09	0.0386	-0.0003
295	SLU 26			-0.91	0.11	32.36	-0.0879	0.0415	-0.0003
295	SLU 27			-1.17	0.12	34.81	-0.0929	0.0383	-0.0003
295	SLU 28			-1.01	0.12	33.64	-0.0913	0.0417	-0.0003
295	SLU 29			-1.13	0.12	34.53	-0.0917	0.0388	-0.0003
295	SLU 30			-0.97	0.12	33.35	-0.0902	0.0423	-0.0003
295	SLU 31			-0.94	0.12	36.08	-0.0961	0.0493	-0.0003
295	SLU 32			-1.2	0.13	38.53	-0.101	0.0461	-0.0004
295	SLU 33			-1.04	0.13	37.35	-0.0995	0.0496	-0.0004
295	SLU 34			-0.89	0.13	36.29	-0.0974	0.0524	-0.0004
295	SLU 35			-1.15	0.13	38.74	-0.1023	0.0492	-0.0004
295	SLU 36			-0.99	0.13	37.56	-0.1008	0.0527	-0.0004
295	SLU 37			-1.11	0.13	38.46	-0.1012	0.0497	-0.0004
295	SLU 38			-0.95	0.13	37.28	-0.0997	0.0532	-0.0004
295	SLU 39			-1.21	0.13	39.72	-0.1027	0.0482	-0.0004
295	SLU 40			-1.04	0.13	38.55	-0.1011	0.0517	-0.0004
295	SLU 41			-1.16	0.14	39.93	-0.104	0.0513	-0.0004
295	SLU 42			-0.99	0.13	38.76	-0.1024	0.0548	-0.0004
295	SLU 43			-1.62	0.13	38.33	-0.0998	0.0259	-0.0004
295	SLU 44			-1.35	0.13	36.36	-0.0973	0.0316	-0.0003
295	SLU 45			-1.61	0.13	38.82	-0.1023	0.0285	-0.0004
295	SLU 46			-1.44	0.13	37.64	-0.1008	0.0319	-0.0004
295	SLU 47			-1.29	0.13	36.57	-0.0986	0.0347	-0.0004
295	SLU 48			-1.55	0.14	39.03	-0.1036	0.0316	-0.0004
295	SLU 49			-1.39	0.13	37.85	-0.1021	0.035	-0.0004
295	SLU 50			-1.52	0.13	38.75	-0.1024	0.0321	-0.0004
295	SLU 51			-1.35	0.13	37.57	-0.1009	0.0355	-0.0004
295	SLU 52			-1.33	0.14	40.29	-0.1068	0.0426	-0.0004
295	SLU 53			-1.59	0.15	42.75	-0.1118	0.0394	-0.0004
295	SLU 54			-1.42	0.14	41.57	-0.1103	0.0428	-0.0004
295	SLU 55			-1.27	0.14	40.5	-0.1081	0.0457	-0.0004
295	SLU 56			-1.53	0.15	42.96	-0.1131	0.0425	-0.0004
295	SLU 57			-1.37	0.15	41.78	-0.1116	0.0459	-0.0004
295	SLU 58			-1.5	0.15	42.67	-0.1119	0.043	-0.0004
295	SLU 59			-1.33	0.14	41.5	-0.1104	0.0465	-0.0004
295	SLU 60			-1.59	0.15	43.94	-0.1134	0.0415	-0.0004
295	SLU 61			-1.43	0.15	42.76	-0.1119	0.0449	-0.0004
295	SLU 62			-1.54	0.15	44.15	-0.1147	0.0446	-0.0004
295	SLU 63			-1.38	0.15	42.97	-0.1132	0.048	-0.0004
295	SLU 64			-1.61	0.14	41.99	-0.1096	0.036	-0.0004
295	SLU 65			-1.34	0.14	40.03	-0.1071	0.0417	-0.0004
295	SLU 66			-1.6	0.15	42.48	-0.112	0.0385	-0.0004
295	SLU 67			-1.43	0.14	41.3	-0.1105	0.042	-0.0004
295	SLU 68			-1.29	0.14	40.24	-0.1084	0.0448	-0.0004
295	SLU 69			-1.55	0.15	42.69	-0.1133	0.0416	-0.0004
295	SLU 70			-1.38	0.15	41.51	-0.1118	0.0451	-0.0004
295	SLU 71			-1.51	0.15	42.41	-0.1122	0.0422	-0.0004
295	SLU 72			-1.35	0.14	41.23	-0.1107	0.0456	-0.0004
295	SLU 73			-1.32	0.15	43.95	-0.1165	0.0526	-0.0004
295	SLU 74			-1.58	0.16	46.41	-0.1215	0.0494	-0.0004
295	SLU 75			-1.41	0.16	45.23	-0.12	0.0529	-0.0004
295	SLU 76			-1.27	0.15	44.16	-0.1178	0.0557	-0.0004
295	SLU 77			-1.53	0.16	46.62	-0.1228	0.0525	-0.0004
295	SLU 78			-1.36	0.16	45.44	-0.1213	0.056	-0.0004
295	SLU 79			-1.49	0.16	46.34	-0.1217	0.0531	-0.0004
295	SLU 80			-1.33	0.16	45.16	-0.1201	0.0565	-0.0004
295	SLU 81			-1.59	0.16	47.6	-0.1231	0.0516	-0.0004
295	SLU 82			-1.42	0.16	46.42	-0.1216	0.055	-0.0004
295	SLU 83			-1.53	0.16	47.81	-0.1244	0.0547	-0.0004
295	SLU 84			-1.37	0.16	46.63	-0.1229	0.0581	-0.0004
295	SLE RA 1			-1.24	0.11	31.5	-0.0822	0.0254	-0.0003
295	SLE RA 2			-1.06	0.1	30.19	-0.0805	0.0293	-0.0003
295	SLE RA 3			-1.23	0.11	31.82	-0.0838	0.0272	-0.0003
295	SLE RA 4			-1.12	0.11	31.04	-0.0828	0.0295	-0.0003
295	SLE RA 5			-1.03	0.11	30.33	-0.0813	0.0313	-0.0003
295	SLE RA 6			-1.2	0.11	31.96	-0.0846	0.0292	-0.0003
295	SLE RA 7			-1.09	0.11	31.18	-0.0836	0.0315	-0.0003
295	SLE RA 8			-1.17	0.11	31.78	-0.0839	0.0296	-0.0003
295	SLE RA 9			-1.06	0.11	30.99	-0.0829	0.0319	-0.0003
295	SLE RA 10			-1.05	0.11	32.8	-0.0868	0.0366	-0.0003
295	SLE RA 11			-1.22	0.12	34.44	-0.0901	0.0344	-0.0003
295	SLE RA 12			-1.11	0.12	33.66	-0.0891	0.0367	-0.0003
295	SLE RA 13			-1.01	0.11	32.94	-0.0877	0.0386	-0.0003
295	SLE RA 14			-1.19	0.12	34.58	-0.091	0.0365	-0.0003
295	SLE RA 15			-1.08	0.12	33.8	-0.09	0.0388	-0.0003
295	SLE RA 16			-1.16	0.12	34.39	-0.0902	0.0369	-0.0003
295	SLE RA 17			-1.05	0.12	33.61	-0.0892	0.0392	-0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
295	SLE RA 18			-1.22	0.12	35.24	-0.0912	0.0358	-0.0003
295	SLE RA 19			-1.11	0.12	34.45	-0.0902	0.0381	-0.0003
295	SLE RA 20			-1.19	0.12	35.38	-0.092	0.0379	-0.0003
295	SLE RA 21			-1.08	0.12	34.59	-0.091	0.0402	-0.0003
295	SLE FR 1			-1.24	0.11	31.5	-0.0822	0.0254	-0.0003
295	SLE FR 2			-1.21	0.11	31.23	-0.0818	0.0262	-0.0003
295	SLE FR 3			-1.23	0.11	31.55	-0.0825	0.0263	-0.0003
295	SLE FR 4			-1.2	0.11	32.36	-0.0845	0.0293	-0.0003
295	SLE FR 5			-1.22	0.11	32.67	-0.0852	0.0294	-0.0003
295	SLE FR 6			-1.23	0.11	33.37	-0.0867	0.0306	-0.0003
295	SLE QP 1			-1.24	0.11	31.5	-0.0822	0.0254	-0.0003
295	SLE QP 2			-1.24	0.11	32.62	-0.0849	0.0286	-0.0003
295	SLD 1			3.26	0.14	36.73	-0.2238	0.2104	-0.0004
295	SLD 2			3.26	0.14	36.73	-0.2238	0.2104	-0.0004
295	SLD 3			2.5	0.28	41.35	-0.0744	0.2436	-0.0008
295	SLD 4			2.5	0.28	41.35	-0.0744	0.2436	-0.0008
295	SLD 5			1.26	-0.09	26.84	-0.3532	0.0327	0.0002
295	SLD 6			1.26	-0.09	26.84	-0.3532	0.0327	0.0002
295	SLD 7			-1.27	0.37	42.24	0.1449	0.1435	-0.0009
295	SLD 8			-1.27	0.37	42.24	0.1449	0.1435	-0.0009
295	SLD 9			-1.21	-0.15	22.99	-0.3146	-0.0864	0.0003
295	SLD 10			-1.21	-0.15	22.99	-0.3146	-0.0864	0.0003
295	SLD 11			-3.74	0.31	38.39	0.1834	0.0244	-0.0008
295	SLD 12			-3.74	0.31	38.39	0.1834	0.0244	-0.0008
295	SLD 13			-4.98	-0.05	23.89	-0.0953	-0.1865	0.0001
295	SLD 14			-4.98	-0.05	23.89	-0.0953	-0.1865	0.0001
295	SLD 15			-5.73	0.08	28.51	0.0541	-0.1533	-0.0002
295	SLD 16			-5.73	0.08	28.51	0.0541	-0.1533	-0.0002
295	SLV 1			9.28	0.17	42.19	-0.4259	0.4539	-0.0006
295	SLV 2			9.28	0.17	42.19	-0.4259	0.4539	-0.0006
295	SLV 3			7.5	0.51	53.14	-0.0584	0.532	-0.0014
295	SLV 4			7.5	0.51	53.14	-0.0584	0.532	-0.0014
295	SLV 5			4.62	-0.38	18.87	-0.7446	0.0378	0.0008
295	SLV 6			4.62	-0.38	18.87	-0.7446	0.0378	0.0008
295	SLV 7			-1.32	0.74	55.39	0.4805	0.298	-0.0019
295	SLV 8			-1.32	0.74	55.39	0.4805	0.298	-0.0019
295	SLV 9			-1.16	-0.52	9.84	-0.6502	-0.2408	0.0013
295	SLV 10			-1.16	-0.52	9.84	-0.6502	-0.2408	0.0013
295	SLV 11			-7.09	0.6	46.36	0.5749	0.0194	-0.0014
295	SLV 12			-7.09	0.6	46.36	0.5749	0.0194	-0.0014
295	SLV 13			-9.97	-0.29	12.09	-0.1114	-0.4748	0.0008
295	SLV 14			-9.97	-0.29	12.09	-0.1114	-0.4748	0.0008
295	SLV 15			-11.75	0.05	23.05	0.2562	-0.3968	0
295	SLV 16			-11.75	0.05	23.05	0.2562	-0.3968	0
296	SLU 1			-2.5	0.16	27.06	-0.1144	-0.1473	-0.0007
296	SLU 2			-2.18	0.16	25.55	-0.1101	-0.1326	-0.0006
296	SLU 3			-2.5	0.17	27.48	-0.1179	-0.1484	-0.0007
296	SLU 4			-2.31	0.16	26.57	-0.1153	-0.1396	-0.0007
296	SLU 5			-2.14	0.16	25.74	-0.1119	-0.1311	-0.0006
296	SLU 6			-2.45	0.17	27.67	-0.1198	-0.1469	-0.0007
296	SLU 7			-2.26	0.17	26.76	-0.1172	-0.1381	-0.0007
296	SLU 8			-2.4	0.17	27.43	-0.1181	-0.1442	-0.0007
296	SLU 9			-2.22	0.16	26.53	-0.1155	-0.1354	-0.0007
296	SLU 10			-2.37	0.18	29.11	-0.1239	-0.1465	-0.0007
296	SLU 11			-2.68	0.19	31.04	-0.1317	-0.1623	-0.0008
296	SLU 12			-2.5	0.18	30.14	-0.1291	-0.1535	-0.0008
296	SLU 13			-2.32	0.18	29.3	-0.1257	-0.145	-0.0007
296	SLU 14			-2.64	0.19	31.23	-0.1336	-0.1607	-0.0008
296	SLU 15			-2.45	0.19	30.32	-0.131	-0.1519	-0.0008
296	SLU 16			-2.59	0.19	30.99	-0.1319	-0.1581	-0.0008
296	SLU 17			-2.4	0.18	30.09	-0.1293	-0.1493	-0.0008
296	SLU 18			-2.76	0.19	32.15	-0.1341	-0.1671	-0.0008
296	SLU 19			-2.57	0.19	31.24	-0.1315	-0.1583	-0.0008
296	SLU 20			-2.71	0.2	32.33	-0.136	-0.1656	-0.0008
296	SLU 21			-2.53	0.19	31.43	-0.1334	-0.1568	-0.0008
296	SLU 22			-2.67	0.18	30.36	-0.1285	-0.1604	-0.0008
296	SLU 23			-2.36	0.18	28.85	-0.1242	-0.1457	-0.0007
296	SLU 24			-2.67	0.19	30.78	-0.132	-0.1615	-0.0008
296	SLU 25			-2.48	0.18	29.88	-0.1294	-0.1527	-0.0008
296	SLU 26			-2.31	0.18	29.04	-0.1261	-0.1442	-0.0007
296	SLU 27			-2.62	0.19	30.97	-0.1339	-0.1599	-0.0008
296	SLU 28			-2.44	0.19	30.06	-0.1313	-0.1511	-0.0008
296	SLU 29			-2.58	0.19	30.73	-0.1323	-0.1573	-0.0008
296	SLU 30			-2.39	0.19	29.83	-0.1297	-0.1485	-0.0008
296	SLU 31			-2.54	0.2	32.41	-0.138	-0.1596	-0.0008
296	SLU 32			-2.85	0.21	34.34	-0.1459	-0.1753	-0.0009
296	SLU 33			-2.67	0.2	33.44	-0.1432	-0.1665	-0.0008
296	SLU 34			-2.5	0.2	32.6	-0.1399	-0.158	-0.0008
296	SLU 35			-2.81	0.21	34.53	-0.1477	-0.1738	-0.0009
296	SLU 36			-2.62	0.21	33.62	-0.1451	-0.165	-0.0008
296	SLU 37			-2.76	0.21	34.3	-0.1461	-0.1712	-0.0009
296	SLU 38			-2.57	0.2	33.39	-0.1435	-0.1624	-0.0008
296	SLU 39			-2.93	0.21	35.45	-0.1483	-0.1802	-0.0009
296	SLU 40			-2.75	0.21	34.54	-0.1457	-0.1714	-0.0008
296	SLU 41			-2.89	0.22	35.64	-0.1501	-0.1786	-0.0009
296	SLU 42			-2.7	0.21	34.73	-0.1475	-0.1698	-0.0009
296	SLU 43			-3.18	0.21	34.05	-0.1439	-0.187	-0.0008
296	SLU 44			-2.87	0.2	32.54	-0.1396	-0.1724	-0.0008
296	SLU 45			-3.19	0.21	34.47	-0.1474	-0.1881	-0.0009
296	SLU 46			-3	0.21	33.56	-0.1448	-0.1793	-0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
296	SLU 47	-2.83	0.2	32.72	-0.1414	-0.1708	-0.0008
296	SLU 48	-3.14	0.21	34.65	-0.1493	-0.1866	-0.0009
296	SLU 49	-2.95	0.21	33.75	-0.1467	-0.1778	-0.0009
296	SLU 50	-3.09	0.21	34.42	-0.1476	-0.184	-0.0009
296	SLU 51	-2.91	0.21	33.51	-0.145	-0.1752	-0.0008
296	SLU 52	-3.06	0.22	36.1	-0.1534	-0.1862	-0.0009
296	SLU 53	-3.37	0.23	38.03	-0.1612	-0.202	-0.0009
296	SLU 54	-3.18	0.23	37.12	-0.1586	-0.1932	-0.0009
296	SLU 55	-3.01	0.22	36.28	-0.1552	-0.1847	-0.0009
296	SLU 56	-3.32	0.23	38.21	-0.1631	-0.2004	-0.001
296	SLU 57	-3.14	0.23	37.31	-0.1605	-0.1916	-0.0009
296	SLU 58	-3.28	0.23	37.98	-0.1614	-0.1978	-0.0009
296	SLU 59	-3.09	0.23	37.07	-0.1588	-0.189	-0.0009
296	SLU 60	-3.45	0.24	39.13	-0.1636	-0.2068	-0.001
296	SLU 61	-3.26	0.23	38.23	-0.161	-0.198	-0.0009
296	SLU 62	-3.4	0.24	39.32	-0.1655	-0.2053	-0.001
296	SLU 63	-3.22	0.23	38.41	-0.1629	-0.1965	-0.0009
296	SLU 64	-3.36	0.23	37.35	-0.158	-0.2001	-0.0009
296	SLU 65	-3.05	0.22	35.84	-0.1537	-0.1854	-0.0009
296	SLU 66	-3.36	0.23	37.77	-0.1615	-0.2012	-0.0009
296	SLU 67	-3.17	0.23	36.86	-0.1589	-0.1924	-0.0009
296	SLU 68	-3	0.22	36.02	-0.1555	-0.1839	-0.0009
296	SLU 69	-3.31	0.23	37.95	-0.1634	-0.1996	-0.001
296	SLU 70	-3.13	0.23	37.05	-0.1608	-0.1908	-0.0009
296	SLU 71	-3.26	0.23	37.72	-0.1617	-0.197	-0.0009
296	SLU 72	-3.08	0.23	36.81	-0.1591	-0.1882	-0.0009
296	SLU 73	-3.23	0.24	39.4	-0.1675	-0.1993	-0.001
296	SLU 74	-3.54	0.25	41.33	-0.1753	-0.215	-0.001
296	SLU 75	-3.36	0.25	40.42	-0.1727	-0.2062	-0.001
296	SLU 76	-3.18	0.24	39.59	-0.1694	-0.1977	-0.001
296	SLU 77	-3.5	0.25	41.52	-0.1772	-0.2135	-0.001
296	SLU 78	-3.31	0.25	40.61	-0.1746	-0.2047	-0.001
296	SLU 79	-3.45	0.25	41.28	-0.1756	-0.2109	-0.001
296	SLU 80	-3.26	0.25	40.38	-0.1729	-0.2021	-0.001
296	SLU 81	-3.62	0.26	42.44	-0.1778	-0.2199	-0.001
296	SLU 82	-3.43	0.25	41.53	-0.1751	-0.2111	-0.001
296	SLU 83	-3.58	0.26	42.62	-0.1796	-0.2183	-0.001
296	SLU 84	-3.39	0.25	41.72	-0.177	-0.2095	-0.001
296	SLE RA 1	-2.54	0.17	28	-0.1185	-0.151	-0.0007
296	SLE RA 2	-2.34	0.17	27	-0.1156	-0.1413	-0.0007
296	SLE RA 3	-2.55	0.17	28.28	-0.1208	-0.1518	-0.0007
296	SLE RA 4	-2.42	0.17	27.68	-0.119	-0.1459	-0.0007
296	SLE RA 5	-2.31	0.17	27.12	-0.1168	-0.1402	-0.0007
296	SLE RA 6	-2.51	0.18	28.41	-0.122	-0.1507	-0.0007
296	SLE RA 7	-2.39	0.17	27.8	-0.1203	-0.1449	-0.0007
296	SLE RA 8	-2.48	0.17	28.25	-0.1209	-0.149	-0.0007
296	SLE RA 9	-2.36	0.17	27.65	-0.1192	-0.1431	-0.0007
296	SLE RA 10	-2.46	0.18	29.37	-0.1248	-0.1505	-0.0007
296	SLE RA 11	-2.67	0.19	30.66	-0.13	-0.161	-0.0008
296	SLE RA 12	-2.54	0.18	30.05	-0.1283	-0.1551	-0.0007
296	SLE RA 13	-2.43	0.18	29.5	-0.126	-0.1495	-0.0007
296	SLE RA 14	-2.64	0.19	30.78	-0.1312	-0.16	-0.0008
296	SLE RA 15	-2.51	0.19	30.18	-0.1295	-0.1541	-0.0008
296	SLE RA 16	-2.61	0.19	30.63	-0.1301	-0.1582	-0.0008
296	SLE RA 17	-2.48	0.18	30.02	-0.1284	-0.1524	-0.0007
296	SLE RA 18	-2.72	0.19	31.39	-0.1316	-0.1642	-0.0008
296	SLE RA 19	-2.6	0.19	30.79	-0.1299	-0.1584	-0.0008
296	SLE RA 20	-2.69	0.19	31.52	-0.1328	-0.1632	-0.0008
296	SLE RA 21	-2.57	0.19	30.92	-0.1311	-0.1574	-0.0008
296	SLE FR 1	-2.54	0.17	28	-0.1185	-0.151	-0.0007
296	SLE FR 2	-2.5	0.17	27.8	-0.1179	-0.1491	-0.0007
296	SLE FR 3	-2.53	0.17	28.05	-0.119	-0.1506	-0.0007
296	SLE FR 4	-2.56	0.18	28.82	-0.1218	-0.153	-0.0007
296	SLE FR 5	-2.59	0.18	29.07	-0.1229	-0.1546	-0.0007
296	SLE FR 6	-2.63	0.18	29.7	-0.125	-0.1576	-0.0007
296	SLE QP 1	-2.54	0.17	28	-0.1185	-0.151	-0.0007
296	SLE QP 2	-2.6	0.18	29.02	-0.1224	-0.155	-0.0007
296	SLD 1	2.21	0.19	31.5	-0.1012	0.0615	-0.0008
296	SLD 2	2.21	0.19	31.5	-0.1012	0.0615	-0.0008
296	SLD 3	1.41	0.39	35.71	-0.3021	0.0268	-0.0015
296	SLD 4	1.41	0.39	35.71	-0.3021	0.0268	-0.0015
296	SLD 5	0.06	-0.14	23.37	0.1887	-0.0374	0.0004
296	SLD 6	0.06	-0.14	23.37	0.1887	-0.0374	0.0004
296	SLD 7	-2.61	0.56	37.42	-0.481	-0.1531	-0.0021
296	SLD 8	-2.61	0.56	37.42	-0.481	-0.1531	-0.0021
296	SLD 9	-2.58	-0.2	20.62	0.2362	-0.1569	0.0007
296	SLD 10	-2.58	-0.2	20.62	0.2362	-0.1569	0.0007
296	SLD 11	-5.25	0.49	34.67	-0.4335	-0.2726	-0.0018
296	SLD 12	-5.25	0.49	34.67	-0.4335	-0.2726	-0.0018
296	SLD 13	-6.6	-0.04	22.33	0.0573	-0.3368	0.0001
296	SLD 14	-6.6	-0.04	22.33	0.0573	-0.3368	0.0001
296	SLD 15	-7.4	0.17	26.54	-0.1436	-0.3715	-0.0006
296	SLD 16	-7.4	0.17	26.54	-0.1436	-0.3715	-0.0006
296	SLV 1	8.64	0.2	34.71	-0.0685	0.3512	-0.0009
296	SLV 2	8.64	0.2	34.71	-0.0685	0.3512	-0.0009
296	SLV 3	6.76	0.7	44.82	-0.5623	0.2695	-0.0027
296	SLV 4	6.76	0.7	44.82	-0.5623	0.2695	-0.0027
296	SLV 5	3.64	-0.59	15.39	0.6427	0.1207	0.002
296	SLV 6	3.64	-0.59	15.39	0.6427	0.1207	0.002
296	SLV 7	-2.65	1.1	49.1	-1.0033	-0.1515	-0.0041



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
296	SLV 8			-2.65	1.1	49.1	-1.0033	-0.1515	-0.0041
296	SLV 9			-2.54	-0.75	8.95	0.7585	-0.1585	0.0026
296	SLV 10			-2.54	-0.75	8.95	0.7585	-0.1585	0.0026
296	SLV 11			-8.83	0.94	42.65	-0.8875	-0.4307	-0.0034
296	SLV 12			-8.83	0.94	42.65	-0.8875	-0.4307	-0.0034
296	SLV 13			-11.95	-0.35	13.22	0.3175	-0.5795	0.0013
296	SLV 14			-11.95	-0.35	13.22	0.3175	-0.5795	0.0013
296	SLV 15			-13.84	0.16	23.33	-0.1763	-0.6612	-0.0005
296	SLV 16			-13.84	0.16	23.33	-0.1763	-0.6612	-0.0005
297	SLU 1			-1.33	0.19	24.28	-0.1388	0.0063	-0.001
297	SLU 2			-1.12	0.18	23.14	-0.1334	0.0109	-0.001
297	SLU 3			-1.29	0.2	24.65	-0.1431	0.0098	-0.001
297	SLU 4			-1.16	0.19	23.97	-0.1398	0.0125	-0.001
297	SLU 5			-1.05	0.19	23.32	-0.1357	0.0147	-0.001
297	SLU 6			-1.22	0.2	24.82	-0.1454	0.0136	-0.0011
297	SLU 7			-1.09	0.2	24.14	-0.1422	0.0164	-0.001
297	SLU 8			-1.19	0.2	24.63	-0.1434	0.014	-0.001
297	SLU 9			-1.07	0.19	23.95	-0.1402	0.0168	-0.001
297	SLU 10			-1.18	0.21	26.4	-0.1503	0.0174	-0.0011
297	SLU 11			-1.34	0.22	27.9	-0.16	0.0163	-0.0012
297	SLU 12			-1.22	0.22	27.22	-0.1568	0.0191	-0.0011
297	SLU 13			-1.11	0.21	26.58	-0.1526	0.0212	-0.0011
297	SLU 14			-1.27	0.23	28.08	-0.1623	0.0201	-0.0012
297	SLU 15			-1.15	0.22	27.4	-0.1591	0.0229	-0.0012
297	SLU 16			-1.24	0.22	27.88	-0.1603	0.0205	-0.0012
297	SLU 17			-1.12	0.22	27.21	-0.1571	0.0233	-0.0011
297	SLU 18			-1.41	0.23	28.93	-0.1629	0.0156	-0.0012
297	SLU 19			-1.28	0.22	28.25	-0.1597	0.0184	-0.0012
297	SLU 20			-1.34	0.23	29.11	-0.1653	0.0195	-0.0012
297	SLU 21			-1.21	0.22	28.43	-0.162	0.0222	-0.0012
297	SLU 22			-1.36	0.22	27.29	-0.1561	0.0135	-0.0011
297	SLU 23			-1.16	0.21	26.15	-0.1507	0.0181	-0.0011
297	SLU 24			-1.32	0.22	27.66	-0.1604	0.017	-0.0012
297	SLU 25			-1.2	0.22	26.98	-0.1571	0.0197	-0.0011
297	SLU 26			-1.09	0.21	26.33	-0.153	0.0219	-0.0011
297	SLU 27			-1.25	0.23	27.83	-0.1627	0.0208	-0.0012
297	SLU 28			-1.13	0.22	27.15	-0.1595	0.0236	-0.0012
297	SLU 29			-1.22	0.22	27.64	-0.1607	0.0212	-0.0012
297	SLU 30			-1.1	0.22	26.96	-0.1575	0.0239	-0.0011
297	SLU 31			-1.21	0.23	29.41	-0.1676	0.0246	-0.0012
297	SLU 32			-1.37	0.25	30.91	-0.1773	0.0235	-0.0013
297	SLU 33			-1.25	0.24	30.23	-0.1741	0.0262	-0.0013
297	SLU 34			-1.14	0.23	29.59	-0.17	0.0284	-0.0012
297	SLU 35			-1.3	0.25	31.09	-0.1796	0.0273	-0.0013
297	SLU 36			-1.18	0.24	30.41	-0.1764	0.0301	-0.0013
297	SLU 37			-1.28	0.25	30.9	-0.1777	0.0277	-0.0013
297	SLU 38			-1.15	0.24	30.22	-0.1744	0.0304	-0.0013
297	SLU 39			-1.44	0.25	31.94	-0.1803	0.0228	-0.0013
297	SLU 40			-1.32	0.25	31.26	-0.177	0.0255	-0.0013
297	SLU 41			-1.37	0.25	32.12	-0.1826	0.0266	-0.0013
297	SLU 42			-1.25	0.25	31.44	-0.1794	0.0294	-0.0013
297	SLU 43			-1.71	0.24	30.53	-0.1744	0.0058	-0.0013
297	SLU 44			-1.51	0.23	29.39	-0.1691	0.0103	-0.0012
297	SLU 45			-1.67	0.25	30.9	-0.1787	0.0092	-0.0013
297	SLU 46			-1.55	0.24	30.22	-0.1755	0.012	-0.0013
297	SLU 47			-1.44	0.24	29.57	-0.1714	0.0142	-0.0012
297	SLU 48			-1.6	0.25	31.07	-0.1811	0.0131	-0.0013
297	SLU 49			-1.48	0.25	30.39	-0.1778	0.0158	-0.0013
297	SLU 50			-1.57	0.25	30.88	-0.1791	0.0134	-0.0013
297	SLU 51			-1.45	0.24	30.2	-0.1759	0.0162	-0.0013
297	SLU 52			-1.57	0.26	32.65	-0.186	0.0168	-0.0014
297	SLU 53			-1.73	0.27	34.15	-0.1957	0.0157	-0.0014
297	SLU 54			-1.61	0.27	33.47	-0.1925	0.0185	-0.0014
297	SLU 55			-1.5	0.26	32.83	-0.1883	0.0207	-0.0014
297	SLU 56			-1.66	0.28	34.33	-0.198	0.0196	-0.0014
297	SLU 57			-1.54	0.27	33.65	-0.1948	0.0223	-0.0014
297	SLU 58			-1.63	0.27	34.14	-0.196	0.0199	-0.0014
297	SLU 59			-1.51	0.27	33.46	-0.1928	0.0227	-0.0014
297	SLU 60			-1.79	0.28	35.18	-0.1986	0.0151	-0.0015
297	SLU 61			-1.67	0.27	34.5	-0.1954	0.0178	-0.0014
297	SLU 62			-1.72	0.28	35.36	-0.201	0.0189	-0.0015
297	SLU 63			-1.6	0.27	34.68	-0.1977	0.0216	-0.0014
297	SLU 64			-1.75	0.27	33.54	-0.1918	0.0129	-0.0014
297	SLU 65			-1.54	0.26	32.4	-0.1864	0.0175	-0.0014
297	SLU 66			-1.71	0.27	33.91	-0.1961	0.0164	-0.0014
297	SLU 67			-1.58	0.27	33.23	-0.1928	0.0192	-0.0014
297	SLU 68			-1.47	0.26	32.58	-0.1887	0.0213	-0.0014
297	SLU 69			-1.64	0.28	34.08	-0.1984	0.0203	-0.0014
297	SLU 70			-1.51	0.27	33.4	-0.1952	0.023	-0.0014
297	SLU 71			-1.61	0.27	33.89	-0.1964	0.0206	-0.0014
297	SLU 72			-1.49	0.27	33.21	-0.1932	0.0234	-0.0014
297	SLU 73			-1.6	0.28	35.66	-0.2033	0.024	-0.0015
297	SLU 74			-1.76	0.3	37.16	-0.213	0.0229	-0.0016
297	SLU 75			-1.64	0.29	36.48	-0.2098	0.0257	-0.0015
297	SLU 76			-1.53	0.28	35.84	-0.2056	0.0278	-0.0015
297	SLU 77			-1.69	0.3	37.34	-0.2153	0.0268	-0.0016
297	SLU 78			-1.57	0.29	36.66	-0.2121	0.0295	-0.0015
297	SLU 79			-1.66	0.3	37.15	-0.2133	0.0271	-0.0016
297	SLU 80			-1.54	0.29	36.47	-0.2101	0.0299	-0.0015
297	SLU 81			-1.83	0.3	38.19	-0.216	0.0222	-0.0016



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
297	SLU 82			-1.7	0.3	37.51	-0.2127	0.025	-0.0016
297	SLU 83			-1.76	0.3	38.37	-0.2183	0.0261	-0.0016
297	SLU 84			-1.63	0.3	37.69	-0.2151	0.0288	-0.0016
297	SLE RA 1			-1.34	0.2	25.14	-0.1437	0.0084	-0.0011
297	SLE RA 2			-1.2	0.19	24.38	-0.1401	0.0114	-0.001
297	SLE RA 3			-1.31	0.2	25.38	-0.1466	0.0107	-0.0011
297	SLE RA 4			-1.23	0.2	24.93	-0.1444	0.0125	-0.0011
297	SLE RA 5			-1.15	0.2	24.5	-0.1417	0.014	-0.001
297	SLE RA 6			-1.26	0.21	25.5	-0.1481	0.0133	-0.0011
297	SLE RA 7			-1.18	0.2	25.05	-0.146	0.0151	-0.0011
297	SLE RA 8			-1.24	0.2	25.37	-0.1468	0.0135	-0.0011
297	SLE RA 9			-1.16	0.2	24.92	-0.1447	0.0153	-0.0011
297	SLE RA 10			-1.24	0.21	26.55	-0.1514	0.0158	-0.0011
297	SLE RA 11			-1.35	0.22	27.55	-0.1579	0.015	-0.0012
297	SLE RA 12			-1.26	0.22	27.1	-0.1557	0.0169	-0.0011
297	SLE RA 13			-1.19	0.21	26.67	-0.153	0.0183	-0.0011
297	SLE RA 14			-1.3	0.22	27.67	-0.1594	0.0176	-0.0012
297	SLE RA 15			-1.22	0.22	27.22	-0.1573	0.0194	-0.0011
297	SLE RA 16			-1.28	0.22	27.54	-0.1581	0.0178	-0.0012
297	SLE RA 17			-1.2	0.22	27.09	-0.1559	0.0197	-0.0011
297	SLE RA 18			-1.39	0.22	28.24	-0.1598	0.0146	-0.0012
297	SLE RA 19			-1.31	0.22	27.79	-0.1577	0.0164	-0.0012
297	SLE RA 20			-1.34	0.22	28.36	-0.1614	0.0171	-0.0012
297	SLE RA 21			-1.26	0.22	27.9	-0.1592	0.019	-0.0012
297	SLE FR 1			-1.34	0.2	25.14	-0.1437	0.0084	-0.0011
297	SLE FR 2			-1.31	0.2	24.98	-0.143	0.009	-0.001
297	SLE FR 3			-1.32	0.2	25.18	-0.1443	0.0094	-0.0011
297	SLE FR 4			-1.32	0.21	25.92	-0.1478	0.0108	-0.0011
297	SLE FR 5			-1.33	0.21	26.11	-0.1492	0.0113	-0.0011
297	SLE FR 6			-1.36	0.21	26.69	-0.1518	0.0115	-0.0011
297	SLE QP 1			-1.34	0.2	25.14	-0.1437	0.0084	-0.0011
297	SLE QP 2			-1.35	0.21	26.07	-0.1485	0.0102	-0.0011
297	SLD 1			3.15	0.2	27.34	-0.1174	0.2215	-0.0011
297	SLD 2			3.15	0.2	27.34	-0.1174	0.2215	-0.0011
297	SLD 3			4.01	0.47	31.51	-0.3602	0.2621	-0.0023
297	SLD 4			4.01	0.47	31.51	-0.3602	0.2621	-0.0023
297	SLD 5			-1.3	-0.19	20.12	0.2291	0.0122	0.0008
297	SLD 6			-1.3	-0.19	20.12	0.2291	0.0122	0.0008
297	SLD 7			1.56	0.68	34.03	-0.5803	0.1472	-0.0033
297	SLD 8			1.56	0.68	34.03	-0.5803	0.1472	-0.0033
297	SLD 9			-4.26	-0.27	18.11	0.2833	-0.1268	0.0012
297	SLD 10			-4.26	-0.27	18.11	0.2833	-0.1268	0.0012
297	SLD 11			-1.4	0.61	32.01	-0.5262	0.0083	-0.0029
297	SLD 12			-1.4	0.61	32.01	-0.5262	0.0083	-0.0029
297	SLD 13			-6.71	-0.05	20.62	0.0632	-0.2416	0.0002
297	SLD 14			-6.71	-0.05	20.62	0.0632	-0.2416	0.0002
297	SLD 15			-5.86	0.21	24.79	-0.1797	-0.2011	-0.0011
297	SLD 16			-5.86	0.21	24.79	-0.1797	-0.2011	-0.0011
297	SLV 1			9.17	0.2	28.9	-0.0693	0.504	-0.0011
297	SLV 2			9.17	0.2	28.9	-0.0693	0.504	-0.0011
297	SLV 3			11.2	0.84	39	-0.6657	0.5998	-0.0041
297	SLV 4			11.2	0.84	39	-0.6657	0.5998	-0.0041
297	SLV 5			-1.27	-0.77	11.59	0.7798	0.0131	0.0035
297	SLV 6			-1.27	-0.77	11.59	0.7798	0.0131	0.0035
297	SLV 7			5.49	1.37	45.27	-1.2082	0.3324	-0.0066
297	SLV 8			5.49	1.37	45.27	-1.2082	0.3324	-0.0066
297	SLV 9			-8.19	-0.96	6.86	0.9112	-0.312	0.0044
297	SLV 10			-8.19	-0.96	6.86	0.9112	-0.312	0.0044
297	SLV 11			-1.43	1.18	40.54	-1.0769	0.0074	-0.0056
297	SLV 12			-1.43	1.18	40.54	-1.0769	0.0074	-0.0056
297	SLV 13			-13.9	-0.42	13.13	0.3686	-0.5794	0.0019
297	SLV 14			-13.9	-0.42	13.13	0.3686	-0.5794	0.0019
297	SLV 15			-11.87	0.22	23.23	-0.2278	-0.4836	-0.0011
297	SLV 16			-11.87	0.22	23.23	-0.2278	-0.4836	-0.0011
298	SLU 1			-1.33	0.21	22.39	-0.1548	-0.1037	-0.0013
298	SLU 2			-1.16	0.2	21.54	-0.1491	-0.0952	-0.0012
298	SLU 3			-1.28	0.21	22.74	-0.1598	-0.1028	-0.0013
298	SLU 4			-1.18	0.21	22.23	-0.1564	-0.0977	-0.0013
298	SLU 5			-1.08	0.2	21.72	-0.1519	-0.0926	-0.0012
298	SLU 6			-1.2	0.21	22.92	-0.1625	-0.1002	-0.0013
298	SLU 7			-1.1	0.21	22.41	-0.1591	-0.0951	-0.0013
298	SLU 8			-1.18	0.21	22.75	-0.1603	-0.0984	-0.0013
298	SLU 9			-1.08	0.21	22.24	-0.1569	-0.0934	-0.0013
298	SLU 10			-1.25	0.22	24.61	-0.1684	-0.1061	-0.0013
298	SLU 11			-1.37	0.24	25.8	-0.179	-0.1136	-0.0014
298	SLU 12			-1.26	0.23	25.29	-0.1756	-0.1086	-0.0014
298	SLU 13			-1.17	0.22	24.79	-0.1711	-0.1034	-0.0014
298	SLU 14			-1.29	0.24	25.98	-0.1817	-0.111	-0.0015
298	SLU 15			-1.19	0.23	25.48	-0.1783	-0.106	-0.0014
298	SLU 16			-1.26	0.24	25.81	-0.1795	-0.1093	-0.0014
298	SLU 17			-1.16	0.23	25.31	-0.1761	-0.1042	-0.0014
298	SLU 18			-1.45	0.24	26.77	-0.1823	-0.1191	-0.0015
298	SLU 19			-1.35	0.24	26.26	-0.1789	-0.1141	-0.0014
298	SLU 20			-1.38	0.24	26.95	-0.185	-0.1165	-0.0015
298	SLU 21			-1.27	0.24	26.44	-0.1816	-0.1115	-0.0015
298	SLU 22			-1.38	0.23	25.22	-0.1745	-0.1126	-0.0014
298	SLU 23			-1.21	0.22	24.37	-0.1688	-0.1042	-0.0014
298	SLU 24			-1.33	0.24	25.57	-0.1794	-0.1118	-0.0014
298	SLU 25			-1.23	0.23	25.06	-0.176	-0.1067	-0.0014
298	SLU 26			-1.13	0.23	24.55	-0.1715	-0.1016	-0.0014



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
298	SLU 27			-1.25	0.24	25.75	-0.1822	-0.1091	-0.0015
298	SLU 28			-1.15	0.24	25.24	-0.1787	-0.1041	-0.0014
298	SLU 29			-1.23	0.24	25.58	-0.18	-0.1074	-0.0014
298	SLU 30			-1.12	0.23	25.07	-0.1765	-0.1023	-0.0014
298	SLU 31			-1.29	0.25	27.44	-0.188	-0.115	-0.0015
298	SLU 32			-1.41	0.26	28.63	-0.1987	-0.1226	-0.0016
298	SLU 33			-1.31	0.26	28.12	-0.1952	-0.1175	-0.0016
298	SLU 34			-1.22	0.25	27.62	-0.1908	-0.1124	-0.0015
298	SLU 35			-1.34	0.27	28.81	-0.2014	-0.12	-0.0016
298	SLU 36			-1.24	0.26	28.3	-0.198	-0.1149	-0.0016
298	SLU 37			-1.31	0.26	28.64	-0.1992	-0.1182	-0.0016
298	SLU 38			-1.21	0.26	28.14	-0.1958	-0.1131	-0.0016
298	SLU 39			-1.5	0.27	29.59	-0.202	-0.1281	-0.0016
298	SLU 40			-1.4	0.26	29.09	-0.1986	-0.123	-0.0016
298	SLU 41			-1.43	0.27	29.78	-0.2047	-0.1255	-0.0016
298	SLU 42			-1.32	0.26	29.27	-0.2013	-0.1204	-0.0016
298	SLU 43			-1.71	0.26	28.14	-0.1945	-0.1317	-0.0016
298	SLU 44			-1.54	0.25	27.29	-0.1889	-0.1233	-0.0015
298	SLU 45			-1.66	0.26	28.49	-0.1995	-0.1308	-0.0016
298	SLU 46			-1.56	0.26	27.98	-0.1961	-0.1258	-0.0016
298	SLU 47			-1.47	0.25	27.47	-0.1916	-0.1207	-0.0015
298	SLU 48			-1.59	0.27	28.67	-0.2022	-0.1282	-0.0016
298	SLU 49			-1.48	0.26	28.16	-0.1988	-0.1232	-0.0016
298	SLU 50			-1.56	0.26	28.5	-0.2	-0.1265	-0.0016
298	SLU 51			-1.46	0.26	27.99	-0.1966	-0.1214	-0.0016
298	SLU 52			-1.63	0.27	30.35	-0.2081	-0.1341	-0.0017
298	SLU 53			-1.75	0.29	31.55	-0.2187	-0.1417	-0.0018
298	SLU 54			-1.65	0.28	31.04	-0.2153	-0.1366	-0.0017
298	SLU 55			-1.55	0.28	30.54	-0.2108	-0.1315	-0.0017
298	SLU 56			-1.67	0.29	31.73	-0.2214	-0.1391	-0.0018
298	SLU 57			-1.57	0.29	31.22	-0.218	-0.134	-0.0018
298	SLU 58			-1.65	0.29	31.56	-0.2192	-0.1373	-0.0018
298	SLU 59			-1.54	0.28	31.05	-0.2158	-0.1322	-0.0017
298	SLU 60			-1.84	0.29	32.51	-0.222	-0.1472	-0.0018
298	SLU 61			-1.73	0.29	32.01	-0.2186	-0.1421	-0.0018
298	SLU 62			-1.76	0.3	32.69	-0.2247	-0.1446	-0.0018
298	SLU 63			-1.66	0.29	32.19	-0.2213	-0.1395	-0.0018
298	SLU 64			-1.76	0.28	30.97	-0.2142	-0.1407	-0.0017
298	SLU 65			-1.59	0.27	30.12	-0.2085	-0.1322	-0.0017
298	SLU 66			-1.71	0.29	31.31	-0.2191	-0.1398	-0.0018
298	SLU 67			-1.61	0.28	30.81	-0.2157	-0.1347	-0.0017
298	SLU 68			-1.52	0.28	30.3	-0.2112	-0.1296	-0.0017
298	SLU 69			-1.64	0.29	31.5	-0.2219	-0.1372	-0.0018
298	SLU 70			-1.53	0.29	30.99	-0.2185	-0.1321	-0.0018
298	SLU 71			-1.61	0.29	31.33	-0.2197	-0.1354	-0.0018
298	SLU 72			-1.51	0.28	30.82	-0.2163	-0.1304	-0.0017
298	SLU 73			-1.68	0.3	33.18	-0.2277	-0.143	-0.0018
298	SLU 74			-1.8	0.31	34.38	-0.2384	-0.1506	-0.0019
298	SLU 75			-1.69	0.31	33.87	-0.235	-0.1456	-0.0019
298	SLU 76			-1.6	0.3	33.36	-0.2305	-0.1404	-0.0018
298	SLU 77			-1.72	0.32	34.56	-0.2411	-0.148	-0.0019
298	SLU 78			-1.62	0.31	34.05	-0.2377	-0.1429	-0.0019
298	SLU 79			-1.7	0.32	34.39	-0.2389	-0.1462	-0.0019
298	SLU 80			-1.59	0.31	33.88	-0.2355	-0.1412	-0.0019
298	SLU 81			-1.89	0.32	35.34	-0.2417	-0.1561	-0.0019
298	SLU 82			-1.78	0.31	34.83	-0.2383	-0.1511	-0.0019
298	SLU 83			-1.81	0.32	35.52	-0.2444	-0.1535	-0.002
298	SLU 84			-1.71	0.32	35.02	-0.241	-0.1484	-0.0019
298	SLE RA 1			-1.35	0.21	23.2	-0.1604	-0.1062	-0.0013
298	SLE RA 2			-1.23	0.21	22.63	-0.1567	-0.1006	-0.0013
298	SLE RA 3			-1.31	0.22	23.43	-0.1637	-0.1057	-0.0013
298	SLE RA 4			-1.24	0.21	23.09	-0.1615	-0.1023	-0.0013
298	SLE RA 5			-1.18	0.21	22.75	-0.1585	-0.0989	-0.0013
298	SLE RA 6			-1.26	0.22	23.55	-0.1656	-0.1039	-0.0013
298	SLE RA 7			-1.19	0.22	23.21	-0.1633	-0.1005	-0.0013
298	SLE RA 8			-1.24	0.22	23.44	-0.1641	-0.1027	-0.0013
298	SLE RA 9			-1.17	0.21	23.1	-0.1618	-0.0994	-0.0013
298	SLE RA 10			-1.29	0.22	24.68	-0.1695	-0.1078	-0.0014
298	SLE RA 11			-1.37	0.23	25.47	-0.1766	-0.1129	-0.0014
298	SLE RA 12			-1.3	0.23	25.13	-0.1743	-0.1095	-0.0014
298	SLE RA 13			-1.24	0.23	24.8	-0.1713	-0.1061	-0.0014
298	SLE RA 14			-1.32	0.24	25.59	-0.1784	-0.1111	-0.0014
298	SLE RA 15			-1.25	0.23	25.26	-0.1761	-0.1078	-0.0014
298	SLE RA 16			-1.3	0.23	25.48	-0.1769	-0.11	-0.0014
298	SLE RA 17			-1.23	0.23	25.14	-0.1746	-0.1066	-0.0014
298	SLE RA 18			-1.43	0.24	26.12	-0.1788	-0.1165	-0.0014
298	SLE RA 19			-1.36	0.23	25.78	-0.1765	-0.1132	-0.0014
298	SLE RA 20			-1.38	0.24	26.24	-0.1806	-0.1148	-0.0015
298	SLE RA 21			-1.31	0.23	25.9	-0.1783	-0.1114	-0.0014
298	SLE FR 1			-1.35	0.21	23.2	-0.1604	-0.1062	-0.0013
298	SLE FR 2			-1.32	0.21	23.08	-0.1597	-0.1051	-0.0013
298	SLE FR 3			-1.33	0.21	23.25	-0.1612	-0.1055	-0.0013
298	SLE FR 4			-1.35	0.22	23.96	-0.1652	-0.1082	-0.0013
298	SLE FR 5			-1.35	0.22	24.12	-0.1667	-0.1086	-0.0013
298	SLE FR 6			-1.39	0.22	24.66	-0.1696	-0.1114	-0.0014
298	SLE QP 1			-1.35	0.21	23.2	-0.1604	-0.1062	-0.0013
298	SLE QP 2			-1.37	0.22	24.07	-0.1659	-0.1093	-0.0013
298	SLD 1			3.45	0.21	24.67	-0.1269	0.1066	-0.0013
298	SLD 2			3.45	0.21	24.67	-0.1269	0.1066	-0.0013
298	SLD 3			4.37	0.51	28.9	-0.3976	0.1472	-0.003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
298	SLD 4		4.37	0.51	28.9	-0.3976	0.1472	-0.003
298	SLD 5		-1.32	-0.24	17.83	0.2563	-0.1062	0.0012
298	SLD 6		-1.32	-0.24	17.83	0.2563	-0.1062	0.0012
298	SLD 7		1.75	0.76	31.95	-0.646	0.0293	-0.0044
298	SLD 8		1.75	0.76	31.95	-0.646	0.0293	-0.0044
298	SLD 9		-4.49	-0.32	16.2	0.3141	-0.2479	0.0017
298	SLD 10		-4.49	-0.32	16.2	0.3141	-0.2479	0.0017
298	SLD 11		-1.42	0.68	30.32	-0.5882	-0.1125	-0.0039
298	SLD 12		-1.42	0.68	30.32	-0.5882	-0.1125	-0.0039
298	SLD 13		-7.11	-0.07	19.24	0.0657	-0.3659	0.0003
298	SLD 14		-7.11	-0.07	19.24	0.0657	-0.3659	0.0003
298	SLD 15		-6.19	0.23	23.48	-0.205	-0.3252	-0.0014
298	SLD 16		-6.19	0.23	23.48	-0.205	-0.3252	-0.0014
298	SLV 1		9.88	0.18	25.28	-0.0664	0.3949	-0.0011
298	SLV 2		9.88	0.18	25.28	-0.0664	0.3949	-0.0011
298	SLV 3		12.06	0.91	35.61	-0.7309	0.491	-0.0052
298	SLV 4		12.06	0.91	35.61	-0.7309	0.491	-0.0052
298	SLV 5		-1.3	-0.9	8.78	0.8718	-0.1038	0.005
298	SLV 6		-1.3	-0.9	8.78	0.8718	-0.1038	0.005
298	SLV 7		5.96	1.54	43.19	-1.3433	0.2165	-0.0088
298	SLV 8		5.96	1.54	43.19	-1.3433	0.2165	-0.0088
298	SLV 9		-8.7	-1.1	4.96	1.0114	-0.4352	0.0061
298	SLV 10		-8.7	-1.1	4.96	1.0114	-0.4352	0.0061
298	SLV 11		-1.44	1.34	39.37	-1.2037	-0.1148	-0.0077
298	SLV 12		-1.44	1.34	39.37	-1.2037	-0.1148	-0.0077
298	SLV 13		-14.8	-0.48	12.54	0.399	-0.7097	0.0026
298	SLV 14		-14.8	-0.48	12.54	0.399	-0.7097	0.0026
298	SLV 15		-12.62	0.25	22.86	-0.2655	-0.6135	-0.0016
298	SLV 16		-12.62	0.25	22.86	-0.2655	-0.6135	-0.0016
299	SLU 1		0.57	0.22	21.75	-0.1669	0.0794	-0.0013
299	SLU 2		0.64	0.21	21.12	-0.1614	0.0795	-0.0012
299	SLU 3		0.69	0.22	22.12	-0.1724	0.0858	-0.0013
299	SLU 4		0.72	0.22	21.74	-0.1691	0.0859	-0.0013
299	SLU 5		0.75	0.21	21.33	-0.1645	0.0852	-0.0013
299	SLU 6		0.8	0.23	22.33	-0.1755	0.0915	-0.0014
299	SLU 7		0.83	0.22	21.95	-0.1722	0.0916	-0.0013
299	SLU 8		0.79	0.22	22.17	-0.1732	0.0907	-0.0013
299	SLU 9		0.83	0.22	21.79	-0.1698	0.0908	-0.0013
299	SLU 10		0.81	0.23	24.17	-0.1826	0.0952	-0.0014
299	SLU 11		0.86	0.25	25.17	-0.1937	0.1015	-0.0015
299	SLU 12		0.9	0.24	24.79	-0.1903	0.1016	-0.0015
299	SLU 13		0.92	0.24	24.38	-0.1858	0.1009	-0.0014
299	SLU 14		0.97	0.25	25.38	-0.1968	0.1072	-0.0015
299	SLU 15		1.01	0.25	25	-0.1935	0.1073	-0.0015
299	SLU 16		0.97	0.25	25.22	-0.1944	0.1064	-0.0015
299	SLU 17		1.01	0.25	24.84	-0.1911	0.1065	-0.0015
299	SLU 18		0.82	0.25	26.11	-0.1973	0.1018	-0.0015
299	SLU 19		0.86	0.25	25.73	-0.194	0.1019	-0.0015
299	SLU 20		0.93	0.26	26.32	-0.2004	0.1074	-0.0016
299	SLU 21		0.97	0.25	25.94	-0.1971	0.1075	-0.0015
299	SLU 22		0.78	0.24	24.57	-0.1886	0.0963	-0.0015
299	SLU 23		0.85	0.24	23.94	-0.1831	0.0964	-0.0014
299	SLU 24		0.9	0.25	24.94	-0.1941	0.1028	-0.0015
299	SLU 25		0.93	0.25	24.56	-0.1908	0.1029	-0.0015
299	SLU 26		0.96	0.24	24.15	-0.1862	0.1021	-0.0014
299	SLU 27		1.01	0.25	25.15	-0.1972	0.1084	-0.0015
299	SLU 28		1.04	0.25	24.77	-0.1939	0.1085	-0.0015
299	SLU 29		1	0.25	24.99	-0.1949	0.1076	-0.0015
299	SLU 30		1.04	0.25	24.61	-0.1915	0.1077	-0.0015
299	SLU 31		1.02	0.26	26.99	-0.2043	0.1121	-0.0016
299	SLU 32		1.07	0.28	27.99	-0.2154	0.1185	-0.0017
299	SLU 33		1.11	0.27	27.61	-0.212	0.1186	-0.0016
299	SLU 34		1.13	0.27	27.2	-0.2075	0.1178	-0.0016
299	SLU 35		1.18	0.28	28.2	-0.2185	0.1241	-0.0017
299	SLU 36		1.22	0.28	27.82	-0.2152	0.1242	-0.0017
299	SLU 37		1.18	0.28	28.04	-0.2161	0.1233	-0.0017
299	SLU 38		1.22	0.27	27.66	-0.2128	0.1234	-0.0016
299	SLU 39		1.03	0.28	28.93	-0.219	0.1187	-0.0017
299	SLU 40		1.07	0.28	28.55	-0.2157	0.1188	-0.0017
299	SLU 41		1.14	0.29	29.14	-0.2221	0.1244	-0.0017
299	SLU 42		1.18	0.28	28.76	-0.2188	0.1245	-0.0017
299	SLU 43		0.67	0.27	27.31	-0.2095	0.0974	-0.0016
299	SLU 44		0.74	0.26	26.68	-0.204	0.0975	-0.0016
299	SLU 45		0.79	0.28	27.67	-0.215	0.1039	-0.0017
299	SLU 46		0.82	0.27	27.3	-0.2117	0.1039	-0.0016
299	SLU 47		0.85	0.27	26.89	-0.2071	0.1032	-0.0016
299	SLU 48		0.9	0.28	27.88	-0.2181	0.1095	-0.0017
299	SLU 49		0.93	0.28	27.51	-0.2148	0.1096	-0.0017
299	SLU 50		0.89	0.28	27.73	-0.2158	0.1087	-0.0017
299	SLU 51		0.93	0.27	27.35	-0.2125	0.1088	-0.0016
299	SLU 52		0.91	0.29	29.73	-0.2253	0.1132	-0.0017
299	SLU 53		0.96	0.31	30.72	-0.2363	0.1195	-0.0018
299	SLU 54		1	0.3	30.35	-0.233	0.1196	-0.0018
299	SLU 55		1.02	0.29	29.94	-0.2284	0.1189	-0.0018
299	SLU 56		1.07	0.31	30.93	-0.2394	0.1252	-0.0019
299	SLU 57		1.11	0.3	30.56	-0.2361	0.1253	-0.0018
299	SLU 58		1.07	0.31	30.78	-0.237	0.1244	-0.0018
299	SLU 59		1.11	0.3	30.4	-0.2337	0.1245	-0.0018
299	SLU 60		0.93	0.31	31.66	-0.2399	0.1198	-0.0019
299	SLU 61		0.96	0.3	31.29	-0.2366	0.1199	-0.0018



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
299	SLU 62	1.03	0.31	31.87	-0.243	0.1255	-0.0019
299	SLU 63	1.07	0.31	31.5	-0.2397	0.1256	-0.0019
299	SLU 64	0.88	0.3	30.13	-0.2312	0.1143	-0.0018
299	SLU 65	0.95	0.29	29.5	-0.2257	0.1144	-0.0017
299	SLU 66	1	0.31	30.5	-0.2367	0.1208	-0.0018
299	SLU 67	1.03	0.3	30.12	-0.2334	0.1209	-0.0018
299	SLU 68	1.06	0.29	29.71	-0.2288	0.1201	-0.0018
299	SLU 69	1.11	0.31	30.71	-0.2399	0.1264	-0.0019
299	SLU 70	1.14	0.3	30.33	-0.2365	0.1265	-0.0018
299	SLU 71	1.1	0.31	30.55	-0.2375	0.1256	-0.0018
299	SLU 72	1.14	0.3	30.17	-0.2342	0.1257	-0.0018
299	SLU 73	1.12	0.32	32.55	-0.247	0.1301	-0.0019
299	SLU 74	1.17	0.33	33.55	-0.258	0.1365	-0.002
299	SLU 75	1.21	0.33	33.17	-0.2547	0.1366	-0.002
299	SLU 76	1.23	0.32	32.76	-0.2501	0.1358	-0.0019
299	SLU 77	1.28	0.34	33.76	-0.2611	0.1421	-0.002
299	SLU 78	1.32	0.33	33.38	-0.2578	0.1422	-0.002
299	SLU 79	1.28	0.33	33.6	-0.2588	0.1413	-0.002
299	SLU 80	1.32	0.33	33.22	-0.2554	0.1414	-0.002
299	SLU 81	1.13	0.34	34.49	-0.2616	0.1367	-0.002
299	SLU 82	1.17	0.33	34.11	-0.2583	0.1368	-0.002
299	SLU 83	1.24	0.34	34.7	-0.2647	0.1424	-0.0021
299	SLU 84	1.28	0.34	34.32	-0.2614	0.1425	-0.002
299	SLE RA 1	0.63	0.22	22.56	-0.1731	0.0842	-0.0013
299	SLE RA 2	0.68	0.22	22.14	-0.1694	0.0843	-0.0013
299	SLE RA 3	0.71	0.23	22.8	-0.1768	0.0885	-0.0014
299	SLE RA 4	0.73	0.23	22.55	-0.1746	0.0886	-0.0014
299	SLE RA 5	0.75	0.22	22.28	-0.1715	0.0881	-0.0013
299	SLE RA 6	0.78	0.23	22.94	-0.1788	0.0923	-0.0014
299	SLE RA 7	0.81	0.23	22.69	-0.1766	0.0924	-0.0014
299	SLE RA 8	0.78	0.23	22.84	-0.1773	0.0917	-0.0014
299	SLE RA 9	0.81	0.23	22.58	-0.1751	0.0918	-0.0014
299	SLE RA 10	0.79	0.24	24.17	-0.1836	0.0948	-0.0014
299	SLE RA 11	0.83	0.25	24.83	-0.1909	0.099	-0.0015
299	SLE RA 12	0.85	0.24	24.58	-0.1887	0.099	-0.0015
299	SLE RA 13	0.87	0.24	24.31	-0.1857	0.0985	-0.0014
299	SLE RA 14	0.9	0.25	24.97	-0.193	0.1028	-0.0015
299	SLE RA 15	0.92	0.25	24.72	-0.1908	0.1028	-0.0015
299	SLE RA 16	0.9	0.25	24.87	-0.1914	0.1022	-0.0015
299	SLE RA 17	0.92	0.24	24.62	-0.1892	0.1023	-0.0015
299	SLE RA 18	0.8	0.25	25.46	-0.1934	0.0991	-0.0015
299	SLE RA 19	0.83	0.25	25.21	-0.1911	0.0992	-0.0015
299	SLE RA 20	0.87	0.25	25.6	-0.1954	0.1029	-0.0015
299	SLE RA 21	0.9	0.25	25.35	-0.1932	0.103	-0.0015
299	SLE FR 1	0.63	0.22	22.56	-0.1731	0.0842	-0.0013
299	SLE FR 2	0.64	0.22	22.47	-0.1724	0.0842	-0.0013
299	SLE FR 3	0.66	0.22	22.61	-0.1739	0.0857	-0.0014
299	SLE FR 4	0.69	0.23	23.34	-0.1784	0.0887	-0.0014
299	SLE FR 5	0.71	0.23	23.48	-0.18	0.0902	-0.0014
299	SLE FR 6	0.72	0.24	24.01	-0.1832	0.0917	-0.0014
299	SLE QP 1	0.63	0.22	22.56	-0.1731	0.0842	-0.0013
299	SLE QP 2	0.68	0.23	23.43	-0.1792	0.0887	-0.0014
299	SLD 1	5.81	0.21	23.82	-0.1351	0.3233	-0.0013
299	SLD 2	5.81	0.21	23.82	-0.1351	0.3233	-0.0013
299	SLD 3	6.83	0.53	28	-0.4172	0.3736	-0.0031
299	SLD 4	6.83	0.53	28	-0.4172	0.3736	-0.0031
299	SLD 5	0.67	-0.25	17.2	0.2619	0.0829	0.0014
299	SLD 6	0.67	-0.25	17.2	0.2619	0.0829	0.0014
299	SLD 7	4.07	0.8	31.15	-0.6784	0.2504	-0.0046
299	SLD 8	4.07	0.8	31.15	-0.6784	0.2504	-0.0046
299	SLD 9	-2.71	-0.33	15.71	0.3201	-0.073	0.0018
299	SLD 10	-2.71	-0.33	15.71	0.3201	-0.073	0.0018
299	SLD 11	0.7	0.71	29.66	-0.6203	0.0945	-0.0042
299	SLD 12	0.7	0.71	29.66	-0.6203	0.0945	-0.0042
299	SLD 13	-5.46	-0.06	18.86	0.0588	-0.1962	0.0003
299	SLD 14	-5.46	-0.06	18.86	0.0588	-0.1962	0.0003
299	SLD 15	-4.44	0.25	23.04	-0.2233	-0.146	-0.0015
299	SLD 16	-4.44	0.25	23.04	-0.2233	-0.146	-0.0015
299	SLV 1	12.65	0.18	24.15	-0.0665	0.6368	-0.0011
299	SLV 2	12.65	0.18	24.15	-0.0665	0.6368	-0.0011
299	SLV 3	15.06	0.94	34.37	-0.7589	0.756	-0.0055
299	SLV 4	15.06	0.94	34.37	-0.7589	0.756	-0.0055
299	SLV 5	0.61	-0.95	8.15	0.9047	0.0724	0.0054
299	SLV 6	0.61	-0.95	8.15	0.9047	0.0724	0.0054
299	SLV 7	8.66	1.61	42.21	-1.4032	0.4696	-0.0093
299	SLV 8	8.66	1.61	42.21	-1.4032	0.4696	-0.0093
299	SLV 9	-7.3	-1.15	4.65	1.0448	-0.2922	0.0065
299	SLV 10	-7.3	-1.15	4.65	1.0448	-0.2922	0.0065
299	SLV 11	0.76	1.41	38.71	-1.2631	0.105	-0.0081
299	SLV 12	0.76	1.41	38.71	-1.2631	0.105	-0.0081
299	SLV 13	-13.7	-0.48	12.49	0.4005	-0.5786	0.0027
299	SLV 14	-13.7	-0.48	12.49	0.4005	-0.5786	0.0027
299	SLV 15	-11.28	0.29	22.7	-0.2918	-0.4594	-0.0017
299	SLV 16	-11.28	0.29	22.7	-0.2918	-0.4594	-0.0017
300	SLU 1	0.95	0.23	22.31	-0.1772	-0.0201	-0.0013
300	SLU 2	0.98	0.23	21.83	-0.172	-0.0182	-0.0013
300	SLU 3	1.07	0.24	22.73	-0.1832	-0.0167	-0.0014
300	SLU 4	1.09	0.24	22.44	-0.1801	-0.0155	-0.0014
300	SLU 5	1.09	0.23	22.09	-0.1756	-0.0143	-0.0013
300	SLU 6	1.19	0.25	22.98	-0.1867	-0.0128	-0.0014



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
300	SLU 7	1.21	0.24	22.7	-0.1836	-0.0116	-0.0014
300	SLU 8	1.18	0.24	22.82	-0.1842	-0.0123	-0.0014
300	SLU 9	1.2	0.24	22.53	-0.1811	-0.0112	-0.0014
300	SLU 10	1.18	0.26	25.04	-0.1953	-0.0191	-0.0015
300	SLU 11	1.28	0.27	25.94	-0.2065	-0.0176	-0.0016
300	SLU 12	1.3	0.27	25.65	-0.2034	-0.0164	-0.0015
300	SLU 13	1.3	0.26	25.29	-0.1988	-0.0152	-0.0015
300	SLU 14	1.4	0.28	26.19	-0.21	-0.0137	-0.0016
300	SLU 15	1.41	0.27	25.9	-0.2069	-0.0125	-0.0016
300	SLU 16	1.39	0.28	26.03	-0.2075	-0.0132	-0.0016
300	SLU 17	1.4	0.27	25.74	-0.2044	-0.0121	-0.0015
300	SLU 18	1.24	0.28	26.89	-0.2105	-0.0214	-0.0016
300	SLU 19	1.26	0.27	26.61	-0.2074	-0.0203	-0.0016
300	SLU 20	1.36	0.28	27.15	-0.214	-0.0175	-0.0016
300	SLU 21	1.38	0.28	26.86	-0.2109	-0.0164	-0.0016
300	SLU 22	1.19	0.27	25.29	-0.2009	-0.0189	-0.0015
300	SLU 23	1.22	0.26	24.81	-0.1957	-0.0171	-0.0015
300	SLU 24	1.32	0.27	25.71	-0.2069	-0.0155	-0.0016
300	SLU 25	1.33	0.27	25.42	-0.2038	-0.0144	-0.0015
300	SLU 26	1.34	0.26	25.07	-0.1992	-0.0132	-0.0015
300	SLU 27	1.43	0.28	25.97	-0.2104	-0.0116	-0.0016
300	SLU 28	1.45	0.27	25.68	-0.2073	-0.0105	-0.0016
300	SLU 29	1.43	0.28	25.8	-0.2079	-0.0112	-0.0016
300	SLU 30	1.44	0.27	25.51	-0.2048	-0.01	-0.0015
300	SLU 31	1.43	0.29	28.02	-0.219	-0.018	-0.0016
300	SLU 32	1.53	0.31	28.92	-0.2302	-0.0164	-0.0017
300	SLU 33	1.54	0.3	28.63	-0.2271	-0.0153	-0.0017
300	SLU 34	1.54	0.29	28.28	-0.2225	-0.0141	-0.0017
300	SLU 35	1.64	0.31	29.17	-0.2337	-0.0125	-0.0018
300	SLU 36	1.66	0.31	28.89	-0.2306	-0.0114	-0.0017
300	SLU 37	1.63	0.31	29.01	-0.2312	-0.0121	-0.0017
300	SLU 38	1.65	0.3	28.72	-0.2281	-0.0109	-0.0017
300	SLU 39	1.49	0.31	29.88	-0.2341	-0.0202	-0.0018
300	SLU 40	1.51	0.31	29.59	-0.231	-0.0191	-0.0017
300	SLU 41	1.61	0.32	30.13	-0.2377	-0.0163	-0.0018
300	SLU 42	1.62	0.31	29.84	-0.2346	-0.0152	-0.0018
300	SLU 43	1.15	0.29	27.98	-0.2223	-0.0265	-0.0017
300	SLU 44	1.18	0.29	27.5	-0.2171	-0.0246	-0.0016
300	SLU 45	1.27	0.3	28.4	-0.2283	-0.0231	-0.0017
300	SLU 46	1.29	0.3	28.11	-0.2252	-0.022	-0.0017
300	SLU 47	1.29	0.29	27.76	-0.2206	-0.0207	-0.0017
300	SLU 48	1.39	0.31	28.66	-0.2318	-0.0192	-0.0017
300	SLU 49	1.41	0.3	28.37	-0.2287	-0.0181	-0.0017
300	SLU 50	1.38	0.3	28.49	-0.2293	-0.0187	-0.0017
300	SLU 51	1.4	0.3	28.2	-0.2262	-0.0176	-0.0017
300	SLU 52	1.38	0.32	30.71	-0.2404	-0.0255	-0.0018
300	SLU 53	1.48	0.33	31.61	-0.2515	-0.024	-0.0019
300	SLU 54	1.5	0.33	31.32	-0.2484	-0.0229	-0.0019
300	SLU 55	1.5	0.32	30.97	-0.2439	-0.0217	-0.0018
300	SLU 56	1.6	0.34	31.86	-0.255	-0.0201	-0.0019
300	SLU 57	1.61	0.33	31.58	-0.252	-0.019	-0.0019
300	SLU 58	1.59	0.33	31.7	-0.2526	-0.0196	-0.0019
300	SLU 59	1.6	0.33	31.41	-0.2495	-0.0185	-0.0019
300	SLU 60	1.45	0.34	32.57	-0.2555	-0.0278	-0.0019
300	SLU 61	1.46	0.33	32.28	-0.2524	-0.0267	-0.0019
300	SLU 62	1.56	0.34	32.82	-0.259	-0.0239	-0.0019
300	SLU 63	1.58	0.34	32.53	-0.2559	-0.0228	-0.0019
300	SLU 64	1.4	0.33	30.96	-0.2459	-0.0254	-0.0018
300	SLU 65	1.42	0.32	30.48	-0.2408	-0.0235	-0.0018
300	SLU 66	1.52	0.33	31.38	-0.2519	-0.0219	-0.0019
300	SLU 67	1.54	0.33	31.09	-0.2488	-0.0208	-0.0019
300	SLU 68	1.54	0.32	30.74	-0.2443	-0.0196	-0.0018
300	SLU 69	1.64	0.34	31.64	-0.2555	-0.018	-0.0019
300	SLU 70	1.65	0.33	31.35	-0.2524	-0.0169	-0.0019
300	SLU 71	1.63	0.34	31.47	-0.253	-0.0176	-0.0019
300	SLU 72	1.64	0.33	31.19	-0.2499	-0.0165	-0.0019
300	SLU 73	1.63	0.35	33.69	-0.264	-0.0244	-0.002
300	SLU 74	1.73	0.36	34.59	-0.2752	-0.0228	-0.0021
300	SLU 75	1.74	0.36	34.3	-0.2721	-0.0217	-0.002
300	SLU 76	1.74	0.35	33.95	-0.2676	-0.0205	-0.002
300	SLU 77	1.84	0.37	34.85	-0.2787	-0.0189	-0.0021
300	SLU 78	1.86	0.37	34.56	-0.2756	-0.0178	-0.0021
300	SLU 79	1.83	0.37	34.68	-0.2762	-0.0185	-0.0021
300	SLU 80	1.85	0.36	34.39	-0.2731	-0.0174	-0.0021
300	SLU 81	1.69	0.37	35.55	-0.2792	-0.0267	-0.0021
300	SLU 82	1.71	0.37	35.26	-0.2761	-0.0255	-0.0021
300	SLU 83	1.81	0.37	35.8	-0.2827	-0.0228	-0.0021
300	SLU 84	1.82	0.37	35.51	-0.2796	-0.0216	-0.0021
300	SLE RA 1	1.02	0.24	23.16	-0.184	-0.0198	-0.0014
300	SLE RA 2	1.04	0.24	22.84	-0.1805	-0.0185	-0.0014
300	SLE RA 3	1.1	0.25	23.44	-0.188	-0.0175	-0.0014
300	SLE RA 4	1.11	0.25	23.25	-0.1859	-0.0167	-0.0014
300	SLE RA 5	1.11	0.24	23.01	-0.1829	-0.0159	-0.0014
300	SLE RA 6	1.18	0.25	23.61	-0.1903	-0.0149	-0.0014
300	SLE RA 7	1.19	0.25	23.42	-0.1883	-0.0141	-0.0014
300	SLE RA 8	1.17	0.25	23.5	-0.1887	-0.0146	-0.0014
300	SLE RA 9	1.18	0.25	23.31	-0.1866	-0.0138	-0.0014
300	SLE RA 10	1.17	0.26	24.98	-0.1961	-0.0191	-0.0015
300	SLE RA 11	1.24	0.27	25.58	-0.2035	-0.0181	-0.0015
300	SLE RA 12	1.25	0.27	25.39	-0.2014	-0.0173	-0.0015



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
300	SLE RA 13		1.25	0.26	25.15	-0.1984	-0.0165	-0.0015
300	SLE RA 14		1.32	0.27	25.75	-0.2058	-0.0155	-0.0015
300	SLE RA 15		1.33	0.27	25.56	-0.2038	-0.0147	-0.0015
300	SLE RA 16		1.31	0.27	25.64	-0.2042	-0.0152	-0.0015
300	SLE RA 17		1.32	0.27	25.45	-0.2021	-0.0144	-0.0015
300	SLE RA 18		1.22	0.27	26.22	-0.2061	-0.0206	-0.0015
300	SLE RA 19		1.23	0.27	26.03	-0.2041	-0.0199	-0.0015
300	SLE RA 20		1.29	0.28	26.39	-0.2085	-0.018	-0.0016
300	SLE RA 21		1.3	0.27	26.2	-0.2064	-0.0173	-0.0015
300	SLE FR 1		1.02	0.24	23.16	-0.184	-0.0198	-0.0014
300	SLE FR 2		1.02	0.24	23.1	-0.1833	-0.0195	-0.0014
300	SLE FR 3		1.05	0.25	23.23	-0.1849	-0.0187	-0.0014
300	SLE FR 4		1.08	0.25	24.02	-0.1899	-0.0198	-0.0014
300	SLE FR 5		1.11	0.25	24.15	-0.1916	-0.019	-0.0014
300	SLE FR 6		1.12	0.26	24.69	-0.1951	-0.0202	-0.0015
300	SLE QP 1		1.02	0.24	23.16	-0.184	-0.0198	-0.0014
300	SLE QP 2		1.08	0.25	24.08	-0.1906	-0.02	-0.0014
300	SLD 1		6.21	0.23	24.64	-0.1453	0.21	-0.0013
300	SLD 2		6.21	0.23	24.64	-0.1453	0.21	-0.0013
300	SLD 3		7.26	0.53	28.54	-0.4214	0.2562	-0.003
300	SLD 4		7.26	0.53	28.54	-0.4214	0.2562	-0.003
300	SLD 5		1.03	-0.22	18.32	0.2418	-0.0209	0.0012
300	SLD 6		1.03	-0.22	18.32	0.2418	-0.0209	0.0012
300	SLD 7		4.52	0.8	31.34	-0.6787	0.1328	-0.0045
300	SLD 8		4.52	0.8	31.34	-0.6787	0.1328	-0.0045
300	SLD 9		-2.36	-0.3	16.82	0.2974	-0.1728	0.0016
300	SLD 10		-2.36	-0.3	16.82	0.2974	-0.1728	0.0016
300	SLD 11		1.12	0.73	29.84	-0.6231	-0.0191	-0.0041
300	SLD 12		1.12	0.73	29.84	-0.6231	-0.0191	-0.0041
300	SLD 13		-5.1	-0.03	19.62	0.0402	-0.2962	0.0002
300	SLD 14		-5.1	-0.03	19.62	0.0402	-0.2962	0.0002
300	SLD 15		-4.05	0.28	23.52	-0.236	-0.2501	-0.0015
300	SLD 16		-4.05	0.28	23.52	-0.236	-0.2501	-0.0015
300	SLV 1		13.07	0.18	25.21	-0.0746	0.5173	-0.0011
300	SLV 2		13.07	0.18	25.21	-0.0746	0.5173	-0.0011
300	SLV 3		15.54	0.93	34.74	-0.7522	0.6266	-0.0053
300	SLV 4		15.54	0.93	34.74	-0.7522	0.6266	-0.0053
300	SLV 5		0.92	-0.9	9.96	0.8718	-0.0246	0.005
300	SLV 6		0.92	-0.9	9.96	0.8718	-0.0246	0.005
300	SLV 7		9.17	1.59	41.73	-1.3867	0.3397	-0.0089
300	SLV 8		9.17	1.59	41.73	-1.3867	0.3397	-0.0089
300	SLV 9		-7.01	-1.09	6.43	1.0054	-0.3798	0.0061
300	SLV 10		-7.01	-1.09	6.43	1.0054	-0.3798	0.0061
300	SLV 11		1.24	1.41	38.2	-1.253	-0.0154	-0.0079
300	SLV 12		1.24	1.41	38.2	-1.253	-0.0154	-0.0079
300	SLV 13		-13.38	-0.43	13.42	0.3709	-0.6666	0.0024
300	SLV 14		-13.38	-0.43	13.42	0.3709	-0.6666	0.0024
300	SLV 15		-10.91	0.32	22.95	-0.3066	-0.5573	-0.0017
300	SLV 16		-10.91	0.32	22.95	-0.3066	-0.5573	-0.0017
301	SLU 1		2.87	0.26	24.28	-0.1842	0.1733	-0.0013
301	SLU 2		2.83	0.25	23.9	-0.1795	0.1698	-0.0012
301	SLU 3		3.06	0.27	24.79	-0.1906	0.1831	-0.0013
301	SLU 4		3.03	0.26	24.56	-0.1878	0.181	-0.0013
301	SLU 5		2.98	0.26	24.22	-0.1833	0.1772	-0.0012
301	SLU 6		3.21	0.27	25.11	-0.1944	0.1906	-0.0013
301	SLU 7		3.18	0.27	24.88	-0.1916	0.1884	-0.0013
301	SLU 8		3.17	0.27	24.92	-0.1919	0.1883	-0.0013
301	SLU 9		3.15	0.27	24.7	-0.189	0.1862	-0.0013
301	SLU 10		3.31	0.29	27.48	-0.2045	0.1978	-0.0014
301	SLU 11		3.54	0.3	28.37	-0.2156	0.2112	-0.0015
301	SLU 12		3.51	0.3	28.14	-0.2128	0.209	-0.0014
301	SLU 13		3.46	0.29	27.8	-0.2083	0.2053	-0.0014
301	SLU 14		3.69	0.31	28.69	-0.2194	0.2187	-0.0015
301	SLU 15		3.66	0.3	28.46	-0.2166	0.2165	-0.0015
301	SLU 16		3.65	0.31	28.5	-0.2168	0.2164	-0.0015
301	SLU 17		3.62	0.3	28.28	-0.214	0.2142	-0.0015
301	SLU 18		3.56	0.31	29.39	-0.2199	0.2135	-0.0015
301	SLU 19		3.53	0.31	29.16	-0.2171	0.2113	-0.0015
301	SLU 20		3.71	0.31	29.71	-0.2237	0.2209	-0.0015
301	SLU 21		3.68	0.31	29.49	-0.2209	0.2188	-0.0015
301	SLU 22		3.39	0.29	27.62	-0.2095	0.2029	-0.0014
301	SLU 23		3.34	0.29	27.24	-0.2048	0.1993	-0.0014
301	SLU 24		3.57	0.3	28.13	-0.2159	0.2126	-0.0015
301	SLU 25		3.55	0.3	27.9	-0.2131	0.2105	-0.0014
301	SLU 26		3.49	0.29	27.57	-0.2086	0.2068	-0.0014
301	SLU 27		3.72	0.31	28.45	-0.2197	0.2201	-0.0015
301	SLU 28		3.7	0.31	28.23	-0.2169	0.218	-0.0015
301	SLU 29		3.68	0.31	28.27	-0.2171	0.2178	-0.0015
301	SLU 30		3.66	0.3	28.04	-0.2143	0.2157	-0.0015
301	SLU 31		3.82	0.32	30.82	-0.2298	0.2274	-0.0016
301	SLU 32		4.05	0.34	31.71	-0.2409	0.2407	-0.0016
301	SLU 33		4.03	0.34	31.48	-0.238	0.2386	-0.0016
301	SLU 34		3.97	0.33	31.15	-0.2336	0.2348	-0.0016
301	SLU 35		4.2	0.34	32.03	-0.2447	0.2482	-0.0017
301	SLU 36		4.17	0.34	31.81	-0.2419	0.246	-0.0016
301	SLU 37		4.16	0.34	31.85	-0.2421	0.2459	-0.0016
301	SLU 38		4.14	0.34	31.62	-0.2393	0.2438	-0.0016
301	SLU 39		4.07	0.35	32.73	-0.2452	0.243	-0.0017
301	SLU 40		4.05	0.34	32.51	-0.2423	0.2408	-0.0016
301	SLU 41		4.22	0.35	33.06	-0.249	0.2505	-0.0017



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
301	SLU 42		4.19	0.35	32.83	-0.2462	0.2483	-0.0017
301	SLU 43		3.56	0.32	30.41	-0.2308	0.2152	-0.0016
301	SLU 44		3.52	0.32	30.04	-0.2261	0.2116	-0.0015
301	SLU 45		3.75	0.33	30.92	-0.2372	0.225	-0.0016
301	SLU 46		3.72	0.33	30.7	-0.2344	0.2229	-0.0016
301	SLU 47		3.67	0.32	30.36	-0.2299	0.2191	-0.0016
301	SLU 48		3.89	0.34	31.25	-0.241	0.2325	-0.0016
301	SLU 49		3.87	0.33	31.02	-0.2382	0.2303	-0.0016
301	SLU 50		3.86	0.34	31.06	-0.2385	0.2302	-0.0016
301	SLU 51		3.83	0.33	30.83	-0.2356	0.228	-0.0016
301	SLU 52		4	0.35	33.62	-0.2511	0.2397	-0.0017
301	SLU 53		4.22	0.37	34.5	-0.2622	0.2531	-0.0018
301	SLU 54		4.2	0.36	34.28	-0.2594	0.2509	-0.0018
301	SLU 55		4.15	0.36	33.94	-0.2549	0.2472	-0.0017
301	SLU 56		4.37	0.37	34.83	-0.266	0.2606	-0.0018
301	SLU 57		4.35	0.37	34.6	-0.2632	0.2584	-0.0018
301	SLU 58		4.34	0.37	34.64	-0.2634	0.2583	-0.0018
301	SLU 59		4.31	0.37	34.41	-0.2606	0.2561	-0.0018
301	SLU 60		4.24	0.37	35.53	-0.2665	0.2553	-0.0018
301	SLU 61		4.22	0.37	35.3	-0.2637	0.2532	-0.0018
301	SLU 62		4.39	0.38	35.85	-0.2703	0.2628	-0.0018
301	SLU 63		4.37	0.38	35.62	-0.2675	0.2607	-0.0018
301	SLU 64		4.07	0.36	33.76	-0.2561	0.2448	-0.0017
301	SLU 65		4.03	0.35	33.38	-0.2514	0.2412	-0.0017
301	SLU 66		4.26	0.37	34.27	-0.2625	0.2545	-0.0018
301	SLU 67		4.23	0.36	34.04	-0.2597	0.2524	-0.0018
301	SLU 68		4.18	0.36	33.7	-0.2552	0.2486	-0.0017
301	SLU 69		4.41	0.37	34.59	-0.2663	0.262	-0.0018
301	SLU 70		4.38	0.37	34.36	-0.2635	0.2598	-0.0018
301	SLU 71		4.37	0.37	34.4	-0.2637	0.2597	-0.0018
301	SLU 72		4.35	0.37	34.18	-0.2609	0.2576	-0.0018
301	SLU 73		4.51	0.39	36.96	-0.2764	0.2692	-0.0019
301	SLU 74		4.74	0.4	37.85	-0.2875	0.2826	-0.002
301	SLU 75		4.71	0.4	37.62	-0.2846	0.2805	-0.0019
301	SLU 76		4.66	0.39	37.28	-0.2802	0.2767	-0.0019
301	SLU 77		4.89	0.41	38.17	-0.2913	0.2901	-0.002
301	SLU 78		4.86	0.41	37.94	-0.2885	0.2879	-0.002
301	SLU 79		4.85	0.41	37.98	-0.2887	0.2878	-0.002
301	SLU 80		4.82	0.4	37.76	-0.2859	0.2856	-0.0019
301	SLU 81		4.76	0.41	38.87	-0.2918	0.2849	-0.002
301	SLU 82		4.73	0.41	38.64	-0.2889	0.2827	-0.002
301	SLU 83		4.91	0.42	39.19	-0.2956	0.2923	-0.002
301	SLU 84		4.88	0.41	38.97	-0.2928	0.2902	-0.002
301	SLE RA 1		3.02	0.27	25.23	-0.1915	0.1818	-0.0013
301	SLE RA 2		2.99	0.26	24.98	-0.1883	0.1794	-0.0013
301	SLE RA 3		3.14	0.28	25.57	-0.1957	0.1883	-0.0013
301	SLE RA 4		3.13	0.27	25.42	-0.1938	0.1869	-0.0013
301	SLE RA 5		3.09	0.27	25.2	-0.1909	0.1844	-0.0013
301	SLE RA 6		3.24	0.28	25.79	-0.1983	0.1933	-0.0013
301	SLE RA 7		3.23	0.28	25.64	-0.1964	0.1918	-0.0013
301	SLE RA 8		3.22	0.28	25.66	-0.1965	0.1917	-0.0013
301	SLE RA 9		3.2	0.27	25.51	-0.1947	0.1903	-0.0013
301	SLE RA 10		3.31	0.29	27.37	-0.205	0.1981	-0.0014
301	SLE RA 11		3.46	0.3	27.96	-0.2124	0.207	-0.0014
301	SLE RA 12		3.45	0.3	27.81	-0.2105	0.2056	-0.0014
301	SLE RA 13		3.41	0.29	27.58	-0.2075	0.2031	-0.0014
301	SLE RA 14		3.56	0.3	28.17	-0.2149	0.212	-0.0015
301	SLE RA 15		3.55	0.3	28.02	-0.213	0.2106	-0.0014
301	SLE RA 16		3.54	0.3	28.05	-0.2132	0.2105	-0.0015
301	SLE RA 17		3.52	0.3	27.9	-0.2113	0.209	-0.0014
301	SLE RA 18		3.48	0.3	28.64	-0.2152	0.2085	-0.0015
301	SLE RA 19		3.46	0.3	28.49	-0.2133	0.2071	-0.0015
301	SLE RA 20		3.58	0.31	28.86	-0.2178	0.2135	-0.0015
301	SLE RA 21		3.56	0.3	28.71	-0.2159	0.2121	-0.0015
301	SLE FR 1		3.02	0.27	25.23	-0.1915	0.1818	-0.0013
301	SLE FR 2		3.01	0.27	25.18	-0.1908	0.1813	-0.0013
301	SLE FR 3		3.06	0.27	25.32	-0.1925	0.1838	-0.0013
301	SLE FR 4		3.15	0.28	26.2	-0.198	0.1893	-0.0013
301	SLE FR 5		3.2	0.28	26.34	-0.1996	0.1918	-0.0014
301	SLE FR 6		3.25	0.29	26.94	-0.2033	0.1952	-0.0014
301	SLE QP 1		3.02	0.27	25.23	-0.1915	0.1818	-0.0013
301	SLE QP 2		3.16	0.28	26.25	-0.1986	0.1898	-0.0014
301	SLD 1		8.19	0.26	27.18	-0.1568	0.4203	-0.0013
301	SLD 2		8.19	0.26	27.18	-0.1568	0.4203	-0.0013
301	SLD 3		9.31	0.53	30.6	-0.4099	0.4769	-0.0027
301	SLD 4		9.31	0.53	30.6	-0.4099	0.4769	-0.0027
301	SLD 5		2.97	-0.15	21.34	0.1978	0.1731	0.0008
301	SLD 6		2.97	-0.15	21.34	0.1978	0.1731	0.0008
301	SLD 7		6.7	0.77	32.75	-0.6459	0.3617	-0.0039
301	SLD 8		6.7	0.77	32.75	-0.6459	0.3617	-0.0039
301	SLD 9		-0.39	-0.22	19.76	0.2487	0.0179	0.0012
301	SLD 10		-0.39	-0.22	19.76	0.2487	0.0179	0.0012
301	SLD 11		3.34	0.71	31.17	-0.595	0.2065	-0.0035
301	SLD 12		3.34	0.71	31.17	-0.595	0.2065	-0.0035
301	SLD 13		-3	0.03	21.91	0.0127	-0.0973	0
301	SLD 14		-3	0.03	21.91	0.0127	-0.0973	0
301	SLD 15		-1.88	0.3	25.33	-0.2404	-0.0407	-0.0014
301	SLD 16		-1.88	0.3	25.33	-0.2404	-0.0407	-0.0014
301	SLV 1		14.92	0.21	28.27	-0.0911	0.7276	-0.0011
301	SLV 2		14.92	0.21	28.27	-0.0911	0.7276	-0.0011



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
301	SLV 3		17.57	0.89	36.6	-0.7119	0.8623	-0.0045
301	SLV 4		17.57	0.89	36.6	-0.7119	0.8623	-0.0045
301	SLV 5		2.66	-0.76	14.24	0.7751	0.1469	0.004
301	SLV 6		2.66	-0.76	14.24	0.7751	0.1469	0.004
301	SLV 7		11.51	1.49	41.98	-1.2941	0.5958	-0.0075
301	SLV 8		11.51	1.49	41.98	-1.2941	0.5958	-0.0075
301	SLV 9		-5.2	-0.93	10.53	0.8969	-0.2162	0.0048
301	SLV 10		-5.2	-0.93	10.53	0.8969	-0.2162	0.0048
301	SLV 11		3.66	1.32	38.27	-1.1723	0.2327	-0.0067
301	SLV 12		3.66	1.32	38.27	-1.1723	0.2327	-0.0067
301	SLV 13		-11.26	-0.33	15.91	0.3147	-0.4827	0.0018
301	SLV 14		-11.26	-0.33	15.91	0.3147	-0.4827	0.0018
301	SLV 15		-8.6	0.34	24.23	-0.306	-0.348	-0.0016
301	SLV 16		-8.6	0.34	24.23	-0.306	-0.348	-0.0016
302	SLU 1		2.66	0.27	27.19	-0.1833	0.0408	-0.0012
302	SLU 2		2.61	0.27	26.89	-0.1791	0.0389	-0.0012
302	SLU 3		2.84	0.28	27.82	-0.1897	0.046	-0.0012
302	SLU 4		2.81	0.28	27.64	-0.1872	0.0449	-0.0012
302	SLU 5		2.75	0.27	27.3	-0.183	0.0435	-0.0012
302	SLU 6		2.98	0.29	28.23	-0.1936	0.0506	-0.0013
302	SLU 7		2.95	0.29	28.04	-0.1911	0.0495	-0.0012
302	SLU 8		2.95	0.29	28	-0.1911	0.05	-0.0012
302	SLU 9		2.91	0.28	27.82	-0.1886	0.0489	-0.0012
302	SLU 10		3.02	0.31	30.98	-0.2046	0.0449	-0.0013
302	SLU 11		3.26	0.32	31.91	-0.2152	0.052	-0.0014
302	SLU 12		3.22	0.32	31.73	-0.2128	0.0509	-0.0014
302	SLU 13		3.16	0.31	31.39	-0.2086	0.0495	-0.0014
302	SLU 14		3.4	0.33	32.32	-0.2191	0.0566	-0.0014
302	SLU 15		3.36	0.32	32.13	-0.2167	0.0555	-0.0014
302	SLU 16		3.36	0.32	32.09	-0.2166	0.056	-0.0014
302	SLU 17		3.33	0.32	31.91	-0.2141	0.0549	-0.0014
302	SLU 18		3.26	0.33	33.04	-0.2197	0.0493	-0.0014
302	SLU 19		3.22	0.33	32.85	-0.2173	0.0482	-0.0014
302	SLU 20		3.4	0.34	33.44	-0.2237	0.0539	-0.0014
302	SLU 21		3.36	0.33	33.26	-0.2212	0.0528	-0.0014
302	SLU 22		3.12	0.31	31.03	-0.209	0.049	-0.0014
302	SLU 23		3.07	0.31	30.73	-0.2048	0.0471	-0.0013
302	SLU 24		3.3	0.32	31.66	-0.2154	0.0542	-0.0014
302	SLU 25		3.27	0.32	31.48	-0.2129	0.0531	-0.0014
302	SLU 26		3.21	0.31	31.13	-0.2088	0.0517	-0.0014
302	SLU 27		3.44	0.33	32.06	-0.2193	0.0588	-0.0014
302	SLU 28		3.41	0.33	31.88	-0.2169	0.0577	-0.0014
302	SLU 29		3.4	0.33	31.84	-0.2168	0.0582	-0.0014
302	SLU 30		3.37	0.32	31.66	-0.2143	0.0571	-0.0014
302	SLU 31		3.48	0.35	34.82	-0.2304	0.0531	-0.0015
302	SLU 32		3.71	0.36	35.75	-0.241	0.0602	-0.0016
302	SLU 33		3.68	0.36	35.57	-0.2385	0.059	-0.0015
302	SLU 34		3.62	0.35	35.22	-0.2343	0.0577	-0.0015
302	SLU 35		3.85	0.37	36.15	-0.2449	0.0648	-0.0016
302	SLU 36		3.82	0.36	35.97	-0.2424	0.0637	-0.0016
302	SLU 37		3.82	0.36	35.93	-0.2423	0.0642	-0.0016
302	SLU 38		3.78	0.36	35.75	-0.2399	0.0631	-0.0016
302	SLU 39		3.71	0.37	36.87	-0.2455	0.0575	-0.0016
302	SLU 40		3.68	0.36	36.69	-0.243	0.0564	-0.0016
302	SLU 41		3.85	0.37	37.28	-0.2494	0.0621	-0.0016
302	SLU 42		3.82	0.37	37.1	-0.2469	0.061	-0.0016
302	SLU 43		3.31	0.34	34.04	-0.2294	0.0502	-0.0015
302	SLU 44		3.25	0.34	33.73	-0.2253	0.0484	-0.0015
302	SLU 45		3.49	0.35	34.66	-0.2359	0.0554	-0.0015
302	SLU 46		3.45	0.35	34.48	-0.2334	0.0543	-0.0015
302	SLU 47		3.39	0.34	34.14	-0.2292	0.053	-0.0015
302	SLU 48		3.63	0.36	35.07	-0.2398	0.0601	-0.0016
302	SLU 49		3.59	0.35	34.89	-0.2373	0.0589	-0.0015
302	SLU 50		3.59	0.35	34.85	-0.2372	0.0595	-0.0015
302	SLU 51		3.56	0.35	34.66	-0.2347	0.0583	-0.0015
302	SLU 52		3.67	0.38	37.82	-0.2508	0.0543	-0.0016
302	SLU 53		3.9	0.39	38.75	-0.2614	0.0614	-0.0017
302	SLU 54		3.87	0.39	38.57	-0.2589	0.0603	-0.0017
302	SLU 55		3.81	0.38	38.23	-0.2547	0.0589	-0.0016
302	SLU 56		4.04	0.4	39.16	-0.2653	0.066	-0.0017
302	SLU 57		4.01	0.39	38.98	-0.2628	0.0649	-0.0017
302	SLU 58		4	0.39	38.94	-0.2628	0.0654	-0.0017
302	SLU 59		3.97	0.39	38.75	-0.2603	0.0643	-0.0017
302	SLU 60		3.9	0.4	39.88	-0.2659	0.0587	-0.0017
302	SLU 61		3.87	0.39	39.7	-0.2634	0.0576	-0.0017
302	SLU 62		4.04	0.4	40.28	-0.2698	0.0634	-0.0017
302	SLU 63		4.01	0.4	40.1	-0.2673	0.0622	-0.0017
302	SLU 64		3.76	0.38	37.87	-0.2551	0.0584	-0.0017
302	SLU 65		3.71	0.38	37.57	-0.251	0.0565	-0.0016
302	SLU 66		3.94	0.39	38.5	-0.2616	0.0636	-0.0017
302	SLU 67		3.91	0.39	38.32	-0.2591	0.0625	-0.0017
302	SLU 68		3.85	0.38	37.97	-0.2549	0.0612	-0.0016
302	SLU 69		4.08	0.4	38.91	-0.2655	0.0682	-0.0017
302	SLU 70		4.05	0.39	38.72	-0.263	0.0671	-0.0017
302	SLU 71		4.05	0.39	38.68	-0.263	0.0676	-0.0017
302	SLU 72		4.01	0.39	38.5	-0.2605	0.0665	-0.0017
302	SLU 73		4.12	0.41	41.66	-0.2765	0.0625	-0.0018
302	SLU 74		4.35	0.43	42.59	-0.2871	0.0696	-0.0019
302	SLU 75		4.32	0.43	42.41	-0.2846	0.0685	-0.0018
302	SLU 76		4.26	0.42	42.06	-0.2804	0.0671	-0.0018



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
302	SLU 77	4.5	0.44	43	-0.291	0.0742	-0.0019
302	SLU 78	4.46	0.43	42.81	-0.2886	0.0731	-0.0019
302	SLU 79	4.46	0.43	42.77	-0.2885	0.0736	-0.0019
302	SLU 80	4.43	0.43	42.59	-0.286	0.0725	-0.0019
302	SLU 81	4.35	0.44	43.71	-0.2916	0.0669	-0.0019
302	SLU 82	4.32	0.43	43.53	-0.2891	0.0658	-0.0019
302	SLU 83	4.49	0.44	44.12	-0.2955	0.0715	-0.0019
302	SLU 84	4.46	0.44	43.94	-0.2931	0.0704	-0.0019
302	SLE RA 1	2.79	0.28	28.29	-0.1906	0.0431	-0.0012
302	SLE RA 2	2.76	0.28	28.09	-0.1878	0.0419	-0.0012
302	SLE RA 3	2.91	0.29	28.71	-0.1949	0.0466	-0.0013
302	SLE RA 4	2.89	0.29	28.59	-0.1932	0.0459	-0.0012
302	SLE RA 5	2.85	0.28	28.36	-0.1904	0.045	-0.0012
302	SLE RA 6	3.01	0.3	28.98	-0.1975	0.0497	-0.0013
302	SLE RA 7	2.99	0.29	28.86	-0.1959	0.0489	-0.0013
302	SLE RA 8	2.98	0.29	28.83	-0.1958	0.0493	-0.0013
302	SLE RA 9	2.96	0.29	28.71	-0.1942	0.0485	-0.0013
302	SLE RA 10	3.03	0.31	30.81	-0.2049	0.0459	-0.0013
302	SLE RA 11	3.19	0.32	31.43	-0.2119	0.0506	-0.0014
302	SLE RA 12	3.17	0.31	31.31	-0.2103	0.0498	-0.0014
302	SLE RA 13	3.13	0.31	31.08	-0.2075	0.0489	-0.0013
302	SLE RA 14	3.28	0.32	31.7	-0.2145	0.0537	-0.0014
302	SLE RA 15	3.26	0.32	31.58	-0.2129	0.0529	-0.0014
302	SLE RA 16	3.26	0.32	31.56	-0.2128	0.0533	-0.0014
302	SLE RA 17	3.24	0.32	31.43	-0.2112	0.0525	-0.0014
302	SLE RA 18	3.19	0.32	32.18	-0.2149	0.0488	-0.0014
302	SLE RA 19	3.17	0.32	32.06	-0.2133	0.0481	-0.0014
302	SLE RA 20	3.28	0.33	32.45	-0.2175	0.0519	-0.0014
302	SLE RA 21	3.26	0.32	32.33	-0.2159	0.0511	-0.0014
302	SLE FR 1	2.79	0.28	28.29	-0.1906	0.0431	-0.0012
302	SLE FR 2	2.79	0.28	28.25	-0.1901	0.0429	-0.0012
302	SLE FR 3	2.83	0.29	28.4	-0.1916	0.0444	-0.0012
302	SLE FR 4	2.91	0.3	29.42	-0.1974	0.0466	-0.0013
302	SLE FR 5	2.95	0.3	29.57	-0.1989	0.0461	-0.0013
302	SLE FR 6	2.99	0.3	30.24	-0.2028	0.046	-0.0013
302	SLE QP 1	2.79	0.28	28.29	-0.1906	0.0431	-0.0012
302	SLE QP 2	2.91	0.3	29.46	-0.1979	0.0448	-0.0013
302	SLD 1	7.68	0.28	30.8	-0.1643	0.2608	-0.0012
302	SLD 2	7.68	0.28	30.8	-0.1643	0.2608	-0.0012
302	SLD 3	8.75	0.51	33.58	-0.379	0.3083	-0.0023
302	SLD 4	8.75	0.51	33.58	-0.379	0.3083	-0.0023
302	SLD 5	2.72	-0.05	25.64	0.1378	0.0377	0.0005
302	SLD 6	2.72	-0.05	25.64	0.1378	0.0377	0.0005
302	SLD 7	6.29	0.7	34.91	-0.5779	0.1958	-0.0033
302	SLD 8	6.29	0.7	34.91	-0.5779	0.1958	-0.0033
302	SLD 9	-0.46	-0.11	24	0.1821	-0.1062	0.0007
302	SLD 10	-0.46	-0.11	24	0.1821	-0.1062	0.0007
302	SLD 11	3.11	0.64	33.27	-0.5336	0.052	-0.003
302	SLD 12	3.11	0.64	33.27	-0.5336	0.052	-0.003
302	SLD 13	-2.92	0.08	25.33	-0.0168	-0.2186	-0.0003
302	SLD 14	-2.92	0.08	25.33	-0.0168	-0.2186	-0.0003
302	SLD 15	-1.85	0.31	28.12	-0.2315	-0.1712	-0.0014
302	SLD 16	-1.85	0.31	28.12	-0.2315	-0.1712	-0.0014
302	SLV 1	14.03	0.26	32.51	-0.1109	0.5489	-0.001
302	SLV 2	14.03	0.26	32.51	-0.1109	0.5489	-0.001
302	SLV 3	16.58	0.8	39.22	-0.6371	0.6617	-0.0037
302	SLV 4	16.58	0.8	39.22	-0.6371	0.6617	-0.0037
302	SLV 5	2.39	-0.54	20.21	0.6264	0.0248	0.003
302	SLV 6	2.39	-0.54	20.21	0.6264	0.0248	0.003
302	SLV 7	10.87	1.28	42.55	-1.1278	0.4011	-0.0062
302	SLV 8	10.87	1.28	42.55	-1.1278	0.4011	-0.0062
302	SLV 9	-5.05	-0.68	16.37	0.732	-0.3114	0.0036
302	SLV 10	-5.05	-0.68	16.37	0.732	-0.3114	0.0036
302	SLV 11	3.44	1.14	38.71	-1.0222	0.0648	-0.0055
302	SLV 12	3.44	1.14	38.71	-1.0222	0.0648	-0.0055
302	SLV 13	-10.75	-0.21	19.7	0.2413	-0.5721	0.0012
302	SLV 14	-10.75	-0.21	19.7	0.2413	-0.5721	0.0012
302	SLV 15	-8.21	0.33	26.4	-0.2849	-0.4592	-0.0016
302	SLV 16	-8.21	0.33	26.4	-0.2849	-0.4592	-0.0016
303	SLU 1	3.95	0.26	31.14	-0.169	0.2139	-0.001
303	SLU 2	3.87	0.26	30.9	-0.1656	0.2088	-0.001
303	SLU 3	4.18	0.27	31.92	-0.175	0.2253	-0.001
303	SLU 4	4.13	0.27	31.78	-0.1729	0.2223	-0.001
303	SLU 5	4.03	0.26	31.4	-0.1692	0.217	-0.001
303	SLU 6	4.34	0.28	32.42	-0.1786	0.2335	-0.001
303	SLU 7	4.29	0.28	32.28	-0.1766	0.2305	-0.001
303	SLU 8	4.29	0.28	32.15	-0.1763	0.2303	-0.001
303	SLU 9	4.23	0.27	32	-0.1743	0.2273	-0.001
303	SLU 10	4.45	0.3	35.65	-0.1897	0.2403	-0.0011
303	SLU 11	4.76	0.31	36.67	-0.1991	0.2569	-0.0011
303	SLU 12	4.71	0.31	36.52	-0.1971	0.2538	-0.0011
303	SLU 13	4.61	0.3	36.15	-0.1934	0.2486	-0.0011
303	SLU 14	4.93	0.32	37.17	-0.2028	0.2651	-0.0012
303	SLU 15	4.87	0.31	37.02	-0.2008	0.262	-0.0012
303	SLU 16	4.87	0.31	36.89	-0.2005	0.2619	-0.0012
303	SLU 17	4.81	0.31	36.75	-0.1984	0.2588	-0.0011
303	SLU 18	4.78	0.32	37.92	-0.2035	0.259	-0.0012
303	SLU 19	4.73	0.32	37.78	-0.2015	0.2559	-0.0012
303	SLU 20	4.95	0.32	38.42	-0.2072	0.2672	-0.0012
303	SLU 21	4.9	0.32	38.28	-0.2051	0.2641	-0.0012



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
303	SLU 22		4.58	0.3	35.61	-0.1932	0.2476	-0.0011
303	SLU 23		4.5	0.3	35.37	-0.1898	0.2425	-0.0011
303	SLU 24		4.81	0.31	36.39	-0.1992	0.2591	-0.0011
303	SLU 25		4.76	0.31	36.25	-0.1971	0.256	-0.0011
303	SLU 26		4.66	0.3	35.88	-0.1934	0.2508	-0.0011
303	SLU 27		4.97	0.32	36.9	-0.2028	0.2673	-0.0012
303	SLU 28		4.92	0.31	36.75	-0.2008	0.2642	-0.0012
303	SLU 29		4.91	0.31	36.62	-0.2005	0.2641	-0.0012
303	SLU 30		4.86	0.31	36.48	-0.1985	0.261	-0.0011
303	SLU 31		5.08	0.34	40.12	-0.2139	0.2741	-0.0012
303	SLU 32		5.39	0.35	41.14	-0.2233	0.2906	-0.0013
303	SLU 33		5.34	0.35	40.99	-0.2213	0.2876	-0.0013
303	SLU 34		5.24	0.34	40.62	-0.2176	0.2823	-0.0013
303	SLU 35		5.55	0.36	41.64	-0.227	0.2988	-0.0013
303	SLU 36		5.5	0.35	41.5	-0.225	0.2958	-0.0013
303	SLU 37		5.49	0.35	41.37	-0.2247	0.2956	-0.0013
303	SLU 38		5.44	0.35	41.22	-0.2226	0.2926	-0.0013
303	SLU 39		5.41	0.36	42.39	-0.2277	0.2927	-0.0013
303	SLU 40		5.36	0.35	42.25	-0.2257	0.2897	-0.0013
303	SLU 41		5.58	0.36	42.9	-0.2314	0.3009	-0.0013
303	SLU 42		5.53	0.36	42.75	-0.2293	0.2979	-0.0013
303	SLU 43		4.92	0.33	38.95	-0.2114	0.2665	-0.0012
303	SLU 44		4.84	0.32	38.71	-0.208	0.2614	-0.0012
303	SLU 45		5.15	0.34	39.73	-0.2174	0.2779	-0.0013
303	SLU 46		5.1	0.34	39.59	-0.2153	0.2748	-0.0012
303	SLU 47		5	0.33	39.21	-0.2116	0.2696	-0.0012
303	SLU 48		5.32	0.34	40.23	-0.221	0.2861	-0.0013
303	SLU 49		5.26	0.34	40.09	-0.219	0.2831	-0.0013
303	SLU 50		5.26	0.34	39.96	-0.2187	0.2829	-0.0013
303	SLU 51		5.2	0.34	39.81	-0.2167	0.2799	-0.0012
303	SLU 52		5.42	0.36	43.45	-0.2321	0.2929	-0.0013
303	SLU 53		5.73	0.38	44.47	-0.2415	0.3094	-0.0014
303	SLU 54		5.68	0.37	44.33	-0.2395	0.3064	-0.0014
303	SLU 55		5.58	0.37	43.96	-0.2358	0.3012	-0.0014
303	SLU 56		5.9	0.38	44.98	-0.2452	0.3177	-0.0014
303	SLU 57		5.84	0.38	44.83	-0.2431	0.3146	-0.0014
303	SLU 58		5.84	0.38	44.7	-0.2429	0.3145	-0.0014
303	SLU 59		5.78	0.38	44.56	-0.2408	0.3114	-0.0014
303	SLU 60		5.75	0.38	45.73	-0.2459	0.3115	-0.0014
303	SLU 61		5.7	0.38	45.58	-0.2439	0.3085	-0.0014
303	SLU 62		5.92	0.39	46.23	-0.2496	0.3198	-0.0014
303	SLU 63		5.87	0.39	46.09	-0.2475	0.3167	-0.0014
303	SLU 64		5.55	0.37	43.42	-0.2356	0.3002	-0.0014
303	SLU 65		5.47	0.36	43.18	-0.2322	0.2951	-0.0013
303	SLU 66		5.78	0.38	44.2	-0.2416	0.3116	-0.0014
303	SLU 67		5.73	0.37	44.06	-0.2395	0.3086	-0.0014
303	SLU 68		5.63	0.37	43.69	-0.2358	0.3034	-0.0014
303	SLU 69		5.94	0.38	44.71	-0.2452	0.3199	-0.0014
303	SLU 70		5.89	0.38	44.56	-0.2432	0.3168	-0.0014
303	SLU 71		5.88	0.38	44.43	-0.2429	0.3167	-0.0014
303	SLU 72		5.83	0.38	44.29	-0.2409	0.3136	-0.0014
303	SLU 73		6.05	0.4	47.93	-0.2563	0.3267	-0.0015
303	SLU 74		6.36	0.42	48.95	-0.2657	0.3432	-0.0015
303	SLU 75		6.31	0.41	48.8	-0.2637	0.3401	-0.0015
303	SLU 76		6.21	0.41	48.43	-0.26	0.3349	-0.0015
303	SLU 77		6.52	0.42	49.45	-0.2694	0.3514	-0.0016
303	SLU 78		6.47	0.42	49.31	-0.2674	0.3484	-0.0015
303	SLU 79		6.46	0.42	49.18	-0.2671	0.3482	-0.0015
303	SLU 80		6.41	0.41	49.03	-0.265	0.3452	-0.0015
303	SLU 81		6.38	0.42	50.2	-0.2701	0.3453	-0.0016
303	SLU 82		6.33	0.42	50.06	-0.2681	0.3422	-0.0015
303	SLU 83		6.55	0.43	50.71	-0.2738	0.3535	-0.0016
303	SLU 84		6.5	0.43	50.56	-0.2717	0.3505	-0.0016
303	SLE RA 1		4.13	0.27	32.42	-0.1759	0.2235	-0.001
303	SLE RA 2		4.08	0.27	32.26	-0.1736	0.2201	-0.001
303	SLE RA 3		4.28	0.28	32.94	-0.1799	0.2311	-0.001
303	SLE RA 4		4.25	0.28	32.84	-0.1785	0.2291	-0.001
303	SLE RA 5		4.19	0.27	32.59	-0.1761	0.2256	-0.001
303	SLE RA 6		4.39	0.28	33.27	-0.1823	0.2366	-0.001
303	SLE RA 7		4.36	0.28	33.18	-0.181	0.2346	-0.001
303	SLE RA 8		4.35	0.28	33.09	-0.1808	0.2345	-0.001
303	SLE RA 9		4.32	0.28	32.99	-0.1794	0.2324	-0.001
303	SLE RA 10		4.46	0.3	35.42	-0.1897	0.2412	-0.0011
303	SLE RA 11		4.67	0.31	36.1	-0.196	0.2522	-0.0011
303	SLE RA 12		4.64	0.3	36.01	-0.1946	0.2501	-0.0011
303	SLE RA 13		4.57	0.3	35.76	-0.1922	0.2466	-0.0011
303	SLE RA 14		4.78	0.31	36.44	-0.1984	0.2577	-0.0011
303	SLE RA 15		4.75	0.31	36.34	-0.1971	0.2556	-0.0011
303	SLE RA 16		4.74	0.31	36.25	-0.1969	0.2555	-0.0011
303	SLE RA 17		4.71	0.31	36.16	-0.1955	0.2535	-0.0011
303	SLE RA 18		4.69	0.31	36.94	-0.1989	0.2536	-0.0011
303	SLE RA 19		4.65	0.31	36.84	-0.1976	0.2515	-0.0011
303	SLE RA 20		4.8	0.31	37.27	-0.2014	0.2591	-0.0012
303	SLE RA 21		4.76	0.31	37.18	-0.2	0.257	-0.0012
303	SLE FR 1		4.13	0.27	32.42	-0.1759	0.2235	-0.001
303	SLE FR 2		4.12	0.27	32.39	-0.1754	0.2228	-0.001
303	SLE FR 3		4.18	0.28	32.55	-0.1769	0.2257	-0.001
303	SLE FR 4		4.29	0.28	33.74	-0.1824	0.2319	-0.0011
303	SLE FR 5		4.34	0.29	33.91	-0.1838	0.2347	-0.0011
303	SLE FR 6		4.41	0.29	34.68	-0.1874	0.2385	-0.0011



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
303	SLE QP 1		4.13	0.27	32.42	-0.1759	0.2235	-0.001
303	SLE QP 2		4.3	0.29	33.77	-0.1828	0.2325	-0.0011
303	SLD 1		8.81	0.29	35.53	-0.1607	0.4401	-0.001
303	SLD 2		8.81	0.29	35.53	-0.1607	0.4401	-0.001
303	SLD 3		9.94	0.44	37.75	-0.3254	0.4996	-0.0017
303	SLD 4		9.94	0.44	37.75	-0.3254	0.4996	-0.0017
303	SLD 5		3.94	0.05	30.93	0.0736	0.2046	0.0001
303	SLD 6		3.94	0.05	30.93	0.0736	0.2046	0.0001
303	SLD 7		7.71	0.57	38.34	-0.4754	0.4028	-0.0024
303	SLD 8		7.71	0.57	38.34	-0.4754	0.4028	-0.0024
303	SLD 9		0.89	0.01	29.21	0.1097	0.0622	0.0003
303	SLD 10		0.89	0.01	29.21	0.1097	0.0622	0.0003
303	SLD 11		4.66	0.52	36.62	-0.4392	0.2605	-0.0022
303	SLD 12		4.66	0.52	36.62	-0.4392	0.2605	-0.0022
303	SLD 13		-1.34	0.13	29.8	-0.0402	-0.0345	-0.0004
303	SLD 14		-1.34	0.13	29.8	-0.0402	-0.0345	-0.0004
303	SLD 15		-0.21	0.28	32.02	-0.2049	0.025	-0.0011
303	SLD 16		-0.21	0.28	32.02	-0.2049	0.025	-0.0011
303	SLV 1		14.82	0.29	37.87	-0.1243	0.7159	-0.0009
303	SLV 2		14.82	0.29	37.87	-0.1243	0.7159	-0.0009
303	SLV 3		17.51	0.66	43.14	-0.5277	0.8585	-0.0027
303	SLV 4		17.51	0.66	43.14	-0.5277	0.8585	-0.0027
303	SLV 5		3.37	-0.27	27	0.4465	0.1613	0.0018
303	SLV 6		3.37	-0.27	27	0.4465	0.1613	0.0018
303	SLV 7		12.35	0.96	44.58	-0.898	0.6366	-0.0043
303	SLV 8		12.35	0.96	44.58	-0.898	0.6366	-0.0043
303	SLV 9		-3.75	-0.39	22.97	0.5324	-0.1715	0.0022
303	SLV 10		-3.75	-0.39	22.97	0.5324	-0.1715	0.0022
303	SLV 11		5.23	0.85	40.55	-0.8121	0.3038	-0.0039
303	SLV 12		5.23	0.85	40.55	-0.8121	0.3038	-0.0039
303	SLV 13		-8.92	-0.09	24.41	0.1621	-0.3934	0.0006
303	SLV 14		-8.92	-0.09	24.41	0.1621	-0.3934	0.0006
303	SLV 15		-6.22	0.28	29.68	-0.2413	-0.2508	-0.0012
303	SLV 16		-6.22	0.28	29.68	-0.2413	-0.2508	-0.0012
304	SLU 1		2.56	0.22	35.65	-0.1391	0.0272	-0.0007
304	SLU 2		2.48	0.21	35.47	-0.1367	0.0242	-0.0007
304	SLU 3		2.74	0.22	36.6	-0.1441	0.0321	-0.0007
304	SLU 4		2.69	0.22	36.49	-0.1426	0.0304	-0.0007
304	SLU 5		2.62	0.22	36.08	-0.1397	0.0284	-0.0007
304	SLU 6		2.87	0.23	37.21	-0.1471	0.0363	-0.0007
304	SLU 7		2.83	0.23	37.1	-0.1456	0.0345	-0.0007
304	SLU 8		2.83	0.23	36.87	-0.1452	0.0355	-0.0007
304	SLU 9		2.78	0.22	36.76	-0.1437	0.0337	-0.0007
304	SLU 10		2.81	0.25	40.94	-0.157	0.0253	-0.0008
304	SLU 11		3.07	0.26	42.07	-0.1644	0.0332	-0.0008
304	SLU 12		3.02	0.26	41.96	-0.163	0.0314	-0.0008
304	SLU 13		2.95	0.25	41.55	-0.1601	0.0294	-0.0008
304	SLU 14		3.21	0.26	42.68	-0.1675	0.0373	-0.0008
304	SLU 15		3.16	0.26	42.57	-0.166	0.0355	-0.0008
304	SLU 16		3.16	0.26	42.34	-0.1656	0.0365	-0.0008
304	SLU 17		3.11	0.26	42.23	-0.1641	0.0347	-0.0008
304	SLU 18		3.03	0.26	43.47	-0.1682	0.0286	-0.0008
304	SLU 19		2.99	0.26	43.36	-0.1667	0.0269	-0.0008
304	SLU 20		3.17	0.27	44.08	-0.1713	0.0328	-0.0009
304	SLU 21		3.12	0.27	43.97	-0.1698	0.031	-0.0009
304	SLU 22		2.95	0.25	40.83	-0.1594	0.0313	-0.0008
304	SLU 23		2.88	0.25	40.64	-0.1569	0.0283	-0.0008
304	SLU 24		3.13	0.26	41.77	-0.1643	0.0362	-0.0008
304	SLU 25		3.09	0.25	41.66	-0.1629	0.0345	-0.0008
304	SLU 26		3.01	0.25	41.25	-0.16	0.0325	-0.0008
304	SLU 27		3.27	0.26	42.38	-0.1674	0.0404	-0.0008
304	SLU 28		3.22	0.26	42.27	-0.1659	0.0386	-0.0008
304	SLU 29		3.22	0.26	42.05	-0.1655	0.0396	-0.0008
304	SLU 30		3.18	0.26	41.94	-0.164	0.0378	-0.0008
304	SLU 31		3.21	0.28	46.12	-0.1773	0.0293	-0.0009
304	SLU 32		3.46	0.29	47.24	-0.1847	0.0372	-0.0009
304	SLU 33		3.42	0.29	47.13	-0.1832	0.0355	-0.0009
304	SLU 34		3.34	0.28	46.73	-0.1803	0.0335	-0.0009
304	SLU 35		3.6	0.29	47.86	-0.1877	0.0414	-0.0009
304	SLU 36		3.55	0.29	47.75	-0.1863	0.0396	-0.0009
304	SLU 37		3.55	0.29	47.52	-0.1858	0.0406	-0.0009
304	SLU 38		3.51	0.29	47.41	-0.1843	0.0388	-0.0009
304	SLU 39		3.43	0.3	48.64	-0.1885	0.0327	-0.0009
304	SLU 40		3.38	0.29	48.53	-0.187	0.031	-0.0009
304	SLU 41		3.56	0.3	49.25	-0.1915	0.0369	-0.001
304	SLU 42		3.52	0.3	49.14	-0.19	0.0351	-0.001
304	SLU 43		3.19	0.27	44.57	-0.1739	0.034	-0.0009
304	SLU 44		3.11	0.27	44.39	-0.1715	0.031	-0.0009
304	SLU 45		3.37	0.28	45.52	-0.1789	0.0389	-0.0009
304	SLU 46		3.33	0.28	45.41	-0.1774	0.0371	-0.0009
304	SLU 47		3.25	0.27	45	-0.1745	0.0351	-0.0009
304	SLU 48		3.51	0.28	46.13	-0.1819	0.043	-0.0009
304	SLU 49		3.46	0.28	46.02	-0.1804	0.0413	-0.0009
304	SLU 50		3.46	0.28	45.79	-0.18	0.0422	-0.0009
304	SLU 51		3.42	0.28	45.68	-0.1785	0.0405	-0.0009
304	SLU 52		3.45	0.3	49.86	-0.1918	0.032	-0.001
304	SLU 53		3.7	0.31	50.99	-0.1992	0.0399	-0.001
304	SLU 54		3.66	0.31	50.88	-0.1977	0.0381	-0.001
304	SLU 55		3.58	0.3	50.47	-0.1949	0.0362	-0.001
304	SLU 56		3.84	0.32	51.6	-0.2023	0.0441	-0.001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
304	SLU 57		3.79	0.31	51.49	-0.2008	0.0423	-0.001
304	SLU 58		3.79	0.31	51.26	-0.2004	0.0433	-0.001
304	SLU 59		3.75	0.31	51.15	-0.1989	0.0415	-0.001
304	SLU 60		3.66	0.32	52.39	-0.203	0.0354	-0.001
304	SLU 61		3.62	0.32	52.28	-0.2015	0.0336	-0.001
304	SLU 62		3.8	0.32	53	-0.206	0.0395	-0.001
304	SLU 63		3.75	0.32	52.89	-0.2046	0.0378	-0.001
304	SLU 64		3.58	0.3	49.75	-0.1942	0.038	-0.001
304	SLU 65		3.51	0.3	49.56	-0.1917	0.0351	-0.001
304	SLU 66		3.76	0.31	50.69	-0.1991	0.043	-0.001
304	SLU 67		3.72	0.31	50.58	-0.1977	0.0412	-0.001
304	SLU 68		3.64	0.3	50.17	-0.1948	0.0392	-0.001
304	SLU 69		3.9	0.32	51.3	-0.2022	0.0471	-0.001
304	SLU 70		3.85	0.31	51.19	-0.2007	0.0454	-0.001
304	SLU 71		3.85	0.31	50.97	-0.2003	0.0463	-0.001
304	SLU 72		3.81	0.31	50.86	-0.1988	0.0445	-0.001
304	SLU 73		3.84	0.33	55.03	-0.2121	0.0361	-0.0011
304	SLU 74		4.1	0.34	56.16	-0.2195	0.044	-0.0011
304	SLU 75		4.05	0.34	56.05	-0.218	0.0422	-0.0011
304	SLU 76		3.98	0.34	55.65	-0.2151	0.0402	-0.0011
304	SLU 77		4.23	0.35	56.78	-0.2225	0.0481	-0.0011
304	SLU 78		4.19	0.35	56.67	-0.221	0.0464	-0.0011
304	SLU 79		4.19	0.35	56.44	-0.2206	0.0473	-0.0011
304	SLU 80		4.14	0.34	56.33	-0.2191	0.0456	-0.0011
304	SLU 81		4.06	0.35	57.56	-0.2233	0.0395	-0.0011
304	SLU 82		4.01	0.35	57.45	-0.2218	0.0377	-0.0011
304	SLU 83		4.19	0.35	58.17	-0.2263	0.0436	-0.0011
304	SLU 84		4.15	0.35	58.06	-0.2248	0.0419	-0.0011
304	SLE RA 1		2.67	0.23	37.13	-0.1449	0.0284	-0.0007
304	SLE RA 2		2.62	0.22	37.01	-0.1433	0.0264	-0.0007
304	SLE RA 3		2.79	0.23	37.76	-0.1482	0.0317	-0.0007
304	SLE RA 4		2.76	0.23	37.69	-0.1472	0.0305	-0.0007
304	SLE RA 5		2.71	0.23	37.41	-0.1453	0.0292	-0.0007
304	SLE RA 6		2.88	0.23	38.17	-0.1502	0.0344	-0.0008
304	SLE RA 7		2.85	0.23	38.09	-0.1493	0.0332	-0.0007
304	SLE RA 8		2.85	0.23	37.94	-0.149	0.0339	-0.0007
304	SLE RA 9		2.82	0.23	37.87	-0.148	0.0327	-0.0007
304	SLE RA 10		2.84	0.25	40.65	-0.1569	0.0271	-0.0008
304	SLE RA 11		3.01	0.25	41.41	-0.1618	0.0323	-0.0008
304	SLE RA 12		2.98	0.25	41.33	-0.1608	0.0312	-0.0008
304	SLE RA 13		2.93	0.25	41.06	-0.1589	0.0298	-0.0008
304	SLE RA 14		3.1	0.26	41.81	-0.1638	0.0351	-0.0008
304	SLE RA 15		3.07	0.25	41.74	-0.1628	0.0339	-0.0008
304	SLE RA 16		3.07	0.25	41.59	-0.1625	0.0346	-0.0008
304	SLE RA 17		3.04	0.25	41.52	-0.1616	0.0334	-0.0008
304	SLE RA 18		2.99	0.26	42.34	-0.1643	0.0293	-0.0008
304	SLE RA 19		2.96	0.26	42.27	-0.1633	0.0281	-0.0008
304	SLE RA 20		3.08	0.26	42.75	-0.1663	0.0321	-0.0008
304	SLE RA 21		3.05	0.26	42.67	-0.1654	0.0309	-0.0008
304	SLE FR 1		2.67	0.23	37.13	-0.1449	0.0284	-0.0007
304	SLE FR 2		2.66	0.23	37.1	-0.1446	0.028	-0.0007
304	SLE FR 3		2.71	0.23	37.29	-0.1457	0.0295	-0.0007
304	SLE FR 4		2.76	0.23	38.67	-0.1504	0.0283	-0.0008
304	SLE FR 5		2.8	0.24	38.85	-0.1516	0.0298	-0.0008
304	SLE FR 6		2.83	0.24	39.73	-0.1546	0.0288	-0.0008
304	SLE QP 1		2.67	0.23	37.13	-0.1449	0.0284	-0.0007
304	SLE QP 2		2.77	0.24	38.69	-0.1507	0.0287	-0.0008
304	SLD 1		6.97	0.26	34.41	-0.1403	0.2223	-0.0007
304	SLD 2		6.97	0.26	34.41	-0.1403	0.2223	-0.0007
304	SLD 3		8.03	0.33	36.53	-0.25	0.2714	-0.0012
304	SLD 4		8.03	0.33	36.53	-0.25	0.2714	-0.0012
304	SLD 5		2.42	0.13	34.19	0.0188	0.0122	-0.0001
304	SLD 6		2.42	0.13	34.19	0.0188	0.0122	-0.0001
304	SLD 7		5.95	0.38	41.26	-0.3469	0.1761	-0.0015
304	SLD 8		5.95	0.38	41.26	-0.3469	0.1761	-0.0015
304	SLD 9		-0.42	0.09	36.12	0.0454	-0.1187	0
304	SLD 10		-0.42	0.09	36.12	0.0454	-0.1187	0
304	SLD 11		3.11	0.34	43.19	-0.3203	0.0451	-0.0014
304	SLD 12		3.11	0.34	43.19	-0.3203	0.0451	-0.0014
304	SLD 13		-2.5	0.14	40.85	-0.0515	-0.2141	-0.0003
304	SLD 14		-2.5	0.14	40.85	-0.0515	-0.2141	-0.0003
304	SLD 15		-1.44	0.21	42.97	-0.1612	-0.1649	-0.0008
304	SLD 16		-1.44	0.21	42.97	-0.1612	-0.1649	-0.0008
304	SLV 1		12.55	0.29	28.63	-0.1218	0.4796	-0.0007
304	SLV 2		12.55	0.29	28.63	-0.1218	0.4796	-0.0007
304	SLV 3		15.09	0.46	33.63	-0.3901	0.5972	-0.0017
304	SLV 4		15.09	0.46	33.63	-0.3901	0.5972	-0.0017
304	SLV 5		1.86	-0.02	28.08	0.2649	-0.0143	0.0009
304	SLV 6		1.86	-0.02	28.08	0.2649	-0.0143	0.0009
304	SLV 7		10.3	0.58	44.77	-0.6295	0.3775	-0.0026
304	SLV 8		10.3	0.58	44.77	-0.6295	0.3775	-0.0026
304	SLV 9		-4.77	-0.1	32.62	0.328	-0.3202	0.0011
304	SLV 10		-4.77	-0.1	32.62	0.328	-0.3202	0.0011
304	SLV 11		3.67	0.49	49.3	-0.5664	0.0716	-0.0024
304	SLV 12		3.67	0.49	49.3	-0.5664	0.0716	-0.0024
304	SLV 13		-9.56	0.01	43.75	0.0886	-0.5399	0.0002
304	SLV 14		-9.56	0.01	43.75	0.0886	-0.5399	0.0002
304	SLV 15		-7.02	0.19	48.76	-0.1797	-0.4223	-0.0008
304	SLV 16		-7.02	0.19	48.76	-0.1797	-0.4223	-0.0008
305	SLU 1		2.22	0.15	40.43	-0.0978	0.1295	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
305	SLU 2		2.14	0.15	40.32	-0.0965	0.1247	-0.0004
305	SLU 3		2.4	0.16	41.56	-0.1013	0.1387	-0.0004
305	SLU 4		2.35	0.16	41.49	-0.1004	0.1357	-0.0004
305	SLU 5		2.27	0.15	41.04	-0.0986	0.1312	-0.0004
305	SLU 6		2.53	0.16	42.28	-0.1034	0.1452	-0.0004
305	SLU 7		2.48	0.16	42.21	-0.1026	0.1423	-0.0004
305	SLU 8		2.48	0.16	41.88	-0.1021	0.1426	-0.0004
305	SLU 9		2.43	0.16	41.81	-0.1013	0.1397	-0.0004
305	SLU 10		2.39	0.18	46.55	-0.111	0.1408	-0.0004
305	SLU 11		2.65	0.18	47.78	-0.1158	0.1548	-0.0004
305	SLU 12		2.6	0.18	47.71	-0.115	0.1519	-0.0004
305	SLU 13		2.52	0.18	47.27	-0.1132	0.1474	-0.0004
305	SLU 14		2.78	0.19	48.5	-0.118	0.1613	-0.0005
305	SLU 15		2.73	0.18	48.44	-0.1171	0.1584	-0.0005
305	SLU 16		2.73	0.18	48.1	-0.1167	0.1588	-0.0005
305	SLU 17		2.68	0.18	48.03	-0.1158	0.1559	-0.0004
305	SLU 18		2.58	0.19	49.33	-0.1186	0.1526	-0.0005
305	SLU 19		2.53	0.19	49.26	-0.1178	0.1497	-0.0005
305	SLU 20		2.71	0.19	50.05	-0.1208	0.1591	-0.0005
305	SLU 21		2.66	0.19	49.98	-0.12	0.1562	-0.0005
305	SLU 22		2.55	0.18	46.34	-0.1122	0.1492	-0.0004
305	SLU 23		2.46	0.17	46.23	-0.1109	0.1443	-0.0004
305	SLU 24		2.72	0.18	47.47	-0.1157	0.1583	-0.0004
305	SLU 25		2.68	0.18	47.4	-0.1148	0.1553	-0.0004
305	SLU 26		2.6	0.18	46.95	-0.113	0.1508	-0.0004
305	SLU 27		2.85	0.18	48.19	-0.1178	0.1648	-0.0005
305	SLU 28		2.81	0.18	48.12	-0.117	0.1619	-0.0005
305	SLU 29		2.81	0.18	47.79	-0.1165	0.1623	-0.0004
305	SLU 30		2.76	0.18	47.72	-0.1157	0.1593	-0.0004
305	SLU 31		2.72	0.2	52.45	-0.1254	0.1604	-0.0005
305	SLU 32		2.97	0.21	53.69	-0.1302	0.1744	-0.0005
305	SLU 33		2.93	0.2	53.62	-0.1294	0.1715	-0.0005
305	SLU 34		2.85	0.2	53.18	-0.1276	0.167	-0.0005
305	SLU 35		3.11	0.21	54.41	-0.1324	0.181	-0.0005
305	SLU 36		3.06	0.21	54.34	-0.1315	0.178	-0.0005
305	SLU 37		3.06	0.21	54.01	-0.1311	0.1784	-0.0005
305	SLU 38		3.01	0.21	53.94	-0.1302	0.1755	-0.0005
305	SLU 39		2.9	0.21	55.24	-0.133	0.1722	-0.0005
305	SLU 40		2.86	0.21	55.17	-0.1322	0.1693	-0.0005
305	SLU 41		3.04	0.21	55.96	-0.1352	0.1788	-0.0005
305	SLU 42		2.99	0.21	55.89	-0.1343	0.1758	-0.0005
305	SLU 43		2.77	0.19	50.54	-0.1222	0.1617	-0.0005
305	SLU 44		2.69	0.19	50.42	-0.1209	0.1568	-0.0005
305	SLU 45		2.95	0.2	51.66	-0.1257	0.1708	-0.0005
305	SLU 46		2.9	0.19	51.59	-0.1249	0.1679	-0.0005
305	SLU 47		2.82	0.19	51.15	-0.123	0.1634	-0.0005
305	SLU 48		3.08	0.2	52.38	-0.1278	0.1773	-0.0005
305	SLU 49		3.03	0.2	52.31	-0.127	0.1744	-0.0005
305	SLU 50		3.04	0.2	51.98	-0.1265	0.1748	-0.0005
305	SLU 51		2.99	0.2	51.91	-0.1257	0.1719	-0.0005
305	SLU 52		2.94	0.21	56.65	-0.1354	0.1729	-0.0005
305	SLU 53		3.2	0.22	57.89	-0.1403	0.1869	-0.0005
305	SLU 54		3.15	0.22	57.82	-0.1394	0.184	-0.0005
305	SLU 55		3.07	0.22	57.37	-0.1376	0.1795	-0.0005
305	SLU 56		3.33	0.22	58.61	-0.1424	0.1935	-0.0006
305	SLU 57		3.28	0.22	58.54	-0.1416	0.1906	-0.0005
305	SLU 58		3.29	0.22	58.21	-0.1411	0.1909	-0.0005
305	SLU 59		3.24	0.22	58.14	-0.1403	0.188	-0.0005
305	SLU 60		3.13	0.22	59.43	-0.1431	0.1847	-0.0006
305	SLU 61		3.08	0.22	59.36	-0.1422	0.1818	-0.0006
305	SLU 62		3.26	0.23	60.15	-0.1452	0.1913	-0.0006
305	SLU 63		3.21	0.23	60.09	-0.1444	0.1884	-0.0006
305	SLU 64		3.1	0.21	56.45	-0.1366	0.1813	-0.0005
305	SLU 65		3.02	0.21	56.33	-0.1353	0.1764	-0.0005
305	SLU 66		3.28	0.22	57.57	-0.1401	0.1904	-0.0005
305	SLU 67		3.23	0.22	57.5	-0.1393	0.1875	-0.0005
305	SLU 68		3.15	0.22	57.05	-0.1374	0.183	-0.0005
305	SLU 69		3.41	0.22	58.29	-0.1422	0.197	-0.0005
305	SLU 70		3.36	0.22	58.22	-0.1414	0.194	-0.0005
305	SLU 71		3.36	0.22	57.89	-0.1409	0.1944	-0.0005
305	SLU 72		3.31	0.22	57.82	-0.1401	0.1915	-0.0005
305	SLU 73		3.27	0.24	62.56	-0.1498	0.1926	-0.0006
305	SLU 74		3.53	0.24	63.8	-0.1547	0.2065	-0.0006
305	SLU 75		3.48	0.24	63.73	-0.1538	0.2036	-0.0006
305	SLU 76		3.4	0.24	63.28	-0.152	0.1991	-0.0006
305	SLU 77		3.66	0.25	64.52	-0.1568	0.2131	-0.0006
305	SLU 78		3.61	0.25	64.45	-0.156	0.2102	-0.0006
305	SLU 79		3.61	0.24	64.12	-0.1555	0.2105	-0.0006
305	SLU 80		3.56	0.24	64.05	-0.1546	0.2076	-0.0006
305	SLU 81		3.46	0.25	65.34	-0.1575	0.2043	-0.0006
305	SLU 82		3.41	0.25	65.27	-0.1566	0.2014	-0.0006
305	SLU 83		3.59	0.25	66.06	-0.1596	0.2109	-0.0006
305	SLU 84		3.54	0.25	65.99	-0.1588	0.208	-0.0006
305	SLE RA 1		2.31	0.16	42.12	-0.1019	0.1351	-0.0004
305	SLE RA 2		2.26	0.16	42.05	-0.101	0.1319	-0.0004
305	SLE RA 3		2.43	0.16	42.87	-0.1042	0.1412	-0.0004
305	SLE RA 4		2.4	0.16	42.82	-0.1037	0.1393	-0.0004
305	SLE RA 5		2.35	0.16	42.53	-0.1024	0.1363	-0.0004
305	SLE RA 6		2.52	0.16	43.35	-0.1057	0.1456	-0.0004
305	SLE RA 7		2.49	0.16	43.31	-0.1051	0.1436	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
305	SLE RA 8		2.49	0.16	43.08	-0.1048	0.1439	-0.0004
305	SLE RA 9		2.45	0.16	43.04	-0.1042	0.1419	-0.0004
305	SLE RA 10		2.43	0.17	46.2	-0.1107	0.1427	-0.0004
305	SLE RA 11		2.6	0.18	47.02	-0.114	0.152	-0.0004
305	SLE RA 12		2.57	0.18	46.98	-0.1134	0.15	-0.0004
305	SLE RA 13		2.51	0.18	46.68	-0.1122	0.147	-0.0004
305	SLE RA 14		2.69	0.18	47.5	-0.1154	0.1563	-0.0004
305	SLE RA 15		2.65	0.18	47.46	-0.1148	0.1544	-0.0004
305	SLE RA 16		2.65	0.18	47.24	-0.1145	0.1546	-0.0004
305	SLE RA 17		2.62	0.18	47.19	-0.1139	0.1527	-0.0004
305	SLE RA 18		2.55	0.18	48.05	-0.1158	0.1505	-0.0004
305	SLE RA 19		2.52	0.18	48.01	-0.1153	0.1486	-0.0004
305	SLE RA 20		2.64	0.18	48.53	-0.1172	0.1549	-0.0005
305	SLE RA 21		2.61	0.18	48.49	-0.1167	0.1529	-0.0005
305	SLE FR 1		2.31	0.16	42.12	-0.1019	0.1351	-0.0004
305	SLE FR 2		2.3	0.16	42.11	-0.1018	0.1345	-0.0004
305	SLE FR 3		2.35	0.16	42.32	-0.1025	0.1369	-0.0004
305	SLE FR 4		2.37	0.17	43.89	-0.1059	0.1391	-0.0004
305	SLE FR 5		2.42	0.17	44.09	-0.1067	0.1415	-0.0004
305	SLE FR 6		2.43	0.17	45.09	-0.1089	0.1428	-0.0004
305	SLE QP 1		2.31	0.16	42.12	-0.1019	0.1351	-0.0004
305	SLE QP 2		2.38	0.17	43.9	-0.1061	0.1398	-0.0004
305	SLD 1		6.38	0.18	38.36	-0.1041	0.3242	-0.0002
305	SLD 2		6.38	0.18	38.36	-0.1041	0.3242	-0.0002
305	SLD 3		7.51	0.23	41.28	-0.1639	0.3871	-0.0004
305	SLD 4		7.51	0.23	41.28	-0.1639	0.3871	-0.0004
305	SLD 5		1.86	0.1	37.8	-0.0148	0.0997	0
305	SLD 6		1.86	0.1	37.8	-0.0148	0.0997	0
305	SLD 7		5.64	0.25	47.55	-0.2141	0.3094	-0.0008
305	SLD 8		5.64	0.25	47.55	-0.2141	0.3094	-0.0008
305	SLD 9		-0.87	0.08	40.25	0.0019	-0.0298	0
305	SLD 10		-0.87	0.08	40.25	0.0019	-0.0298	0
305	SLD 11		2.9	0.23	50	-0.1974	0.1798	-0.0008
305	SLD 12		2.9	0.23	50	-0.1974	0.1798	-0.0008
305	SLD 13		-2.75	0.11	46.52	-0.0483	-0.1076	-0.0004
305	SLD 14		-2.75	0.11	46.52	-0.0483	-0.1076	-0.0004
305	SLD 15		-1.61	0.15	49.45	-0.1081	-0.0447	-0.0006
305	SLD 16		-1.61	0.15	49.45	-0.1081	-0.0447	-0.0006
305	SLV 1		11.69	0.2	30.77	-0.0991	0.568	0.0001
305	SLV 2		11.69	0.2	30.77	-0.0991	0.568	0.0001
305	SLV 3		14.4	0.31	37.8	-0.2449	0.7203	-0.0004
305	SLV 4		14.4	0.31	37.8	-0.2449	0.7203	-0.0004
305	SLV 5		1.07	0.02	29.29	0.1172	0.0373	0.0006
305	SLV 6		1.07	0.02	29.29	0.1172	0.0373	0.0006
305	SLV 7		10.1	0.36	52.75	-0.369	0.5449	-0.0013
305	SLV 8		10.1	0.36	52.75	-0.369	0.5449	-0.0013
305	SLV 9		-5.33	-0.03	35.06	0.1568	-0.2654	0.0005
305	SLV 10		-5.33	-0.03	35.06	0.1568	-0.2654	0.0005
305	SLV 11		3.7	0.31	58.52	-0.3294	0.2422	-0.0014
305	SLV 12		3.7	0.31	58.52	-0.3294	0.2422	-0.0014
305	SLV 13		-9.63	0.03	50	0.0327	-0.4408	-0.0004
305	SLV 14		-9.63	0.03	50	0.0327	-0.4408	-0.0004
305	SLV 15		-6.92	0.13	57.04	-0.1132	-0.2885	-0.001
305	SLV 16		-6.92	0.13	57.04	-0.1132	-0.2885	-0.001
306	SLU 1		-1.26	0.15	46.08	-0.0483	-0.1549	0.0007
306	SLU 2		-1.32	0.15	46.07	-0.0479	-0.1576	0.0007
306	SLU 3		-1.21	0.16	47.38	-0.05	-0.1555	0.0007
306	SLU 4		-1.24	0.16	47.38	-0.0498	-0.1571	0.0007
306	SLU 5		-1.27	0.15	46.9	-0.049	-0.1571	0.0007
306	SLU 6		-1.16	0.16	48.22	-0.0511	-0.1551	0.0007
306	SLU 7		-1.19	0.16	48.21	-0.0509	-0.1567	0.0007
306	SLU 8		-1.16	0.16	47.75	-0.0505	-0.154	0.0007
306	SLU 9		-1.19	0.16	47.74	-0.0503	-0.1556	0.0007
306	SLU 10		-1.62	0.17	53.17	-0.0551	-0.1873	0.0008
306	SLU 11		-1.51	0.18	54.49	-0.0571	-0.1853	0.0008
306	SLU 12		-1.54	0.18	54.48	-0.0569	-0.1869	0.0008
306	SLU 13		-1.57	0.18	54	-0.0561	-0.1869	0.0008
306	SLU 14		-1.46	0.18	55.32	-0.0582	-0.1848	0.0008
306	SLU 15		-1.49	0.18	55.31	-0.058	-0.1864	0.0008
306	SLU 16		-1.47	0.18	54.85	-0.0576	-0.1837	0.0008
306	SLU 17		-1.5	0.18	54.84	-0.0574	-0.1853	0.0008
306	SLU 18		-1.7	0.18	56.23	-0.0585	-0.1974	0.0008
306	SLU 19		-1.73	0.18	56.22	-0.0583	-0.199	0.0008
306	SLU 20		-1.65	0.19	57.06	-0.0596	-0.1969	0.0008
306	SLU 21		-1.68	0.19	57.05	-0.0593	-0.1985	0.0008
306	SLU 22		-1.48	0.17	52.82	-0.0553	-0.1799	0.0008
306	SLU 23		-1.53	0.17	52.8	-0.0549	-0.1826	0.0008
306	SLU 24		-1.42	0.18	54.12	-0.057	-0.1805	0.0008
306	SLU 25		-1.46	0.18	54.11	-0.0568	-0.1822	0.0008
306	SLU 26		-1.48	0.18	53.64	-0.056	-0.1821	0.0008
306	SLU 27		-1.37	0.18	54.96	-0.0581	-0.1801	0.0008
306	SLU 28		-1.41	0.18	54.95	-0.0578	-0.1817	0.0008
306	SLU 29		-1.38	0.18	54.49	-0.0575	-0.179	0.0008
306	SLU 30		-1.41	0.18	54.48	-0.0572	-0.1806	0.0008
306	SLU 31		-1.84	0.2	59.91	-0.062	-0.2124	0.0009
306	SLU 32		-1.73	0.2	61.23	-0.0641	-0.2103	0.0009
306	SLU 33		-1.76	0.2	61.22	-0.0639	-0.2119	0.0009
306	SLU 34		-1.79	0.2	60.74	-0.0631	-0.2119	0.0009
306	SLU 35		-1.68	0.2	62.06	-0.0652	-0.2098	0.0009
306	SLU 36		-1.71	0.2	62.05	-0.065	-0.2114	0.0009



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
306	SLU 37			-1.68	0.2	61.59	-0.0646	-0.2087	0.0009
306	SLU 38			-1.71	0.2	61.58	-0.0643	-0.2103	0.0009
306	SLU 39			-1.91	0.21	62.97	-0.0655	-0.2224	0.0009
306	SLU 40			-1.95	0.21	62.96	-0.0652	-0.224	0.0009
306	SLU 41			-1.86	0.21	63.8	-0.0665	-0.2219	0.0009
306	SLU 42			-1.89	0.21	63.79	-0.0663	-0.2235	0.0009
306	SLU 43			-1.57	0.19	57.59	-0.0604	-0.1928	0.0009
306	SLU 44			-1.62	0.19	57.58	-0.0601	-0.1955	0.0009
306	SLU 45			-1.51	0.19	58.9	-0.0621	-0.1934	0.0009
306	SLU 46			-1.55	0.19	58.89	-0.0619	-0.1951	0.0009
306	SLU 47			-1.57	0.19	58.41	-0.0611	-0.195	0.0009
306	SLU 48			-1.46	0.2	59.73	-0.0632	-0.193	0.0009
306	SLU 49			-1.5	0.2	59.72	-0.063	-0.1946	0.0009
306	SLU 50			-1.47	0.19	59.26	-0.0626	-0.1919	0.0009
306	SLU 51			-1.5	0.19	59.25	-0.0624	-0.1935	0.0009
306	SLU 52			-1.93	0.21	64.68	-0.0672	-0.2253	0.0009
306	SLU 53			-1.82	0.22	66	-0.0692	-0.2232	0.001
306	SLU 54			-1.85	0.22	65.99	-0.069	-0.2248	0.001
306	SLU 55			-1.88	0.21	65.52	-0.0682	-0.2248	0.001
306	SLU 56			-1.77	0.22	66.83	-0.0703	-0.2227	0.001
306	SLU 57			-1.8	0.22	66.83	-0.0701	-0.2243	0.001
306	SLU 58			-1.77	0.22	66.36	-0.0697	-0.2216	0.001
306	SLU 59			-1.8	0.22	66.36	-0.0695	-0.2232	0.001
306	SLU 60			-2	0.22	67.74	-0.0706	-0.2353	0.001
306	SLU 61			-2.03	0.22	67.73	-0.0704	-0.2369	0.001
306	SLU 62			-1.95	0.22	68.57	-0.0717	-0.2348	0.001
306	SLU 63			-1.98	0.22	68.56	-0.0714	-0.2364	0.001
306	SLU 64			-1.78	0.21	64.33	-0.0674	-0.2179	0.0009
306	SLU 65			-1.84	0.21	64.32	-0.067	-0.2205	0.0009
306	SLU 66			-1.73	0.21	65.64	-0.0691	-0.2185	0.001
306	SLU 67			-1.76	0.22	65.63	-0.0689	-0.2201	0.001
306	SLU 68			-1.79	0.21	65.15	-0.0681	-0.2201	0.001
306	SLU 69			-1.68	0.22	66.47	-0.0702	-0.218	0.001
306	SLU 70			-1.71	0.22	66.46	-0.07	-0.2196	0.001
306	SLU 71			-1.68	0.22	66	-0.0696	-0.2169	0.001
306	SLU 72			-1.72	0.22	65.99	-0.0693	-0.2185	0.001
306	SLU 73			-2.14	0.23	71.42	-0.0741	-0.2503	0.001
306	SLU 74			-2.03	0.24	72.74	-0.0762	-0.2482	0.0011
306	SLU 75			-2.07	0.24	72.73	-0.076	-0.2498	0.0011
306	SLU 76			-2.09	0.24	72.26	-0.0752	-0.2498	0.0011
306	SLU 77			-1.98	0.24	73.57	-0.0773	-0.2477	0.0011
306	SLU 78			-2.01	0.24	73.57	-0.0771	-0.2493	0.0011
306	SLU 79			-1.99	0.24	73.1	-0.0767	-0.2466	0.0011
306	SLU 80			-2.02	0.24	73.1	-0.0764	-0.2482	0.0011
306	SLU 81			-2.22	0.24	74.48	-0.0776	-0.2603	0.0011
306	SLU 82			-2.25	0.24	74.47	-0.0773	-0.2619	0.0011
306	SLU 83			-2.17	0.25	75.31	-0.0787	-0.2598	0.0011
306	SLU 84			-2.2	0.25	75.3	-0.0784	-0.2615	0.0011
306	SLE RA 1			-1.32	0.16	48	-0.0503	-0.1621	0.0007
306	SLE RA 2			-1.36	0.16	48	-0.0501	-0.1639	0.0007
306	SLE RA 3			-1.29	0.16	48.87	-0.0515	-0.1625	0.0007
306	SLE RA 4			-1.31	0.16	48.87	-0.0513	-0.1636	0.0007
306	SLE RA 5			-1.33	0.16	48.55	-0.0508	-0.1636	0.0007
306	SLE RA 6			-1.25	0.16	49.43	-0.0522	-0.1622	0.0007
306	SLE RA 7			-1.28	0.16	49.42	-0.052	-0.1632	0.0007
306	SLE RA 8			-1.26	0.16	49.12	-0.0518	-0.1614	0.0007
306	SLE RA 9			-1.28	0.16	49.11	-0.0516	-0.1625	0.0007
306	SLE RA 10			-1.56	0.17	52.73	-0.0548	-0.1837	0.0008
306	SLE RA 11			-1.49	0.18	53.61	-0.0562	-0.1823	0.0008
306	SLE RA 12			-1.51	0.18	53.6	-0.056	-0.1834	0.0008
306	SLE RA 13			-1.53	0.17	53.29	-0.0555	-0.1834	0.0008
306	SLE RA 14			-1.46	0.18	54.17	-0.0569	-0.182	0.0008
306	SLE RA 15			-1.48	0.18	54.16	-0.0568	-0.1831	0.0008
306	SLE RA 16			-1.46	0.18	53.85	-0.0565	-0.1813	0.0008
306	SLE RA 17			-1.48	0.18	53.85	-0.0563	-0.1823	0.0008
306	SLE RA 18			-1.61	0.18	54.77	-0.0571	-0.1904	0.0008
306	SLE RA 19			-1.64	0.18	54.76	-0.0569	-0.1915	0.0008
306	SLE RA 20			-1.58	0.18	55.33	-0.0578	-0.1901	0.0008
306	SLE RA 21			-1.6	0.18	55.32	-0.0577	-0.1912	0.0008
306	SLE FR 1			-1.32	0.16	48	-0.0503	-0.1621	0.0007
306	SLE FR 2			-1.33	0.16	48	-0.0503	-0.1624	0.0007
306	SLE FR 3			-1.31	0.16	48.23	-0.0506	-0.162	0.0007
306	SLE FR 4			-1.42	0.16	50.03	-0.0523	-0.1709	0.0007
306	SLE FR 5			-1.4	0.16	50.26	-0.0526	-0.1704	0.0007
306	SLE FR 6			-1.47	0.17	51.39	-0.0537	-0.1762	0.0008
306	SLE QP 1			-1.32	0.16	48	-0.0503	-0.1621	0.0007
306	SLE QP 2			-1.41	0.16	50.03	-0.0524	-0.1706	0.0007
306	SLD 1			2.01	0.23	46.43	-0.079	0.0705	0.001
306	SLD 2			2.01	0.23	46.43	-0.079	0.0705	0.001
306	SLD 3			3.15	0.18	41.24	-0.0532	0.008	0.0008
306	SLD 4			3.15	0.18	41.24	-0.0532	0.008	0.0008
306	SLD 5			-2.11	0.27	56.82	-0.0994	-0.0034	0.0012
306	SLD 6			-2.11	0.27	56.82	-0.0994	-0.0034	0.0012
306	SLD 7			1.68	0.09	39.52	-0.0135	-0.2118	0.0004
306	SLD 8			1.68	0.09	39.52	-0.0135	-0.2118	0.0004
306	SLD 9			-4.51	0.24	60.55	-0.0912	-0.1293	0.0011
306	SLD 10			-4.51	0.24	60.55	-0.0912	-0.1293	0.0011
306	SLD 11			-0.71	0.06	43.24	-0.0053	-0.3377	0.0003
306	SLD 12			-0.71	0.06	43.24	-0.0053	-0.3377	0.0003
306	SLD 13			-5.97	0.15	58.83	-0.0515	-0.3491	0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
306	SLD 14			-5.97	0.15	58.83	-0.0515	-0.3491	0.0007
306	SLD 15			-4.83	0.09	53.64	-0.0257	-0.4116	0.0005
306	SLD 16			-4.83	0.09	53.64	-0.0257	-0.4116	0.0005
306	SLV 1			6.55	0.33	41.73	-0.1159	0.394	0.0014
306	SLV 2			6.55	0.33	41.73	-0.1159	0.394	0.0014
306	SLV 3			9.25	0.2	29.11	-0.0537	0.245	0.0008
306	SLV 4			9.25	0.2	29.11	-0.0537	0.245	0.0008
306	SLV 5			-3.11	0.4	66.68	-0.1658	0.2249	0.0018
306	SLV 6			-3.11	0.4	66.68	-0.1658	0.2249	0.0018
306	SLV 7			5.88	-0.02	24.62	0.0416	-0.272	-0.0001
306	SLV 8			5.88	-0.02	24.62	0.0416	-0.272	-0.0001
306	SLV 9			-8.7	0.34	75.45	-0.1463	-0.0691	0.0016
306	SLV 10			-8.7	0.34	75.45	-0.1463	-0.0691	0.0016
306	SLV 11			0.29	-0.08	33.38	0.0611	-0.5661	-0.0003
306	SLV 12			0.29	-0.08	33.38	0.0611	-0.5661	-0.0003
306	SLV 13			-12.07	0.12	70.96	-0.0511	-0.5861	0.0007
306	SLV 14			-12.07	0.12	70.96	-0.0511	-0.5861	0.0007
306	SLV 15			-9.37	0	58.34	0.0111	-0.7352	0.0001
306	SLV 16			-9.37	0	58.34	0.0111	-0.7352	0.0001
308	SLU 1			-6	1.69	71.81	5.9343	1.3062	-0.4504
308	SLU 2			-6.04	1.71	71.84	5.9216	1.3056	-0.4508
308	SLU 3			-6.12	1.74	73.88	6.1122	1.3465	-0.4645
308	SLU 4			-6.15	1.75	73.9	6.1046	1.3462	-0.4647
308	SLU 5			-6.11	1.75	73.15	6.032	1.3315	-0.4598
308	SLU 6			-6.2	1.77	75.19	6.2226	1.3724	-0.4735
308	SLU 7			-6.22	1.79	75.21	6.215	1.3721	-0.4737
308	SLU 8			-6.15	1.76	74.42	6.155	1.358	-0.4684
308	SLU 9			-6.17	1.77	74.44	6.1474	1.3577	-0.4687
308	SLU 10			-7.01	1.87	82.95	6.8599	1.4994	-0.5153
308	SLU 11			-7.1	1.9	84.99	7.0505	1.5403	-0.529
308	SLU 12			-7.12	1.91	85.01	7.0429	1.5399	-0.5292
308	SLU 13			-7.09	1.91	84.26	6.9703	1.5253	-0.5243
308	SLU 14			-7.17	1.93	86.3	7.1609	1.5662	-0.538
308	SLU 15			-7.2	1.95	86.31	7.1532	1.5658	-0.5382
308	SLU 16			-7.12	1.92	85.53	7.0933	1.5517	-0.533
308	SLU 17			-7.15	1.93	85.55	7.0857	1.5514	-0.5332
308	SLU 18			-7.39	1.91	87.68	7.2747	1.583	-0.5426
308	SLU 19			-7.41	1.93	87.7	7.2671	1.5826	-0.5428
308	SLU 20			-7.46	1.95	88.98	7.3851	1.6089	-0.5516
308	SLU 21			-7.49	1.97	89	7.3774	1.6085	-0.5518
308	SLU 22			-6.88	1.85	82.33	6.8238	1.4923	-0.5128
308	SLU 23			-6.92	1.88	82.36	6.8111	1.4918	-0.5131
308	SLU 24			-7.01	1.9	84.4	7.0017	1.5326	-0.5268
308	SLU 25			-7.04	1.92	84.42	6.9941	1.5323	-0.527
308	SLU 26			-7	1.91	83.67	6.9215	1.5177	-0.5221
308	SLU 27			-7.09	1.94	85.71	7.1121	1.5585	-0.5358
308	SLU 28			-7.11	1.95	85.72	7.1045	1.5582	-0.536
308	SLU 29			-7.03	1.92	84.94	7.0445	1.5441	-0.5308
308	SLU 30			-7.06	1.94	84.96	7.0369	1.5438	-0.531
308	SLU 31			-7.9	2.04	93.47	7.7494	1.6855	-0.5777
308	SLU 32			-7.99	2.06	95.51	7.94	1.7264	-0.5913
308	SLU 33			-8.01	2.08	95.53	7.9324	1.7261	-0.5915
308	SLU 34			-7.98	2.07	94.77	7.8597	1.7114	-0.5867
308	SLU 35			-8.06	2.1	96.81	8.0504	1.7523	-0.6003
308	SLU 36			-8.09	2.11	96.83	8.0427	1.752	-0.6005
308	SLU 37			-8.01	2.08	96.05	7.9828	1.7379	-0.5953
308	SLU 38			-8.03	2.1	96.07	7.9752	1.7375	-0.5955
308	SLU 39			-8.28	2.08	98.2	8.1642	1.7691	-0.605
308	SLU 40			-8.3	2.09	98.22	8.1566	1.7688	-0.6052
308	SLU 41			-8.35	2.11	99.5	8.2746	1.795	-0.614
308	SLU 42			-8.38	2.13	99.52	8.2669	1.7947	-0.6142
308	SLU 43			-7.49	2.14	89.75	7.4096	1.6342	-0.5642
308	SLU 44			-7.53	2.16	89.78	7.3969	1.6337	-0.5645
308	SLU 45			-7.62	2.19	91.82	7.5875	1.6745	-0.5782
308	SLU 46			-7.64	2.2	91.84	7.5799	1.6742	-0.5784
308	SLU 47			-7.6	2.2	91.08	7.5073	1.6596	-0.5736
308	SLU 48			-7.69	2.22	93.12	7.6979	1.7004	-0.5872
308	SLU 49			-7.72	2.24	93.14	7.6903	1.7001	-0.5874
308	SLU 50			-7.64	2.21	92.36	7.6303	1.686	-0.5822
308	SLU 51			-7.66	2.22	92.37	7.6227	1.6857	-0.5824
308	SLU 52			-8.51	2.32	100.89	8.3352	1.8274	-0.6291
308	SLU 53			-8.59	2.35	102.93	8.5258	1.8683	-0.6427
308	SLU 54			-8.62	2.36	102.95	8.5182	1.868	-0.643
308	SLU 55			-8.58	2.36	102.19	8.4456	1.8533	-0.6381
308	SLU 56			-8.67	2.38	104.23	8.6362	1.8942	-0.6517
308	SLU 57			-8.69	2.4	104.25	8.6286	1.8939	-0.652
308	SLU 58			-8.62	2.37	103.46	8.5686	1.8798	-0.6467
308	SLU 59			-8.64	2.38	103.48	8.561	1.8794	-0.6469
308	SLU 60			-8.88	2.36	105.62	8.75	1.911	-0.6564
308	SLU 61			-8.91	2.38	105.64	8.7424	1.9107	-0.6566
308	SLU 62			-8.96	2.4	106.92	8.8604	1.9369	-0.6654
308	SLU 63			-8.98	2.42	106.94	8.8528	1.9366	-0.6656
308	SLU 64			-8.38	2.3	100.27	8.2991	1.8203	-0.6265
308	SLU 65			-8.42	2.33	100.3	8.2864	1.8198	-0.6269
308	SLU 66			-8.51	2.35	102.34	8.477	1.8607	-0.6405
308	SLU 67			-8.53	2.37	102.36	8.4694	1.8604	-0.6408
308	SLU 68			-8.49	2.36	101.6	8.3968	1.8457	-0.6359
308	SLU 69			-8.58	2.39	103.64	8.5874	1.8866	-0.6495
308	SLU 70			-8.6	2.4	103.66	8.5798	1.8863	-0.6498
308	SLU 71			-8.53	2.37	102.87	8.5198	1.8721	-0.6445



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
308	SLU 72			-8.55	2.39	102.89	8.5122	1.8718	-0.6447
308	SLU 73			-9.39	2.49	111.41	9.2247	2.0136	-0.6914
308	SLU 74			-9.48	2.51	113.45	9.4153	2.0544	-0.7051
308	SLU 75			-9.51	2.53	113.47	9.4077	2.0541	-0.7053
308	SLU 76			-9.47	2.52	112.71	9.3351	2.0395	-0.7004
308	SLU 77			-9.56	2.54	114.75	9.5257	2.0803	-0.7141
308	SLU 78			-9.58	2.56	114.77	9.518	2.08	-0.7143
308	SLU 79			-9.5	2.53	113.98	9.4581	2.0659	-0.7091
308	SLU 80			-9.53	2.55	114	9.4505	2.0656	-0.7093
308	SLU 81			-9.77	2.53	116.14	9.6395	2.0971	-0.7187
308	SLU 82			-9.8	2.54	116.16	9.6319	2.0968	-0.7189
308	SLU 83			-9.85	2.56	117.44	9.7499	2.123	-0.7277
308	SLU 84			-9.87	2.58	117.46	9.7423	2.1227	-0.7279
308	SLE RA 1			-6.25	1.73	74.82	6.1884	1.3594	-0.4682
308	SLE RA 2			-6.28	1.75	74.84	6.1799	1.359	-0.4685
308	SLE RA 3			-6.33	1.77	76.2	6.307	1.3862	-0.4776
308	SLE RA 4			-6.35	1.78	76.21	6.3019	1.386	-0.4777
308	SLE RA 5			-6.33	1.77	75.71	6.2535	1.3763	-0.4745
308	SLE RA 6			-6.38	1.79	77.07	6.3806	1.4035	-0.4836
308	SLE RA 7			-6.4	1.8	77.08	6.3755	1.4033	-0.4837
308	SLE RA 8			-6.35	1.78	76.55	6.3356	1.3939	-0.4802
308	SLE RA 9			-6.37	1.79	76.57	6.3305	1.3937	-0.4804
308	SLE RA 10			-6.93	1.86	82.24	6.8055	1.4882	-0.5115
308	SLE RA 11			-6.99	1.87	83.6	6.9325	1.5154	-0.5206
308	SLE RA 12			-7	1.88	83.62	6.9275	1.5152	-0.5208
308	SLE RA 13			-6.98	1.88	83.11	6.8791	1.5054	-0.5175
308	SLE RA 14			-7.04	1.9	84.47	7.0061	1.5327	-0.5266
308	SLE RA 15			-7.05	1.91	84.49	7.0011	1.5325	-0.5268
308	SLE RA 16			-7	1.89	83.96	6.9611	1.5231	-0.5233
308	SLE RA 17			-7.02	1.9	83.97	6.956	1.5228	-0.5234
308	SLE RA 18			-7.18	1.88	85.4	7.082	1.5439	-0.5297
308	SLE RA 19			-7.19	1.9	85.41	7.0769	1.5437	-0.5298
308	SLE RA 20			-7.23	1.91	86.27	7.1556	1.5611	-0.5357
308	SLE RA 21			-7.25	1.92	86.28	7.1505	1.5609	-0.5358
308	SLE FR 1			-6.25	1.73	74.82	6.1884	1.3594	-0.4682
308	SLE FR 2			-6.25	1.74	74.82	6.1867	1.3593	-0.4683
308	SLE FR 3			-6.27	1.74	75.16	6.2178	1.3663	-0.4706
308	SLE FR 4			-6.53	1.78	77.99	6.4548	1.4146	-0.4867
308	SLE FR 5			-6.55	1.79	78.34	6.4859	1.4216	-0.4891
308	SLE FR 6			-6.71	1.81	80.11	6.6352	1.4516	-0.499
308	SLE QP 1			-6.25	1.73	74.82	6.1884	1.3594	-0.4682
308	SLE QP 2			-6.53	1.78	77.99	6.4565	1.4147	-0.4867
308	SLD 1			-4.62	4.28	63	5.4796	1.7286	-0.6615
308	SLD 2			-4.62	4.28	63	5.4796	1.7286	-0.6615
308	SLD 3			-3.38	2.26	71.62	6.0725	1.5208	-0.5319
308	SLD 4			-3.38	2.26	71.62	6.0725	1.5208	-0.5319
308	SLD 5			-7.83	5.59	60.42	5.2641	1.8241	-0.7356
308	SLD 6			-7.83	5.59	60.42	5.2641	1.8241	-0.7356
308	SLD 7			-3.7	-1.14	89.15	7.2406	1.1313	-0.3037
308	SLD 8			-3.7	-1.14	89.15	7.2406	1.1313	-0.3037
308	SLD 9			-9.35	4.7	66.83	5.6724	1.6981	-0.6696
308	SLD 10			-9.35	4.7	66.83	5.6724	1.6981	-0.6696
308	SLD 11			-5.22	-2.04	95.56	7.6489	1.0053	-0.2377
308	SLD 12			-5.22	-2.04	95.56	7.6489	1.0053	-0.2377
308	SLD 13			-9.68	1.3	84.36	6.8405	1.3086	-0.4415
308	SLD 14			-9.68	1.3	84.36	6.8405	1.3086	-0.4415
308	SLD 15			-8.44	-0.72	92.98	7.4334	1.1008	-0.3119
308	SLD 16			-8.44	-0.72	92.98	7.4334	1.1008	-0.3119
308	SLV 1			-2.11	7.64	42.32	4.1475	2.1564	-0.8985
308	SLV 2			-2.11	7.64	42.32	4.1475	2.1564	-0.8985
308	SLV 3			0.92	2.88	63.33	5.5645	1.6593	-0.5908
308	SLV 4			0.92	2.88	63.33	5.5645	1.6593	-0.5908
308	SLV 5			-9.81	10.75	35.42	3.6146	2.391	-1.0769
308	SLV 6			-9.81	10.75	35.42	3.6146	2.391	-1.0769
308	SLV 7			0.31	-5.1	105.46	8.3381	0.7343	-0.0513
308	SLV 8			0.31	-5.1	105.46	8.3381	0.7343	-0.0513
308	SLV 9			-13.37	8.66	50.52	4.5749	2.0952	-0.9221
308	SLV 10			-13.37	8.66	50.52	4.5749	2.0952	-0.9221
308	SLV 11			-3.25	-7.19	120.56	9.2983	0.4384	0.1035
308	SLV 12			-3.25	-7.19	120.56	9.2983	0.4384	0.1035
308	SLV 13			-13.98	0.67	92.65	7.3484	1.1701	-0.3826
308	SLV 14			-13.98	0.67	92.65	7.3484	1.1701	-0.3826
308	SLV 15			-10.94	-4.08	113.66	8.7655	0.6731	-0.0749
308	SLV 16			-10.94	-4.08	113.66	8.7655	0.6731	-0.0749
309	SLU 1			3.5	0.37	13.55	-0.2163	0.0847	0.035
309	SLU 2			3.52	0.36	13.66	-0.2123	0.0853	0.0343
309	SLU 3			3.67	0.39	14.19	-0.2284	0.0893	0.0369
309	SLU 4			3.68	0.38	14.26	-0.226	0.0896	0.0365
309	SLU 5			3.71	0.38	14.33	-0.2224	0.0905	0.0359
309	SLU 6			3.85	0.4	14.87	-0.2385	0.0944	0.0385
309	SLU 7			3.86	0.4	14.93	-0.2361	0.0948	0.0382
309	SLU 8			3.86	0.4	14.9	-0.2364	0.0949	0.0382
309	SLU 9			3.88	0.4	14.97	-0.234	0.0953	0.0378
309	SLU 10			4.12	0.42	15.9	-0.2452	0.1003	0.0397
309	SLU 11			4.27	0.44	16.43	-0.2613	0.1042	0.0423
309	SLU 12			4.28	0.44	16.5	-0.2589	0.1046	0.0419
309	SLU 13			4.3	0.43	16.57	-0.2553	0.1054	0.0413
309	SLU 14			4.45	0.46	17.11	-0.2714	0.1093	0.0439
309	SLU 15			4.46	0.46	17.17	-0.269	0.1097	0.0435
309	SLU 16			4.46	0.46	17.14	-0.2693	0.1099	0.0435



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
309	SLU 17		4.48	0.45	17.21	-0.2669	0.1103	0.0432
309	SLU 18		4.36	0.45	16.75	-0.2633	0.106	0.0426
309	SLU 19		4.37	0.44	16.81	-0.2609	0.1064	0.0422
309	SLU 20		4.54	0.47	17.43	-0.2734	0.1112	0.0442
309	SLU 21		4.55	0.46	17.49	-0.271	0.1115	0.0438
309	SLU 22		4.06	0.43	15.66	-0.2512	0.0987	0.0406
309	SLU 23		4.08	0.42	15.76	-0.2472	0.0994	0.04
309	SLU 24		4.23	0.45	16.3	-0.2633	0.1033	0.0426
309	SLU 25		4.24	0.44	16.36	-0.2609	0.1037	0.0422
309	SLU 26		4.26	0.44	16.44	-0.2573	0.1045	0.0416
309	SLU 27		4.41	0.46	16.98	-0.2734	0.1085	0.0442
309	SLU 28		4.42	0.46	17.04	-0.271	0.1088	0.0438
309	SLU 29		4.42	0.46	17.01	-0.2713	0.109	0.0439
309	SLU 30		4.44	0.46	17.07	-0.2689	0.1094	0.0435
309	SLU 31		4.68	0.48	18	-0.2801	0.1143	0.0453
309	SLU 32		4.83	0.5	18.54	-0.2962	0.1183	0.0479
309	SLU 33		4.84	0.5	18.6	-0.2938	0.1187	0.0475
309	SLU 34		4.86	0.49	18.68	-0.2902	0.1195	0.0469
309	SLU 35		5.01	0.52	19.21	-0.3063	0.1234	0.0495
309	SLU 36		5.02	0.52	19.28	-0.3039	0.1238	0.0491
309	SLU 37		5.02	0.52	19.25	-0.3042	0.124	0.0492
309	SLU 38		5.04	0.51	19.31	-0.3018	0.1243	0.0488
309	SLU 39		4.92	0.51	18.86	-0.2982	0.1201	0.0482
309	SLU 40		4.93	0.5	18.92	-0.2958	0.1205	0.0479
309	SLU 41		5.1	0.53	19.53	-0.3083	0.1252	0.0499
309	SLU 42		5.11	0.52	19.6	-0.3059	0.1256	0.0495
309	SLU 43		4.36	0.46	16.9	-0.2692	0.1053	0.0435
309	SLU 44		4.38	0.45	17	-0.2652	0.1059	0.0429
309	SLU 45		4.53	0.48	17.54	-0.2813	0.1098	0.0455
309	SLU 46		4.54	0.47	17.6	-0.2789	0.1102	0.0451
309	SLU 47		4.56	0.47	17.68	-0.2753	0.111	0.0445
309	SLU 48		4.71	0.49	18.21	-0.2914	0.115	0.0471
309	SLU 49		4.72	0.49	18.28	-0.289	0.1154	0.0467
309	SLU 50		4.72	0.49	18.25	-0.2893	0.1155	0.0468
309	SLU 51		4.74	0.48	18.31	-0.2869	0.1159	0.0464
309	SLU 52		4.98	0.51	19.24	-0.2981	0.1209	0.0482
309	SLU 53		5.13	0.53	19.78	-0.3142	0.1248	0.0508
309	SLU 54		5.14	0.53	19.84	-0.3118	0.1252	0.0504
309	SLU 55		5.16	0.52	19.92	-0.3082	0.126	0.0498
309	SLU 56		5.31	0.55	20.45	-0.3243	0.1299	0.0524
309	SLU 57		5.32	0.55	20.52	-0.3219	0.1303	0.052
309	SLU 58		5.32	0.55	20.49	-0.3222	0.1305	0.0521
309	SLU 59		5.34	0.54	20.55	-0.3198	0.1309	0.0517
309	SLU 60		5.21	0.54	20.1	-0.3162	0.1266	0.0511
309	SLU 61		5.23	0.53	20.16	-0.3138	0.127	0.0507
309	SLU 62		5.4	0.55	20.77	-0.3263	0.1317	0.0528
309	SLU 63		5.41	0.55	20.83	-0.3239	0.1321	0.0524
309	SLU 64		4.92	0.52	19	-0.3041	0.1193	0.0492
309	SLU 65		4.94	0.51	19.11	-0.3001	0.12	0.0485
309	SLU 66		5.09	0.54	19.64	-0.3162	0.1239	0.0511
309	SLU 67		5.1	0.53	19.71	-0.3138	0.1243	0.0507
309	SLU 68		5.12	0.53	19.78	-0.3102	0.1251	0.0501
309	SLU 69		5.27	0.55	20.32	-0.3263	0.129	0.0528
309	SLU 70		5.28	0.55	20.38	-0.3239	0.1294	0.0524
309	SLU 71		5.28	0.55	20.35	-0.3242	0.1296	0.0524
309	SLU 72		5.3	0.54	20.42	-0.3218	0.13	0.052
309	SLU 73		5.54	0.57	21.35	-0.333	0.1349	0.0539
309	SLU 74		5.69	0.59	21.88	-0.3491	0.1389	0.0565
309	SLU 75		5.7	0.59	21.95	-0.3468	0.1392	0.0561
309	SLU 76		5.72	0.58	22.02	-0.3431	0.14	0.0555
309	SLU 77		5.87	0.61	22.56	-0.3592	0.144	0.0581
309	SLU 78		5.88	0.61	22.62	-0.3568	0.1444	0.0577
309	SLU 79		5.88	0.61	22.59	-0.3571	0.1445	0.0578
309	SLU 80		5.9	0.6	22.66	-0.3547	0.1449	0.0574
309	SLU 81		5.77	0.6	22.2	-0.3511	0.1407	0.0568
309	SLU 82		5.79	0.59	22.26	-0.3487	0.1411	0.0564
309	SLU 83		5.96	0.61	22.88	-0.3612	0.1458	0.0584
309	SLU 84		5.97	0.61	22.94	-0.3588	0.1462	0.058
309	SLE RA 1		3.66	0.38	14.16	-0.2262	0.0887	0.0366
309	SLE RA 2		3.67	0.38	14.22	-0.2236	0.0891	0.0361
309	SLE RA 3		3.77	0.4	14.58	-0.2343	0.0918	0.0379
309	SLE RA 4		3.78	0.39	14.62	-0.2327	0.092	0.0376
309	SLE RA 5		3.8	0.39	14.67	-0.2303	0.0926	0.0372
309	SLE RA 6		3.89	0.41	15.03	-0.241	0.0952	0.039
309	SLE RA 7		3.9	0.41	15.07	-0.2395	0.0954	0.0387
309	SLE RA 8		3.9	0.41	15.06	-0.2397	0.0955	0.0387
309	SLE RA 9		3.91	0.4	15.1	-0.2381	0.0958	0.0385
309	SLE RA 10		4.07	0.42	15.72	-0.2455	0.0991	0.0397
309	SLE RA 11		4.17	0.44	16.08	-0.2563	0.1017	0.0414
309	SLE RA 12		4.18	0.43	16.12	-0.2547	0.102	0.0412
309	SLE RA 13		4.2	0.43	16.17	-0.2522	0.1025	0.0408
309	SLE RA 14		4.29	0.45	16.53	-0.263	0.1051	0.0425
309	SLE RA 15		4.3	0.44	16.57	-0.2614	0.1054	0.0423
309	SLE RA 16		4.3	0.44	16.55	-0.2616	0.1055	0.0423
309	SLE RA 17		4.31	0.44	16.59	-0.26	0.1058	0.042
309	SLE RA 18		4.23	0.44	16.29	-0.2576	0.1029	0.0417
309	SLE RA 19		4.24	0.44	16.33	-0.256	0.1032	0.0414
309	SLE RA 20		4.35	0.45	16.74	-0.2643	0.1064	0.0427
309	SLE RA 21		4.36	0.45	16.78	-0.2627	0.1066	0.0425
309	SLE FR 1		3.66	0.38	14.16	-0.2262	0.0887	0.0366



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
309	SLE FR 2		3.66	0.38	14.17	-0.2257	0.0888	0.0365
309	SLE FR 3		3.71	0.39	14.34	-0.2289	0.0901	0.037
309	SLE FR 4		3.83	0.4	14.81	-0.2351	0.0931	0.038
309	SLE FR 5		3.88	0.4	14.98	-0.2383	0.0943	0.0385
309	SLE FR 6		3.95	0.41	15.22	-0.2419	0.0958	0.0391
309	SLE QP 1		3.66	0.38	14.16	-0.2262	0.0887	0.0366
309	SLE QP 2		3.83	0.4	14.8	-0.2356	0.093	0.0381
309	SLD 1		8.06	0.08	29.41	-0.1434	0.2153	0.0228
309	SLD 2		8.06	0.08	29.41	-0.1434	0.2153	0.0228
309	SLD 3		6.75	0.49	23.72	-0.2157	0.182	0.0355
309	SLD 4		6.75	0.49	23.72	-0.2157	0.182	0.0355
309	SLD 5		7.1	-0.31	27.81	-0.0984	0.1801	0.0143
309	SLD 6		7.1	-0.31	27.81	-0.0984	0.1801	0.0143
309	SLD 7		2.71	1.04	8.85	-0.3392	0.0692	0.0566
309	SLD 8		2.71	1.04	8.85	-0.3392	0.0692	0.0566
309	SLD 9		4.95	-0.24	20.74	-0.1321	0.1167	0.0196
309	SLD 10		4.95	-0.24	20.74	-0.1321	0.1167	0.0196
309	SLD 11		0.57	1.11	1.78	-0.3729	0.0058	0.0619
309	SLD 12		0.57	1.11	1.78	-0.3729	0.0058	0.0619
309	SLD 13		0.92	0.31	5.87	-0.2556	0.004	0.0407
309	SLD 14		0.92	0.31	5.87	-0.2556	0.004	0.0407
309	SLD 15		-0.4	0.72	0.18	-0.3279	-0.0293	0.0534
309	SLD 16		-0.4	0.72	0.18	-0.3279	-0.0293	0.0534
309	SLV 1		13.8	-0.39	49.37	-0.0184	0.3804	0.002
309	SLV 2		13.8	-0.39	49.37	-0.0184	0.3804	0.002
309	SLV 3		10.58	0.63	35.32	-0.1896	0.2998	0.0324
309	SLV 4		10.58	0.63	35.32	-0.1896	0.2998	0.0324
309	SLV 5		11.7	-1.37	46.47	0.0893	0.3014	-0.0189
309	SLV 6		11.7	-1.37	46.47	0.0893	0.3014	-0.0189
309	SLV 7		0.98	2.01	-0.35	-0.4816	0.0328	0.0825
309	SLV 8		0.98	2.01	-0.35	-0.4816	0.0328	0.0825
309	SLV 9		6.68	-1.21	29.94	0.0103	0.1532	-0.0063
309	SLV 10		6.68	-1.21	29.94	0.0103	0.1532	-0.0063
309	SLV 11		-4.03	2.17	-16.88	-0.5606	-0.1155	0.0951
309	SLV 12		-4.03	2.17	-16.88	-0.5606	-0.1155	0.0951
309	SLV 13		-2.92	0.17	-5.73	-0.2817	-0.1138	0.0438
309	SLV 14		-2.92	0.17	-5.73	-0.2817	-0.1138	0.0438
309	SLV 15		-6.13	1.19	-19.78	-0.4529	-0.1944	0.0742
309	SLV 16		-6.13	1.19	-19.78	-0.4529	-0.1944	0.0742
310	SLU 1		2.18	0.59	23.45	-0.3908	0.1009	-0.0013
310	SLU 2		2.19	0.58	23.54	-0.3838	0.102	-0.0013
310	SLU 3		2.28	0.63	24.46	-0.4128	0.1055	-0.0014
310	SLU 4		2.28	0.62	24.52	-0.4086	0.1062	-0.0014
310	SLU 5		2.3	0.61	24.56	-0.4021	0.1077	-0.0013
310	SLU 6		2.39	0.66	25.48	-0.4311	0.1112	-0.0014
310	SLU 7		2.39	0.65	25.54	-0.4269	0.1119	-0.0014
310	SLU 8		2.41	0.65	25.49	-0.4274	0.1123	-0.0014
310	SLU 9		2.41	0.64	25.55	-0.4232	0.1129	-0.0014
310	SLU 10		2.6	0.67	27.29	-0.4427	0.1216	-0.0015
310	SLU 11		2.68	0.72	28.21	-0.4718	0.1252	-0.0016
310	SLU 12		2.69	0.71	28.26	-0.4676	0.1258	-0.0016
310	SLU 13		2.71	0.7	28.3	-0.461	0.1273	-0.0015
310	SLU 14		2.79	0.75	29.23	-0.4901	0.1309	-0.0016
310	SLU 15		2.8	0.74	29.28	-0.4859	0.1315	-0.0016
310	SLU 16		2.81	0.74	29.23	-0.4863	0.1319	-0.0016
310	SLU 17		2.82	0.73	29.29	-0.4821	0.1326	-0.0016
310	SLU 18		2.76	0.72	28.8	-0.475	0.1289	-0.0016
310	SLU 19		2.77	0.72	28.85	-0.4708	0.1296	-0.0016
310	SLU 20		2.87	0.75	29.82	-0.4933	0.1346	-0.0016
310	SLU 21		2.88	0.74	29.87	-0.4891	0.1353	-0.0016
310	SLU 22		2.54	0.69	26.96	-0.4536	0.1182	-0.0015
310	SLU 23		2.55	0.68	27.05	-0.4465	0.1193	-0.0015
310	SLU 24		2.64	0.72	27.97	-0.4756	0.1228	-0.0016
310	SLU 25		2.64	0.72	28.02	-0.4714	0.1235	-0.0016
310	SLU 26		2.66	0.71	28.07	-0.4648	0.125	-0.0015
310	SLU 27		2.75	0.75	28.99	-0.4939	0.1285	-0.0016
310	SLU 28		2.75	0.74	29.04	-0.4896	0.1292	-0.0016
310	SLU 29		2.76	0.75	29	-0.4901	0.1296	-0.0016
310	SLU 30		2.77	0.74	29.05	-0.4859	0.1302	-0.0016
310	SLU 31		2.95	0.77	30.79	-0.5055	0.1389	-0.0017
310	SLU 32		3.04	0.81	31.71	-0.5345	0.1425	-0.0018
310	SLU 33		3.05	0.81	31.77	-0.5303	0.1431	-0.0018
310	SLU 34		3.07	0.8	31.81	-0.5237	0.1446	-0.0017
310	SLU 35		3.15	0.84	32.73	-0.5528	0.1482	-0.0018
310	SLU 36		3.16	0.83	32.79	-0.5486	0.1488	-0.0018
310	SLU 37		3.17	0.84	32.74	-0.5491	0.1492	-0.0018
310	SLU 38		3.17	0.83	32.8	-0.5448	0.1499	-0.0018
310	SLU 39		3.12	0.82	32.31	-0.5378	0.1462	-0.0018
310	SLU 40		3.13	0.81	32.36	-0.5335	0.1469	-0.0018
310	SLU 41		3.23	0.85	33.33	-0.5561	0.1519	-0.0019
310	SLU 42		3.24	0.84	33.38	-0.5518	0.1526	-0.0018
310	SLU 43		2.71	0.74	29.29	-0.4866	0.1252	-0.0016
310	SLU 44		2.72	0.73	29.38	-0.4795	0.1263	-0.0016
310	SLU 45		2.81	0.77	30.3	-0.5086	0.1299	-0.0017
310	SLU 46		2.81	0.77	30.35	-0.5044	0.1305	-0.0017
310	SLU 47		2.83	0.76	30.4	-0.4978	0.132	-0.0017
310	SLU 48		2.92	0.8	31.32	-0.5269	0.1356	-0.0018
310	SLU 49		2.92	0.79	31.37	-0.5226	0.1362	-0.0017
310	SLU 50		2.94	0.8	31.32	-0.5231	0.1366	-0.0017
310	SLU 51		2.94	0.79	31.38	-0.5189	0.1373	-0.0017



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
310	SLU 52		3.13	0.82	33.12	-0.5385	0.146	-0.0018
310	SLU 53		3.22	0.86	34.04	-0.5675	0.1495	-0.0019
310	SLU 54		3.22	0.86	34.09	-0.5633	0.1502	-0.0019
310	SLU 55		3.24	0.85	34.14	-0.5568	0.1517	-0.0019
310	SLU 56		3.33	0.89	35.06	-0.5858	0.1552	-0.002
310	SLU 57		3.33	0.88	35.11	-0.5816	0.1559	-0.0019
310	SLU 58		3.34	0.89	35.07	-0.5821	0.1563	-0.0019
310	SLU 59		3.35	0.88	35.12	-0.5779	0.1569	-0.0019
310	SLU 60		3.29	0.87	34.63	-0.5708	0.1533	-0.0019
310	SLU 61		3.3	0.86	34.69	-0.5665	0.1539	-0.0019
310	SLU 62		3.41	0.9	35.65	-0.5891	0.159	-0.002
310	SLU 63		3.41	0.89	35.71	-0.5848	0.1596	-0.0019
310	SLU 64		3.07	0.84	32.79	-0.5493	0.1425	-0.0018
310	SLU 65		3.08	0.82	32.88	-0.5422	0.1436	-0.0018
310	SLU 66		3.17	0.87	33.8	-0.5713	0.1472	-0.0019
310	SLU 67		3.17	0.86	33.86	-0.5671	0.1478	-0.0019
310	SLU 68		3.19	0.85	33.9	-0.5605	0.1493	-0.0019
310	SLU 69		3.28	0.9	34.82	-0.5896	0.1529	-0.002
310	SLU 70		3.28	0.89	34.88	-0.5854	0.1535	-0.0019
310	SLU 71		3.3	0.89	34.83	-0.5859	0.1539	-0.002
310	SLU 72		3.3	0.88	34.89	-0.5816	0.1546	-0.0019
310	SLU 73		3.49	0.91	36.63	-0.6012	0.1632	-0.002
310	SLU 74		3.57	0.96	37.55	-0.6303	0.1668	-0.0021
310	SLU 75		3.58	0.95	37.6	-0.626	0.1675	-0.0021
310	SLU 76		3.6	0.94	37.65	-0.6195	0.1689	-0.0021
310	SLU 77		3.69	0.99	38.57	-0.6486	0.1725	-0.0022
310	SLU 78		3.69	0.98	38.62	-0.6443	0.1731	-0.0021
310	SLU 79		3.7	0.98	38.58	-0.6448	0.1735	-0.0021
310	SLU 80		3.71	0.97	38.63	-0.6406	0.1742	-0.0021
310	SLU 81		3.65	0.96	38.14	-0.6335	0.1706	-0.0021
310	SLU 82		3.66	0.96	38.19	-0.6293	0.1712	-0.0021
310	SLU 83		3.77	0.99	39.16	-0.6518	0.1763	-0.0022
310	SLU 84		3.77	0.99	39.21	-0.6476	0.1769	-0.0022
310	SLE RA 1		2.29	0.62	24.45	-0.4087	0.1058	-0.0014
310	SLE RA 2		2.29	0.61	24.51	-0.404	0.1065	-0.0013
310	SLE RA 3		2.35	0.64	25.13	-0.4234	0.1089	-0.0014
310	SLE RA 4		2.35	0.64	25.16	-0.4206	0.1094	-0.0014
310	SLE RA 5		2.36	0.63	25.19	-0.4162	0.1103	-0.0014
310	SLE RA 6		2.42	0.66	25.81	-0.4356	0.1127	-0.0015
310	SLE RA 7		2.43	0.66	25.84	-0.4328	0.1132	-0.0014
310	SLE RA 8		2.43	0.66	25.81	-0.4331	0.1134	-0.0014
310	SLE RA 9		2.44	0.65	25.85	-0.4303	0.1139	-0.0014
310	SLE RA 10		2.56	0.67	27.01	-0.4433	0.1196	-0.0015
310	SLE RA 11		2.62	0.7	27.62	-0.4627	0.122	-0.0015
310	SLE RA 12		2.62	0.7	27.66	-0.4599	0.1225	-0.0015
310	SLE RA 13		2.63	0.69	27.69	-0.4555	0.1234	-0.0015
310	SLE RA 14		2.69	0.72	28.3	-0.4749	0.1258	-0.0016
310	SLE RA 15		2.7	0.72	28.34	-0.4721	0.1263	-0.0016
310	SLE RA 16		2.7	0.72	28.31	-0.4724	0.1265	-0.0016
310	SLE RA 17		2.71	0.71	28.35	-0.4696	0.1269	-0.0016
310	SLE RA 18		2.67	0.71	28.02	-0.4649	0.1245	-0.0016
310	SLE RA 19		2.67	0.7	28.06	-0.4621	0.125	-0.0015
310	SLE RA 20		2.75	0.73	28.7	-0.4771	0.1283	-0.0016
310	SLE RA 21		2.75	0.72	28.74	-0.4743	0.1288	-0.0016
310	SLE FR 1		2.29	0.62	24.45	-0.4087	0.1058	-0.0014
310	SLE FR 2		2.29	0.62	24.47	-0.4078	0.106	-0.0014
310	SLE FR 3		2.32	0.63	24.73	-0.4136	0.1073	-0.0014
310	SLE FR 4		2.4	0.65	25.54	-0.4246	0.1116	-0.0014
310	SLE FR 5		2.43	0.65	25.8	-0.4305	0.113	-0.0014
310	SLE FR 6		2.48	0.66	26.24	-0.4368	0.1152	-0.0015
310	SLE QP 1		2.29	0.62	24.45	-0.4087	0.1058	-0.0014
310	SLE QP 2		2.4	0.65	25.52	-0.4256	0.1114	-0.0014
310	SLD 1		6.39	0.37	43.73	-0.2491	0.3477	-0.0009
310	SLD 2		6.39	0.37	43.73	-0.2491	0.3477	-0.0009
310	SLD 3		5.53	0.58	35.87	-0.3823	0.2959	-0.0013
310	SLD 4		5.53	0.58	35.87	-0.3823	0.2959	-0.0013
310	SLD 5		4.91	0.25	42.9	-0.1708	0.2608	-0.0007
310	SLD 6		4.91	0.25	42.9	-0.1708	0.2608	-0.0007
310	SLD 7		2.03	0.94	16.71	-0.6145	0.0883	-0.0019
310	SLD 8		2.03	0.94	16.71	-0.6145	0.0883	-0.0019
310	SLD 9		2.77	0.35	34.34	-0.2367	0.1346	-0.0009
310	SLD 10		2.77	0.35	34.34	-0.2367	0.1346	-0.0009
310	SLD 11		-0.11	1.05	8.15	-0.6804	-0.0379	-0.0022
310	SLD 12		-0.11	1.05	8.15	-0.6804	-0.0379	-0.0022
310	SLD 13		-0.73	0.71	15.18	-0.4689	-0.073	-0.0016
310	SLD 14		-0.73	0.71	15.18	-0.4689	-0.073	-0.0016
310	SLD 15		-1.59	0.92	7.32	-0.602	-0.1248	-0.002
310	SLD 16		-1.59	0.92	7.32	-0.602	-0.1248	-0.002
310	SLV 1		11.76	0	68.65	-0.0094	0.6659	-0.0002
310	SLV 2		11.76	0	68.65	-0.0094	0.6659	-0.0002
310	SLV 3		9.71	0.49	49.24	-0.3252	0.5422	-0.0011
310	SLV 4		9.71	0.49	49.24	-0.3252	0.5422	-0.0011
310	SLV 5		8.32	-0.29	67.89	0.1782	0.4653	0.0003
310	SLV 6		8.32	-0.29	67.89	0.1782	0.4653	0.0003
310	SLV 7		1.48	1.34	3.2	-0.8744	0.0531	-0.0027
310	SLV 8		1.48	1.34	3.2	-0.8744	0.0531	-0.0027
310	SLV 9		3.33	-0.05	47.84	0.0233	0.1697	-0.0002
310	SLV 10		3.33	-0.05	47.84	0.0233	0.1697	-0.0002
310	SLV 11		-3.52	1.58	-16.85	-1.0294	-0.2424	-0.0032
310	SLV 12		-3.52	1.58	-16.85	-1.0294	-0.2424	-0.0032



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
310	SLV 13			-4.9	0.8	1.81	-0.526	-0.3193	-0.0018
310	SLV 14			-4.9	0.8	1.81	-0.526	-0.3193	-0.0018
310	SLV 15			-6.96	1.29	-17.6	-0.8418	-0.443	-0.0027
310	SLV 16			-6.96	1.29	-17.6	-0.8418	-0.443	-0.0027
311	SLU 1			0.94	0.36	23.08	-0.3171	0.0426	0.0006
311	SLU 2			0.94	0.36	23.04	-0.3114	0.0434	0.0006
311	SLU 3			1	0.38	23.95	-0.3351	0.0463	0.0007
311	SLU 4			1	0.38	23.93	-0.3316	0.0467	0.0007
311	SLU 5			1.03	0.37	23.87	-0.3263	0.0485	0.0007
311	SLU 6			1.08	0.4	24.77	-0.3499	0.0514	0.0007
311	SLU 7			1.09	0.4	24.75	-0.3465	0.0519	0.0007
311	SLU 8			1.11	0.4	24.73	-0.3469	0.0529	0.0007
311	SLU 9			1.12	0.39	24.71	-0.3435	0.0534	0.0007
311	SLU 10			1.15	0.41	26.63	-0.3585	0.0527	0.0007
311	SLU 11			1.2	0.44	27.54	-0.3821	0.0556	0.0008
311	SLU 12			1.21	0.43	27.52	-0.3787	0.056	0.0008
311	SLU 13			1.24	0.43	27.46	-0.3734	0.0578	0.0008
311	SLU 14			1.29	0.45	28.36	-0.397	0.0607	0.0008
311	SLU 15			1.29	0.45	28.34	-0.3936	0.0612	0.0008
311	SLU 16			1.32	0.45	28.32	-0.394	0.0622	0.0008
311	SLU 17			1.32	0.45	28.3	-0.3906	0.0626	0.0008
311	SLU 18			1.23	0.44	28.21	-0.3844	0.0559	0.0008
311	SLU 19			1.24	0.44	28.19	-0.381	0.0564	0.0008
311	SLU 20			1.32	0.46	29.03	-0.3993	0.061	0.0008
311	SLU 21			1.32	0.45	29.01	-0.3959	0.0615	0.0008
311	SLU 22			1.12	0.42	26.4	-0.3675	0.0512	0.0007
311	SLU 23			1.12	0.41	26.37	-0.3618	0.052	0.0007
311	SLU 24			1.17	0.44	27.27	-0.3854	0.0549	0.0008
311	SLU 25			1.18	0.44	27.25	-0.382	0.0553	0.0008
311	SLU 26			1.21	0.43	27.19	-0.3767	0.0571	0.0008
311	SLU 27			1.26	0.46	28.1	-0.4003	0.06	0.0008
311	SLU 28			1.26	0.45	28.08	-0.3969	0.0604	0.0008
311	SLU 29			1.29	0.45	28.06	-0.3973	0.0615	0.0008
311	SLU 30			1.29	0.45	28.03	-0.3939	0.0619	0.0008
311	SLU 31			1.33	0.47	29.96	-0.4089	0.0613	0.0008
311	SLU 32			1.38	0.5	30.86	-0.4325	0.0641	0.0009
311	SLU 33			1.38	0.49	30.84	-0.4291	0.0646	0.0009
311	SLU 34			1.41	0.48	30.79	-0.4238	0.0664	0.0009
311	SLU 35			1.47	0.51	31.69	-0.4474	0.0693	0.0009
311	SLU 36			1.47	0.51	31.67	-0.444	0.0697	0.0009
311	SLU 37			1.49	0.51	31.65	-0.4444	0.0708	0.0009
311	SLU 38			1.5	0.5	31.63	-0.4409	0.0712	0.0009
311	SLU 39			1.41	0.5	31.53	-0.4348	0.0645	0.0009
311	SLU 40			1.41	0.49	31.51	-0.4314	0.0649	0.0009
311	SLU 41			1.5	0.51	32.36	-0.4497	0.0696	0.0009
311	SLU 42			1.5	0.51	32.34	-0.4462	0.0701	0.0009
311	SLU 43			1.16	0.45	28.86	-0.395	0.0525	0.0008
311	SLU 44			1.17	0.45	28.83	-0.3893	0.0533	0.0008
311	SLU 45			1.22	0.47	29.73	-0.4129	0.0561	0.0008
311	SLU 46			1.22	0.47	29.71	-0.4095	0.0566	0.0008
311	SLU 47			1.25	0.46	29.65	-0.4042	0.0584	0.0008
311	SLU 48			1.3	0.49	30.55	-0.4278	0.0613	0.0009
311	SLU 49			1.31	0.49	30.53	-0.4244	0.0617	0.0009
311	SLU 50			1.33	0.49	30.51	-0.4248	0.0628	0.0009
311	SLU 51			1.34	0.48	30.49	-0.4213	0.0632	0.0009
311	SLU 52			1.37	0.5	32.42	-0.4364	0.0626	0.0009
311	SLU 53			1.42	0.53	33.32	-0.46	0.0654	0.0009
311	SLU 54			1.43	0.52	33.3	-0.4566	0.0659	0.0009
311	SLU 55			1.46	0.52	33.24	-0.4513	0.0677	0.0009
311	SLU 56			1.51	0.54	34.15	-0.4749	0.0705	0.001
311	SLU 57			1.51	0.54	34.12	-0.4715	0.071	0.001
311	SLU 58			1.54	0.54	34.1	-0.4718	0.072	0.001
311	SLU 59			1.54	0.54	34.08	-0.4684	0.0725	0.001
311	SLU 60			1.45	0.53	33.99	-0.4623	0.0658	0.0009
311	SLU 61			1.46	0.53	33.97	-0.4589	0.0662	0.0009
311	SLU 62			1.54	0.55	34.82	-0.4772	0.0709	0.001
311	SLU 63			1.54	0.54	34.8	-0.4737	0.0713	0.001
311	SLU 64			1.34	0.51	32.19	-0.4454	0.0611	0.0009
311	SLU 65			1.34	0.5	32.15	-0.4397	0.0618	0.0009
311	SLU 66			1.4	0.53	33.06	-0.4633	0.0647	0.0009
311	SLU 67			1.4	0.53	33.03	-0.4599	0.0652	0.0009
311	SLU 68			1.43	0.52	32.98	-0.4546	0.067	0.0009
311	SLU 69			1.48	0.55	33.88	-0.4782	0.0698	0.001
311	SLU 70			1.48	0.54	33.86	-0.4748	0.0703	0.001
311	SLU 71			1.51	0.54	33.84	-0.4751	0.0713	0.001
311	SLU 72			1.51	0.54	33.82	-0.4717	0.0718	0.001
311	SLU 73			1.55	0.56	35.74	-0.4868	0.0711	0.001
311	SLU 74			1.6	0.58	36.65	-0.5104	0.074	0.001
311	SLU 75			1.6	0.58	36.63	-0.507	0.0745	0.001
311	SLU 76			1.64	0.57	36.57	-0.5017	0.0763	0.001
311	SLU 77			1.69	0.6	37.47	-0.5253	0.0791	0.0011
311	SLU 78			1.69	0.6	37.45	-0.5219	0.0796	0.0011
311	SLU 79			1.72	0.6	37.43	-0.5222	0.0806	0.0011
311	SLU 80			1.72	0.59	37.41	-0.5188	0.0811	0.0011
311	SLU 81			1.63	0.59	37.32	-0.5126	0.0743	0.001
311	SLU 82			1.63	0.58	37.3	-0.5092	0.0748	0.001
311	SLU 83			1.72	0.6	38.14	-0.5275	0.0795	0.0011
311	SLU 84			1.72	0.6	38.12	-0.5241	0.0799	0.0011
311	SLE RA 1			0.99	0.38	24.03	-0.3315	0.0451	0.0007
311	SLE RA 2			0.99	0.38	24.01	-0.3277	0.0456	0.0007



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
311	SLE RA 3	1.03	0.39	24.61	-0.3435	0.0475	0.0007
311	SLE RA 4	1.03	0.39	24.59	-0.3412	0.0478	0.0007
311	SLE RA 5	1.05	0.39	24.56	-0.3377	0.049	0.0007
311	SLE RA 6	1.09	0.4	25.16	-0.3534	0.0509	0.0007
311	SLE RA 7	1.09	0.4	25.14	-0.3511	0.0512	0.0007
311	SLE RA 8	1.1	0.4	25.13	-0.3514	0.0519	0.0007
311	SLE RA 9	1.11	0.4	25.12	-0.3491	0.0522	0.0007
311	SLE RA 10	1.13	0.41	26.4	-0.3591	0.0518	0.0007
311	SLE RA 11	1.17	0.43	27	-0.3749	0.0537	0.0008
311	SLE RA 12	1.17	0.43	26.99	-0.3726	0.054	0.0008
311	SLE RA 13	1.19	0.42	26.95	-0.369	0.0552	0.0007
311	SLE RA 14	1.22	0.44	27.55	-0.3848	0.0571	0.0008
311	SLE RA 15	1.23	0.44	27.54	-0.3825	0.0574	0.0008
311	SLE RA 16	1.24	0.44	27.52	-0.3828	0.0581	0.0008
311	SLE RA 17	1.24	0.44	27.51	-0.3805	0.0584	0.0008
311	SLE RA 18	1.19	0.43	27.45	-0.3764	0.0539	0.0008
311	SLE RA 19	1.19	0.43	27.43	-0.3741	0.0542	0.0008
311	SLE RA 20	1.24	0.44	28	-0.3863	0.0573	0.0008
311	SLE RA 21	1.25	0.44	27.99	-0.384	0.0577	0.0008
311	SLE FR 1	0.99	0.38	24.03	-0.3315	0.0451	0.0007
311	SLE FR 2	0.99	0.38	24.02	-0.3308	0.0452	0.0007
311	SLE FR 3	1.01	0.38	24.25	-0.3355	0.0465	0.0007
311	SLE FR 4	1.05	0.39	25.05	-0.3442	0.0478	0.0007
311	SLE FR 5	1.07	0.4	25.27	-0.3489	0.0491	0.0007
311	SLE FR 6	1.09	0.41	25.74	-0.3539	0.0495	0.0007
311	SLE QP 1	0.99	0.38	24.03	-0.3315	0.0451	0.0007
311	SLE QP 2	1.05	0.4	25.05	-0.345	0.0477	0.0007
311	SLD 1	5.5	0.15	35.4	-0.1484	0.2562	0.0007
311	SLD 2	5.5	0.15	35.4	-0.1484	0.2562	0.0007
311	SLD 3	4.5	0.38	30.67	-0.3322	0.2132	0.001
311	SLD 4	4.5	0.38	30.67	-0.3322	0.2132	0.001
311	SLD 5	3.91	-0.02	35.33	-0.0073	0.1756	0.0003
311	SLD 6	3.91	-0.02	35.33	-0.0073	0.1756	0.0003
311	SLD 7	0.56	0.73	19.57	-0.6199	0.032	0.0012
311	SLD 8	0.56	0.73	19.57	-0.6199	0.032	0.0012
311	SLD 9	1.53	0.06	30.54	-0.0701	0.0635	0.0002
311	SLD 10	1.53	0.06	30.54	-0.0701	0.0635	0.0002
311	SLD 11	-1.81	0.81	14.78	-0.6827	-0.0801	0.0011
311	SLD 12	-1.81	0.81	14.78	-0.6827	-0.0801	0.0011
311	SLD 13	-2.4	0.41	19.44	-0.3578	-0.1177	0.0004
311	SLD 14	-2.4	0.41	19.44	-0.3578	-0.1177	0.0004
311	SLD 15	-3.41	0.64	14.71	-0.5416	-0.1607	0.0007
311	SLD 16	-3.41	0.64	14.71	-0.5416	-0.1607	0.0007
311	SLV 1	11.51	-0.19	49.54	0.1302	0.5364	0.0008
311	SLV 2	11.51	-0.19	49.54	0.1302	0.5364	0.0008
311	SLV 3	9.1	0.36	37.97	-0.3231	0.4338	0.0014
311	SLV 4	9.1	0.36	37.97	-0.3231	0.4338	0.0014
311	SLV 5	7.85	-0.62	49.95	0.4849	0.35	-0.0002
311	SLV 6	7.85	-0.62	49.95	0.4849	0.35	-0.0002
311	SLV 7	-0.2	1.22	11.38	-1.0258	0.0079	0.0019
311	SLV 8	-0.2	1.22	11.38	-1.0258	0.0079	0.0019
311	SLV 9	2.3	-0.43	38.73	0.3358	0.0875	-0.0005
311	SLV 10	2.3	-0.43	38.73	0.3358	0.0875	-0.0005
311	SLV 11	-5.75	1.41	0.16	-1.1749	-0.2545	0.0016
311	SLV 12	-5.75	1.41	0.16	-1.1749	-0.2545	0.0016
311	SLV 13	-7	0.43	12.14	-0.3669	-0.3383	0
311	SLV 14	-7	0.43	12.14	-0.3669	-0.3383	0
311	SLV 15	-9.42	0.98	0.57	-0.8201	-0.4409	0.0006
311	SLV 16	-9.42	0.98	0.57	-0.8201	-0.4409	0.0006
312	SLU 1	-0.33	0.29	23.14	-0.2581	-0.0162	0.0007
312	SLU 2	-0.33	0.29	23	-0.2533	-0.0153	0.0007
312	SLU 3	-0.33	0.31	23.91	-0.2726	-0.0159	0.0007
312	SLU 4	-0.32	0.31	23.82	-0.2697	-0.0154	0.0007
312	SLU 5	-0.28	0.3	23.69	-0.2653	-0.0134	0.0007
312	SLU 6	-0.28	0.32	24.6	-0.2846	-0.014	0.0008
312	SLU 7	-0.28	0.32	24.52	-0.2818	-0.0134	0.0008
312	SLU 8	-0.25	0.32	24.53	-0.2821	-0.0123	0.0008
312	SLU 9	-0.24	0.32	24.44	-0.2793	-0.0118	0.0008
312	SLU 10	-0.34	0.33	26.55	-0.2908	-0.0157	0.0008
312	SLU 11	-0.34	0.35	27.46	-0.3101	-0.0163	0.0008
312	SLU 12	-0.34	0.35	27.38	-0.3072	-0.0158	0.0008
312	SLU 13	-0.3	0.34	27.25	-0.3028	-0.0138	0.0008
312	SLU 14	-0.3	0.37	28.16	-0.3221	-0.0144	0.0009
312	SLU 15	-0.29	0.36	28.07	-0.3192	-0.0139	0.0009
312	SLU 16	-0.26	0.36	28.08	-0.3196	-0.0127	0.0009
312	SLU 17	-0.25	0.36	28	-0.3167	-0.0122	0.0009
312	SLU 18	-0.35	0.35	28.21	-0.3116	-0.0168	0.0008
312	SLU 19	-0.35	0.35	28.13	-0.3087	-0.0162	0.0008
312	SLU 20	-0.31	0.37	28.91	-0.3236	-0.0148	0.0009
312	SLU 21	-0.3	0.36	28.82	-0.3207	-0.0143	0.0009
312	SLU 22	-0.36	0.34	26.38	-0.2984	-0.0174	0.0008
312	SLU 23	-0.36	0.33	26.24	-0.2936	-0.0165	0.0008
312	SLU 24	-0.36	0.36	27.15	-0.3129	-0.0171	0.0009
312	SLU 25	-0.35	0.35	27.07	-0.3101	-0.0166	0.0008
312	SLU 26	-0.31	0.35	26.94	-0.3056	-0.0146	0.0008
312	SLU 27	-0.31	0.37	27.85	-0.325	-0.0152	0.0009
312	SLU 28	-0.31	0.37	27.77	-0.3221	-0.0146	0.0009
312	SLU 29	-0.27	0.37	27.78	-0.3224	-0.0135	0.0009
312	SLU 30	-0.27	0.36	27.69	-0.3196	-0.0129	0.0009
312	SLU 31	-0.37	0.38	29.8	-0.3311	-0.0169	0.0009



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
312	SLU 32	-0.37	0.4	30.71	-0.3504	-0.0175	0.001
312	SLU 33	-0.36	0.39	30.63	-0.3475	-0.017	0.0009
312	SLU 34	-0.32	0.39	30.49	-0.3431	-0.015	0.0009
312	SLU 35	-0.32	0.41	31.4	-0.3624	-0.0156	0.001
312	SLU 36	-0.32	0.41	31.32	-0.3596	-0.0151	0.001
312	SLU 37	-0.29	0.41	31.33	-0.3599	-0.0139	0.001
312	SLU 38	-0.28	0.4	31.25	-0.357	-0.0134	0.001
312	SLU 39	-0.38	0.4	31.46	-0.3519	-0.018	0.001
312	SLU 40	-0.38	0.4	31.38	-0.349	-0.0174	0.001
312	SLU 41	-0.34	0.41	32.16	-0.3639	-0.016	0.001
312	SLU 42	-0.33	0.41	32.07	-0.3611	-0.0155	0.001
312	SLU 43	-0.43	0.37	28.96	-0.3216	-0.0206	0.0009
312	SLU 44	-0.42	0.36	28.82	-0.3169	-0.0197	0.0009
312	SLU 45	-0.42	0.38	29.73	-0.3362	-0.0203	0.0009
312	SLU 46	-0.41	0.38	29.65	-0.3333	-0.0198	0.0009
312	SLU 47	-0.37	0.37	29.52	-0.3289	-0.0178	0.0009
312	SLU 48	-0.37	0.4	30.43	-0.3482	-0.0184	0.001
312	SLU 49	-0.37	0.39	30.34	-0.3454	-0.0179	0.0009
312	SLU 50	-0.34	0.39	30.35	-0.3457	-0.0167	0.0009
312	SLU 51	-0.33	0.39	30.27	-0.3428	-0.0162	0.0009
312	SLU 52	-0.43	0.4	32.38	-0.3543	-0.0202	0.001
312	SLU 53	-0.43	0.42	33.29	-0.3737	-0.0208	0.001
312	SLU 54	-0.43	0.42	33.2	-0.3708	-0.0202	0.001
312	SLU 55	-0.39	0.42	33.07	-0.3664	-0.0182	0.001
312	SLU 56	-0.39	0.44	33.98	-0.3857	-0.0188	0.0011
312	SLU 57	-0.38	0.43	33.9	-0.3828	-0.0183	0.001
312	SLU 58	-0.35	0.44	33.91	-0.3832	-0.0171	0.001
312	SLU 59	-0.35	0.43	33.82	-0.3803	-0.0166	0.001
312	SLU 60	-0.44	0.43	34.04	-0.3752	-0.0212	0.001
312	SLU 61	-0.44	0.42	33.96	-0.3723	-0.0207	0.001
312	SLU 62	-0.4	0.44	34.74	-0.3872	-0.0192	0.0011
312	SLU 63	-0.4	0.44	34.65	-0.3843	-0.0187	0.001
312	SLU 64	-0.45	0.41	32.21	-0.362	-0.0218	0.001
312	SLU 65	-0.45	0.41	32.07	-0.3572	-0.0209	0.001
312	SLU 66	-0.45	0.43	32.98	-0.3765	-0.0215	0.001
312	SLU 67	-0.44	0.42	32.9	-0.3737	-0.021	0.001
312	SLU 68	-0.4	0.42	32.77	-0.3692	-0.019	0.001
312	SLU 69	-0.4	0.44	33.68	-0.3885	-0.0196	0.0011
312	SLU 70	-0.4	0.44	33.59	-0.3857	-0.0191	0.0011
312	SLU 71	-0.36	0.44	33.6	-0.386	-0.0179	0.0011
312	SLU 72	-0.36	0.43	33.52	-0.3832	-0.0174	0.001
312	SLU 73	-0.46	0.45	35.63	-0.3947	-0.0214	0.0011
312	SLU 74	-0.46	0.47	36.54	-0.414	-0.022	0.0011
312	SLU 75	-0.45	0.47	36.45	-0.4111	-0.0214	0.0011
312	SLU 76	-0.41	0.46	36.32	-0.4067	-0.0194	0.0011
312	SLU 77	-0.41	0.48	37.23	-0.426	-0.02	0.0012
312	SLU 78	-0.41	0.48	37.15	-0.4231	-0.0195	0.0012
312	SLU 79	-0.38	0.48	37.16	-0.4235	-0.0183	0.0012
312	SLU 80	-0.37	0.48	37.07	-0.4206	-0.0178	0.0011
312	SLU 81	-0.47	0.47	37.29	-0.4155	-0.0224	0.0011
312	SLU 82	-0.47	0.47	37.21	-0.4126	-0.0219	0.0011
312	SLU 83	-0.43	0.49	37.98	-0.4275	-0.0204	0.0012
312	SLU 84	-0.42	0.48	37.9	-0.4247	-0.0199	0.0012
312	SLE RA 1	-0.34	0.31	24.06	-0.2696	-0.0165	0.0007
312	SLE RA 2	-0.34	0.3	23.97	-0.2664	-0.0159	0.0007
312	SLE RA 3	-0.34	0.32	24.58	-0.2793	-0.0163	0.0008
312	SLE RA 4	-0.34	0.31	24.52	-0.2774	-0.016	0.0008
312	SLE RA 5	-0.31	0.31	24.43	-0.2744	-0.0146	0.0007
312	SLE RA 6	-0.31	0.33	25.04	-0.2873	-0.015	0.0008
312	SLE RA 7	-0.31	0.32	24.98	-0.2854	-0.0147	0.0008
312	SLE RA 8	-0.28	0.32	24.99	-0.2856	-0.0139	0.0008
312	SLE RA 9	-0.28	0.32	24.93	-0.2837	-0.0136	0.0008
312	SLE RA 10	-0.35	0.33	26.34	-0.2914	-0.0162	0.0008
312	SLE RA 11	-0.35	0.35	26.95	-0.3042	-0.0166	0.0008
312	SLE RA 12	-0.34	0.34	26.89	-0.3023	-0.0163	0.0008
312	SLE RA 13	-0.32	0.34	26.8	-0.2994	-0.0149	0.0008
312	SLE RA 14	-0.32	0.35	27.41	-0.3123	-0.0153	0.0009
312	SLE RA 15	-0.31	0.35	27.35	-0.3104	-0.015	0.0008
312	SLE RA 16	-0.29	0.35	27.36	-0.3106	-0.0142	0.0008
312	SLE RA 17	-0.29	0.35	27.3	-0.3087	-0.0138	0.0008
312	SLE RA 18	-0.35	0.35	27.45	-0.3053	-0.0169	0.0008
312	SLE RA 19	-0.35	0.34	27.39	-0.3034	-0.0166	0.0008
312	SLE RA 20	-0.33	0.36	27.91	-0.3133	-0.0156	0.0009
312	SLE RA 21	-0.32	0.35	27.86	-0.3114	-0.0153	0.0008
312	SLE FR 1	-0.34	0.31	24.06	-0.2696	-0.0165	0.0007
312	SLE FR 2	-0.34	0.31	24.04	-0.2689	-0.0164	0.0007
312	SLE FR 3	-0.33	0.31	24.25	-0.2728	-0.016	0.0007
312	SLE FR 4	-0.35	0.32	25.06	-0.2796	-0.0165	0.0008
312	SLE FR 5	-0.33	0.32	25.26	-0.2835	-0.0161	0.0008
312	SLE FR 6	-0.35	0.33	25.76	-0.2874	-0.0167	0.0008
312	SLE QP 1	-0.34	0.31	24.06	-0.2696	-0.0165	0.0007
312	SLE QP 2	-0.35	0.32	25.08	-0.2803	-0.0166	0.0008
312	SLD 1	4.89	0.06	28.08	-0.0586	0.2331	0.0002
312	SLD 2	4.89	0.06	28.08	-0.0586	0.2331	0.0002
312	SLD 3	3.78	0.33	30.76	-0.2972	0.1845	0.0008
312	SLD 4	3.78	0.33	30.76	-0.2972	0.1845	0.0008
312	SLD 5	2.9	-0.16	21.92	0.1483	0.132	-0.0003
312	SLD 6	2.9	-0.16	21.92	0.1483	0.132	-0.0003
312	SLD 7	-0.78	0.73	30.84	-0.6474	-0.03	0.0017
312	SLD 8	-0.78	0.73	30.84	-0.6474	-0.03	0.0017



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
312	SLD 9	0.09	-0.09	19.32	0.0868	-0.0032	-0.0002
312	SLD 10	0.09	-0.09	19.32	0.0868	-0.0032	-0.0002
312	SLD 11	-3.59	0.8	28.23	-0.7088	-0.1653	0.0019
312	SLD 12	-3.59	0.8	28.23	-0.7088	-0.1653	0.0019
312	SLD 13	-4.48	0.31	19.4	-0.2633	-0.2177	0.0007
312	SLD 14	-4.48	0.31	19.4	-0.2633	-0.2177	0.0007
312	SLD 15	-5.58	0.57	22.07	-0.502	-0.2663	0.0013
312	SLD 16	-5.58	0.57	22.07	-0.502	-0.2663	0.0013
312	SLV 1	11.95	-0.31	32.09	0.2638	0.5691	-0.0006
312	SLV 2	11.95	-0.31	32.09	0.2638	0.5691	-0.0006
312	SLV 3	9.29	0.36	38.44	-0.3322	0.4534	0.0009
312	SLV 4	9.29	0.36	38.44	-0.3322	0.4534	0.0009
312	SLV 5	7.38	-0.88	17.56	0.7869	0.3346	-0.002
312	SLV 6	7.38	-0.88	17.56	0.7869	0.3346	-0.002
312	SLV 7	-1.49	1.34	38.71	-1.1998	-0.0512	0.0031
312	SLV 8	-1.49	1.34	38.71	-1.1998	-0.0512	0.0031
312	SLV 9	0.8	-0.7	11.44	0.6392	0.0179	-0.0016
312	SLV 10	0.8	-0.7	11.44	0.6392	0.0179	-0.0016
312	SLV 11	-8.07	1.51	32.6	-1.3474	-0.3679	0.0035
312	SLV 12	-8.07	1.51	32.6	-1.3474	-0.3679	0.0035
312	SLV 13	-9.98	0.28	11.72	-0.2284	-0.4866	0.0006
312	SLV 14	-9.98	0.28	11.72	-0.2284	-0.4866	0.0006
312	SLV 15	-12.64	0.94	18.07	-0.8243	-0.6023	0.0022
312	SLV 16	-12.64	0.94	18.07	-0.8243	-0.6023	0.0022
313	SLU 1	-1.17	0.25	22.77	-0.2126	-0.0463	0.0007
313	SLU 2	-1.17	0.24	22.53	-0.2083	-0.0457	0.0006
313	SLU 3	-1.17	0.26	23.44	-0.2244	-0.0455	0.0007
313	SLU 4	-1.17	0.26	23.3	-0.2218	-0.0452	0.0007
313	SLU 5	-1.12	0.25	23.11	-0.218	-0.0427	0.0007
313	SLU 6	-1.13	0.27	24.01	-0.234	-0.0425	0.0007
313	SLU 7	-1.13	0.27	23.87	-0.2315	-0.0422	0.0007
313	SLU 8	-1.08	0.27	23.92	-0.2319	-0.0403	0.0007
313	SLU 9	-1.08	0.27	23.78	-0.2294	-0.0399	0.0007
313	SLU 10	-1.35	0.28	25.98	-0.2382	-0.0528	0.0007
313	SLU 11	-1.36	0.3	26.89	-0.2542	-0.0526	0.0008
313	SLU 12	-1.35	0.29	26.75	-0.2517	-0.0522	0.0008
313	SLU 13	-1.31	0.29	26.56	-0.2479	-0.0498	0.0008
313	SLU 14	-1.31	0.31	27.46	-0.2639	-0.0496	0.0008
313	SLU 15	-1.31	0.31	27.32	-0.2614	-0.0492	0.0008
313	SLU 16	-1.27	0.31	27.37	-0.2618	-0.0473	0.0008
313	SLU 17	-1.27	0.3	27.23	-0.2592	-0.047	0.0008
313	SLU 18	-1.43	0.3	27.7	-0.2552	-0.0564	0.0008
313	SLU 19	-1.43	0.3	27.56	-0.2527	-0.056	0.0008
313	SLU 20	-1.39	0.31	28.27	-0.2649	-0.0534	0.0008
313	SLU 21	-1.38	0.31	28.13	-0.2624	-0.053	0.0008
313	SLU 22	-1.34	0.29	25.88	-0.2449	-0.0524	0.0008
313	SLU 23	-1.33	0.28	25.65	-0.2407	-0.0518	0.0007
313	SLU 24	-1.34	0.3	26.55	-0.2568	-0.0516	0.0008
313	SLU 25	-1.34	0.3	26.41	-0.2542	-0.0513	0.0008
313	SLU 26	-1.29	0.29	26.22	-0.2504	-0.0488	0.0008
313	SLU 27	-1.3	0.31	27.13	-0.2664	-0.0486	0.0008
313	SLU 28	-1.3	0.31	26.99	-0.2639	-0.0483	0.0008
313	SLU 29	-1.25	0.31	27.03	-0.2643	-0.0464	0.0008
313	SLU 30	-1.25	0.31	26.89	-0.2618	-0.046	0.0008
313	SLU 31	-1.52	0.32	29.1	-0.2706	-0.0589	0.0008
313	SLU 32	-1.52	0.34	30.01	-0.2866	-0.0587	0.0009
313	SLU 33	-1.52	0.33	29.86	-0.2841	-0.0583	0.0009
313	SLU 34	-1.48	0.33	29.67	-0.2803	-0.0559	0.0009
313	SLU 35	-1.48	0.35	30.58	-0.2963	-0.0557	0.0009
313	SLU 36	-1.48	0.34	30.44	-0.2938	-0.0553	0.0009
313	SLU 37	-1.44	0.34	30.48	-0.2942	-0.0534	0.0009
313	SLU 38	-1.43	0.34	30.34	-0.2916	-0.0531	0.0009
313	SLU 39	-1.6	0.34	30.81	-0.2876	-0.0625	0.0009
313	SLU 40	-1.59	0.33	30.67	-0.2851	-0.0621	0.0009
313	SLU 41	-1.55	0.35	31.39	-0.2973	-0.0595	0.0009
313	SLU 42	-1.55	0.34	31.25	-0.2948	-0.0591	0.0009
313	SLU 43	-1.46	0.31	28.53	-0.2652	-0.0581	0.0008
313	SLU 44	-1.46	0.31	28.29	-0.261	-0.0575	0.0008
313	SLU 45	-1.47	0.32	29.2	-0.277	-0.0573	0.0009
313	SLU 46	-1.46	0.32	29.06	-0.2745	-0.057	0.0009
313	SLU 47	-1.42	0.32	28.87	-0.2706	-0.0545	0.0008
313	SLU 48	-1.42	0.34	29.77	-0.2867	-0.0543	0.0009
313	SLU 49	-1.42	0.33	29.63	-0.2841	-0.054	0.0009
313	SLU 50	-1.38	0.33	29.68	-0.2846	-0.0521	0.0009
313	SLU 51	-1.38	0.33	29.54	-0.282	-0.0517	0.0009
313	SLU 52	-1.64	0.34	31.75	-0.2908	-0.0646	0.0009
313	SLU 53	-1.65	0.36	32.65	-0.3069	-0.0644	0.001
313	SLU 54	-1.65	0.36	32.51	-0.3043	-0.064	0.0009
313	SLU 55	-1.6	0.35	32.32	-0.3005	-0.0616	0.0009
313	SLU 56	-1.61	0.37	33.23	-0.3166	-0.0614	0.001
313	SLU 57	-1.61	0.37	33.09	-0.314	-0.061	0.001
313	SLU 58	-1.56	0.37	33.13	-0.3144	-0.0591	0.001
313	SLU 59	-1.56	0.36	32.99	-0.3119	-0.0588	0.001
313	SLU 60	-1.72	0.36	33.46	-0.3079	-0.0682	0.001
313	SLU 61	-1.72	0.36	33.32	-0.3053	-0.0678	0.001
313	SLU 62	-1.68	0.37	34.04	-0.3176	-0.0652	0.001
313	SLU 63	-1.68	0.37	33.89	-0.315	-0.0648	0.001
313	SLU 64	-1.63	0.35	31.65	-0.2976	-0.0642	0.0009
313	SLU 65	-1.63	0.34	31.41	-0.2934	-0.0636	0.0009
313	SLU 66	-1.63	0.36	32.32	-0.3094	-0.0634	0.001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
313	SLU 67			-1.63	0.36	32.17	-0.3069	-0.0631	0.001
313	SLU 68			-1.59	0.35	31.98	-0.303	-0.0606	0.0009
313	SLU 69			-1.59	0.37	32.89	-0.3191	-0.0604	0.001
313	SLU 70			-1.59	0.37	32.75	-0.3165	-0.0601	0.001
313	SLU 71			-1.55	0.37	32.79	-0.317	-0.0582	0.001
313	SLU 72			-1.55	0.37	32.65	-0.3144	-0.0578	0.001
313	SLU 73			-1.81	0.38	34.86	-0.3232	-0.0707	0.001
313	SLU 74			-1.82	0.4	35.77	-0.3393	-0.0705	0.0011
313	SLU 75			-1.82	0.39	35.63	-0.3367	-0.0701	0.001
313	SLU 76			-1.77	0.39	35.44	-0.3329	-0.0677	0.001
313	SLU 77			-1.78	0.41	36.34	-0.349	-0.0675	0.0011
313	SLU 78			-1.77	0.41	36.2	-0.3464	-0.0671	0.0011
313	SLU 79			-1.73	0.41	36.25	-0.3468	-0.0652	0.0011
313	SLU 80			-1.73	0.4	36.1	-0.3443	-0.0649	0.0011
313	SLU 81			-1.89	0.4	36.58	-0.3403	-0.0743	0.0011
313	SLU 82			-1.89	0.4	36.43	-0.3377	-0.0739	0.0011
313	SLU 83			-1.85	0.41	37.15	-0.35	-0.0713	0.0011
313	SLU 84			-1.85	0.41	37.01	-0.3474	-0.0709	0.0011
313	SLE RA 1			-1.22	0.26	23.66	-0.2218	-0.048	0.0007
313	SLE RA 2			-1.21	0.26	23.5	-0.219	-0.0476	0.0007
313	SLE RA 3			-1.22	0.27	24.1	-0.2297	-0.0475	0.0007
313	SLE RA 4			-1.22	0.27	24.01	-0.228	-0.0473	0.0007
313	SLE RA 5			-1.19	0.26	23.88	-0.2254	-0.0456	0.0007
313	SLE RA 6			-1.19	0.28	24.49	-0.2361	-0.0455	0.0007
313	SLE RA 7			-1.19	0.27	24.39	-0.2344	-0.0453	0.0007
313	SLE RA 8			-1.16	0.27	24.42	-0.2347	-0.044	0.0007
313	SLE RA 9			-1.16	0.27	24.33	-0.233	-0.0438	0.0007
313	SLE RA 10			-1.34	0.28	25.8	-0.2389	-0.0523	0.0007
313	SLE RA 11			-1.34	0.29	26.41	-0.2496	-0.0522	0.0008
313	SLE RA 12			-1.34	0.29	26.31	-0.2479	-0.052	0.0008
313	SLE RA 13			-1.31	0.29	26.18	-0.2453	-0.0503	0.0008
313	SLE RA 14			-1.31	0.3	26.79	-0.256	-0.0502	0.0008
313	SLE RA 15			-1.31	0.3	26.69	-0.2543	-0.05	0.0008
313	SLE RA 16			-1.28	0.3	26.73	-0.2546	-0.0487	0.0008
313	SLE RA 17			-1.28	0.3	26.63	-0.2529	-0.0485	0.0008
313	SLE RA 18			-1.39	0.29	26.95	-0.2503	-0.0548	0.0008
313	SLE RA 19			-1.39	0.29	26.85	-0.2486	-0.0545	0.0008
313	SLE RA 20			-1.36	0.3	27.33	-0.2567	-0.0527	0.0008
313	SLE RA 21			-1.36	0.3	27.23	-0.255	-0.0525	0.0008
313	SLE FR 1			-1.22	0.26	23.66	-0.2218	-0.048	0.0007
313	SLE FR 2			-1.22	0.26	23.63	-0.2212	-0.0479	0.0007
313	SLE FR 3			-1.2	0.26	23.81	-0.2244	-0.0472	0.0007
313	SLE FR 4			-1.27	0.27	24.61	-0.2298	-0.05	0.0007
313	SLE FR 5			-1.26	0.27	24.8	-0.2329	-0.0492	0.0007
313	SLE FR 6			-1.3	0.28	25.3	-0.236	-0.0514	0.0007
313	SLE QP 1			-1.22	0.26	23.66	-0.2218	-0.048	0.0007
313	SLE QP 2			-1.27	0.27	24.64	-0.2303	-0.05	0.0007
313	SLD 1			4.64	0	25.63	-0.2694	0.2136	0
313	SLD 2			4.64	0	25.63	-0.2694	0.2136	0
313	SLD 3			3.5	0.3	28	0.0135	0.1636	0.0008
313	SLD 4			3.5	0.3	28	0.0135	0.1636	0.0008
313	SLD 5			2.22	-0.27	21.35	-0.671	0.1049	-0.0008
313	SLD 6			2.22	-0.27	21.35	-0.671	0.1049	-0.0008
313	SLD 7			-1.56	0.74	29.24	0.2717	-0.0617	0.002
313	SLD 8			-1.56	0.74	29.24	0.2717	-0.0617	0.002
313	SLD 9			-0.98	-0.2	20.05	-0.7324	-0.0383	-0.0006
313	SLD 10			-0.98	-0.2	20.05	-0.7324	-0.0383	-0.0006
313	SLD 11			-4.76	0.81	27.94	0.2103	-0.2049	0.0022
313	SLD 12			-4.76	0.81	27.94	0.2103	-0.2049	0.0022
313	SLD 13			-6.04	0.24	21.29	-0.4741	-0.2637	0.0006
313	SLD 14			-6.04	0.24	21.29	-0.4741	-0.2637	0.0006
313	SLD 15			-7.17	0.54	23.65	-0.1913	-0.3137	0.0014
313	SLD 16			-7.17	0.54	23.65	-0.1913	-0.3137	0.0014
313	SLV 1			12.57	-0.4	26.95	-0.3359	0.5676	-0.0011
313	SLV 2			12.57	-0.4	26.95	-0.3359	0.5676	-0.0011
313	SLV 3			9.87	0.36	32.61	0.3732	0.4488	0.001
313	SLV 4			9.87	0.36	32.61	0.3732	0.4488	0.001
313	SLV 5			6.99	-1.08	16.76	-1.3375	0.3154	-0.003
313	SLV 6			6.99	-1.08	16.76	-1.3375	0.3154	-0.003
313	SLV 7			-2.03	1.45	35.61	1.0262	-0.0805	0.004
313	SLV 8			-2.03	1.45	35.61	1.0262	-0.0805	0.004
313	SLV 9			-0.51	-0.91	13.68	-1.4868	-0.0196	-0.0025
313	SLV 10			-0.51	-0.91	13.68	-1.4868	-0.0196	-0.0025
313	SLV 11			-9.52	1.62	32.53	0.8768	-0.4154	0.0044
313	SLV 12			-9.52	1.62	32.53	0.8768	-0.4154	0.0044
313	SLV 13			-12.4	0.18	16.68	-0.8339	-0.5489	0.0004
313	SLV 14			-12.4	0.18	16.68	-0.8339	-0.5489	0.0004
313	SLV 15			-15.11	0.94	22.34	-0.1248	-0.6677	0.0025
313	SLV 16			-15.11	0.94	22.34	-0.1248	-0.6677	0.0025
314	SLU 1			-1.62	0.21	22.25	-0.1751	-0.0699	0.0006
314	SLU 2			-1.64	0.2	21.91	-0.1711	-0.0703	0.0005
314	SLU 3			-1.65	0.22	22.83	-0.1845	-0.071	0.0006
314	SLU 4			-1.66	0.22	22.62	-0.1821	-0.0713	0.0006
314	SLU 5			-1.62	0.21	22.38	-0.1786	-0.0692	0.0006
314	SLU 6			-1.62	0.23	23.29	-0.1921	-0.07	0.0006
314	SLU 7			-1.64	0.22	23.09	-0.1897	-0.0702	0.0006
314	SLU 8			-1.57	0.23	23.18	-0.1902	-0.0678	0.0006
314	SLU 9			-1.59	0.22	22.98	-0.1878	-0.068	0.0006
314	SLU 10			-1.93	0.23	25.22	-0.1946	-0.0824	0.0006
314	SLU 11			-1.94	0.25	26.14	-0.208	-0.0831	0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
314	SLU 12			-1.95	0.24	25.93	-0.2056	-0.0834	0.0006
314	SLU 13			-1.91	0.24	25.69	-0.2022	-0.0813	0.0006
314	SLU 14			-1.91	0.25	26.6	-0.2156	-0.0821	0.0007
314	SLU 15			-1.93	0.25	26.4	-0.2132	-0.0823	0.0007
314	SLU 16			-1.86	0.25	26.49	-0.2138	-0.0799	0.0007
314	SLU 17			-1.87	0.25	26.29	-0.2114	-0.0801	0.0007
314	SLU 18			-2.04	0.25	26.98	-0.2087	-0.0872	0.0007
314	SLU 19			-2.05	0.24	26.77	-0.2063	-0.0874	0.0007
314	SLU 20			-2.01	0.26	27.44	-0.2163	-0.0861	0.0007
314	SLU 21			-2.02	0.25	27.24	-0.2139	-0.0863	0.0007
314	SLU 22			-1.89	0.24	25.2	-0.2008	-0.081	0.0006
314	SLU 23			-1.91	0.23	24.87	-0.1968	-0.0814	0.0006
314	SLU 24			-1.91	0.25	25.78	-0.2102	-0.0821	0.0007
314	SLU 25			-1.92	0.25	25.58	-0.2078	-0.0824	0.0007
314	SLU 26			-1.88	0.24	25.33	-0.2044	-0.0803	0.0006
314	SLU 27			-1.89	0.26	26.25	-0.2178	-0.0811	0.0007
314	SLU 28			-1.9	0.25	26.04	-0.2154	-0.0813	0.0007
314	SLU 29			-1.84	0.26	26.14	-0.2159	-0.0789	0.0007
314	SLU 30			-1.85	0.25	25.93	-0.2135	-0.0791	0.0007
314	SLU 31			-2.2	0.26	28.18	-0.2203	-0.0935	0.0007
314	SLU 32			-2.2	0.28	29.09	-0.2337	-0.0942	0.0007
314	SLU 33			-2.21	0.27	28.89	-0.2313	-0.0945	0.0007
314	SLU 34			-2.17	0.27	28.64	-0.2279	-0.0924	0.0007
314	SLU 35			-2.18	0.29	29.56	-0.2413	-0.0932	0.0008
314	SLU 36			-2.19	0.28	29.35	-0.2389	-0.0934	0.0008
314	SLU 37			-2.13	0.28	29.45	-0.2395	-0.091	0.0008
314	SLU 38			-2.14	0.28	29.24	-0.2371	-0.0912	0.0007
314	SLU 39			-2.3	0.28	29.93	-0.2344	-0.0983	0.0007
314	SLU 40			-2.31	0.27	29.73	-0.232	-0.0985	0.0007
314	SLU 41			-2.27	0.29	30.4	-0.242	-0.0972	0.0008
314	SLU 42			-2.29	0.28	30.2	-0.2396	-0.0974	0.0008
314	SLU 43			-2.02	0.26	27.91	-0.2188	-0.0871	0.0007
314	SLU 44			-2.04	0.25	27.57	-0.2148	-0.0875	0.0007
314	SLU 45			-2.05	0.27	28.49	-0.2282	-0.0882	0.0007
314	SLU 46			-2.06	0.27	28.29	-0.2258	-0.0884	0.0007
314	SLU 47			-2.02	0.26	28.04	-0.2224	-0.0864	0.0007
314	SLU 48			-2.02	0.28	28.95	-0.2358	-0.0871	0.0007
314	SLU 49			-2.03	0.28	28.75	-0.2334	-0.0874	0.0007
314	SLU 50			-1.97	0.28	28.84	-0.2339	-0.0849	0.0007
314	SLU 51			-1.98	0.27	28.64	-0.2315	-0.0852	0.0007
314	SLU 52			-2.33	0.28	30.88	-0.2383	-0.0996	0.0008
314	SLU 53			-2.33	0.3	31.8	-0.2517	-0.1003	0.0008
314	SLU 54			-2.35	0.29	31.6	-0.2493	-0.1005	0.0008
314	SLU 55			-2.31	0.29	31.35	-0.2459	-0.0985	0.0008
314	SLU 56			-2.31	0.31	32.26	-0.2593	-0.0992	0.0008
314	SLU 57			-2.32	0.3	32.06	-0.2569	-0.0995	0.0008
314	SLU 58			-2.26	0.3	32.15	-0.2575	-0.097	0.0008
314	SLU 59			-2.27	0.3	31.95	-0.2551	-0.0973	0.0008
314	SLU 60			-2.43	0.3	32.64	-0.2524	-0.1044	0.0008
314	SLU 61			-2.45	0.3	32.44	-0.25	-0.1046	0.0008
314	SLU 62			-2.41	0.31	33.11	-0.26	-0.1033	0.0008
314	SLU 63			-2.42	0.3	32.9	-0.2576	-0.1035	0.0008
314	SLU 64			-2.28	0.29	30.86	-0.2445	-0.0982	0.0008
314	SLU 65			-2.3	0.28	30.53	-0.2405	-0.0986	0.0008
314	SLU 66			-2.31	0.3	31.44	-0.2539	-0.0993	0.0008
314	SLU 67			-2.32	0.3	31.24	-0.2515	-0.0995	0.0008
314	SLU 68			-2.28	0.29	30.99	-0.2481	-0.0975	0.0008
314	SLU 69			-2.28	0.31	31.91	-0.2615	-0.0982	0.0008
314	SLU 70			-2.3	0.31	31.71	-0.2591	-0.0985	0.0008
314	SLU 71			-2.23	0.31	31.8	-0.2597	-0.096	0.0008
314	SLU 72			-2.25	0.3	31.6	-0.2573	-0.0963	0.0008
314	SLU 73			-2.59	0.31	33.84	-0.264	-0.1107	0.0008
314	SLU 74			-2.6	0.33	34.75	-0.2774	-0.1114	0.0009
314	SLU 75			-2.61	0.32	34.55	-0.275	-0.1116	0.0009
314	SLU 76			-2.57	0.32	34.3	-0.2716	-0.1096	0.0009
314	SLU 77			-2.57	0.34	35.22	-0.285	-0.1103	0.0009
314	SLU 78			-2.59	0.33	35.02	-0.2826	-0.1106	0.0009
314	SLU 79			-2.52	0.33	35.11	-0.2832	-0.1081	0.0009
314	SLU 80			-2.53	0.33	34.91	-0.2808	-0.1084	0.0009
314	SLU 81			-2.7	0.33	35.59	-0.2781	-0.1155	0.0009
314	SLU 82			-2.71	0.33	35.39	-0.2757	-0.1157	0.0009
314	SLU 83			-2.67	0.34	36.06	-0.2857	-0.1144	0.0009
314	SLU 84			-2.68	0.33	35.86	-0.2833	-0.1146	0.0009
314	SLE RA 1			-1.7	0.22	23.09	-0.1824	-0.0731	0.0006
314	SLE RA 2			-1.71	0.21	22.87	-0.1798	-0.0733	0.0006
314	SLE RA 3			-1.72	0.22	23.48	-0.1887	-0.0738	0.0006
314	SLE RA 4			-1.72	0.22	23.34	-0.1871	-0.074	0.0006
314	SLE RA 5			-1.7	0.22	23.18	-0.1848	-0.0726	0.0006
314	SLE RA 6			-1.7	0.23	23.79	-0.1937	-0.0731	0.0006
314	SLE RA 7			-1.71	0.23	23.65	-0.1921	-0.0733	0.0006
314	SLE RA 8			-1.66	0.23	23.72	-0.1925	-0.0717	0.0006
314	SLE RA 9			-1.67	0.23	23.58	-0.1909	-0.0718	0.0006
314	SLE RA 10			-1.91	0.23	25.07	-0.1954	-0.0814	0.0006
314	SLE RA 11			-1.91	0.24	25.68	-0.2044	-0.0819	0.0006
314	SLE RA 12			-1.92	0.24	25.55	-0.2028	-0.082	0.0006
314	SLE RA 13			-1.89	0.24	25.39	-0.2005	-0.0807	0.0006
314	SLE RA 14			-1.89	0.25	25.99	-0.2094	-0.0812	0.0007
314	SLE RA 15			-1.9	0.25	25.86	-0.2078	-0.0813	0.0007
314	SLE RA 16			-1.86	0.25	25.92	-0.2082	-0.0797	0.0007
314	SLE RA 17			-1.87	0.24	25.79	-0.2066	-0.0799	0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
314	SLE RA 18			-1.97	0.24	26.24	-0.2048	-0.0846	0.0006
314	SLE RA 19			-1.98	0.24	26.11	-0.2032	-0.0848	0.0006
314	SLE RA 20			-1.96	0.25	26.56	-0.2099	-0.0839	0.0007
314	SLE RA 21			-1.97	0.25	26.42	-0.2083	-0.084	0.0007
314	SLE FR 1			-1.7	0.22	23.09	-0.1824	-0.0731	0.0006
314	SLE FR 2			-1.7	0.22	23.05	-0.1819	-0.0731	0.0006
314	SLE FR 3			-1.69	0.22	23.22	-0.1844	-0.0728	0.0006
314	SLE FR 4			-1.78	0.22	23.99	-0.1886	-0.0766	0.0006
314	SLE FR 5			-1.77	0.23	24.16	-0.1912	-0.0763	0.0006
314	SLE FR 6			-1.84	0.23	24.67	-0.1936	-0.0788	0.0006
314	SLE QP 1			-1.7	0.22	23.09	-0.1824	-0.0731	0.0006
314	SLE QP 2			-1.78	0.22	24.04	-0.1891	-0.0765	0.0006
314	SLD 1			4.96	0.27	24.02	-0.2422	0.2304	0.0007
314	SLD 2			4.96	0.27	24.02	-0.2422	0.2304	0.0007
314	SLD 3			3.74	-0.06	27.22	0.0698	0.1745	-0.0002
314	SLD 4			3.74	-0.06	27.22	0.0698	0.1745	-0.0002
314	SLD 5			2.08	0.74	19.18	-0.6784	0.1003	0.0019
314	SLD 6			2.08	0.74	19.18	-0.6784	0.1003	0.0019
314	SLD 7			-1.97	-0.36	29.85	0.3618	-0.086	-0.0009
314	SLD 8			-1.97	-0.36	29.85	0.3618	-0.086	-0.0009
314	SLD 9			-1.59	0.81	18.23	-0.7401	-0.0671	0.0021
314	SLD 10			-1.59	0.81	18.23	-0.7401	-0.0671	0.0021
314	SLD 11			-5.65	-0.29	28.9	0.3001	-0.2534	-0.0007
314	SLD 12			-5.65	-0.29	28.9	0.3001	-0.2534	-0.0007
314	SLD 13			-7.3	0.51	20.85	-0.4481	-0.3276	0.0014
314	SLD 14			-7.3	0.51	20.85	-0.4481	-0.3276	0.0014
314	SLD 15			-8.52	0.18	24.05	-0.1361	-0.3835	0.0005
314	SLD 16			-8.52	0.18	24.05	-0.1361	-0.3835	0.0005
314	SLV 1			14.01	0.35	23.88	-0.3283	0.6429	0.0009
314	SLV 2			14.01	0.35	23.88	-0.3283	0.6429	0.0009
314	SLV 3			11.12	-0.48	31.77	0.4554	0.5102	-0.0013
314	SLV 4			11.12	-0.48	31.77	0.4554	0.5102	-0.0013
314	SLV 5			7.33	1.51	12.03	-1.4194	0.3405	0.0039
314	SLV 6			7.33	1.51	12.03	-1.4194	0.3405	0.0039
314	SLV 7			-2.29	-1.24	38.32	1.1927	-0.1018	-0.0032
314	SLV 8			-2.29	-1.24	38.32	1.1927	-0.1018	-0.0032
314	SLV 9			-1.28	1.69	9.76	-1.571	-0.0513	0.0044
314	SLV 10			-1.28	1.69	9.76	-1.571	-0.0513	0.0044
314	SLV 11			-10.89	-1.07	36.05	1.0411	-0.4936	-0.0028
314	SLV 12			-10.89	-1.07	36.05	1.0411	-0.4936	-0.0028
314	SLV 13			-14.68	0.93	16.31	-0.8337	-0.6633	0.0025
314	SLV 14			-14.68	0.93	16.31	-0.8337	-0.6633	0.0025
314	SLV 15			-17.57	0.1	24.2	-0.05	-0.796	0.0003
314	SLV 16			-17.57	0.1	24.2	-0.05	-0.796	0.0003
315	SLU 1			-1.5	0.17	21.97	-0.1457	-0.064	0.0005
315	SLU 2			-1.57	0.17	21.51	-0.1416	-0.0659	0.0005
315	SLU 3			-1.52	0.18	22.46	-0.153	-0.0636	0.0005
315	SLU 4			-1.55	0.18	22.18	-0.1506	-0.0648	0.0005
315	SLU 5			-1.53	0.17	21.88	-0.1473	-0.0632	0.0005
315	SLU 6			-1.48	0.19	22.83	-0.1587	-0.061	0.0005
315	SLU 7			-1.52	0.19	22.56	-0.1563	-0.0621	0.0005
315	SLU 8			-1.43	0.19	22.71	-0.1571	-0.0586	0.0005
315	SLU 9			-1.47	0.18	22.43	-0.1547	-0.0598	0.0005
315	SLU 10			-1.87	0.19	24.7	-0.1601	-0.0786	0.0005
315	SLU 11			-1.82	0.2	25.66	-0.1715	-0.0763	0.0006
315	SLU 12			-1.86	0.2	25.38	-0.1691	-0.0775	0.0005
315	SLU 13			-1.84	0.2	25.07	-0.1658	-0.0759	0.0005
315	SLU 14			-1.78	0.21	26.03	-0.1772	-0.0737	0.0006
315	SLU 15			-1.82	0.21	25.75	-0.1748	-0.0748	0.0006
315	SLU 16			-1.73	0.21	25.91	-0.1756	-0.0713	0.0006
315	SLU 17			-1.77	0.21	25.63	-0.1732	-0.0725	0.0006
315	SLU 18			-1.94	0.21	26.53	-0.1721	-0.0821	0.0006
315	SLU 19			-1.98	0.2	26.25	-0.1697	-0.0833	0.0006
315	SLU 20			-1.9	0.21	26.9	-0.1778	-0.0794	0.0006
315	SLU 21			-1.94	0.21	26.63	-0.1754	-0.0806	0.0006
315	SLU 22			-1.77	0.2	24.79	-0.166	-0.0745	0.0005
315	SLU 23			-1.83	0.19	24.33	-0.162	-0.0765	0.0005
315	SLU 24			-1.78	0.21	25.28	-0.1733	-0.0742	0.0006
315	SLU 25			-1.82	0.2	25.01	-0.1709	-0.0754	0.0006
315	SLU 26			-1.79	0.2	24.7	-0.1677	-0.0738	0.0005
315	SLU 27			-1.74	0.21	25.65	-0.179	-0.0715	0.0006
315	SLU 28			-1.78	0.21	25.38	-0.1766	-0.0727	0.0006
315	SLU 29			-1.69	0.21	25.53	-0.1774	-0.0692	0.0006
315	SLU 30			-1.73	0.21	25.25	-0.175	-0.0703	0.0006
315	SLU 31			-2.14	0.21	27.52	-0.1805	-0.0891	0.0006
315	SLU 32			-2.09	0.23	28.48	-0.1918	-0.0869	0.0006
315	SLU 33			-2.12	0.22	28.2	-0.1894	-0.088	0.0006
315	SLU 34			-2.1	0.22	27.89	-0.1862	-0.0865	0.0006
315	SLU 35			-2.05	0.23	28.85	-0.1975	-0.0842	0.0006
315	SLU 36			-2.09	0.23	28.57	-0.1951	-0.0854	0.0006
315	SLU 37			-2	0.23	28.73	-0.1959	-0.0818	0.0006
315	SLU 38			-2.04	0.23	28.45	-0.1935	-0.083	0.0006
315	SLU 39			-2.21	0.23	29.35	-0.1924	-0.0926	0.0006
315	SLU 40			-2.24	0.23	29.07	-0.19	-0.0938	0.0006
315	SLU 41			-2.17	0.24	29.72	-0.1981	-0.0899	0.0006
315	SLU 42			-2.21	0.23	29.45	-0.1957	-0.0911	0.0006
315	SLU 43			-1.86	0.22	27.59	-0.1824	-0.0795	0.0006
315	SLU 44			-1.93	0.21	27.13	-0.1784	-0.0815	0.0006
315	SLU 45			-1.88	0.23	28.09	-0.1897	-0.0792	0.0006
315	SLU 46			-1.91	0.22	27.81	-0.1873	-0.0804	0.0006



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
315	SLU 47			-1.89	0.22	27.5	-0.1841	-0.0788	0.0006
315	SLU 48			-1.84	0.23	28.46	-0.1954	-0.0766	0.0006
315	SLU 49			-1.88	0.23	28.18	-0.193	-0.0777	0.0006
315	SLU 50			-1.79	0.23	28.33	-0.1938	-0.0742	0.0006
315	SLU 51			-1.83	0.23	28.06	-0.1914	-0.0754	0.0006
315	SLU 52			-2.23	0.23	30.32	-0.1969	-0.0942	0.0006
315	SLU 53			-2.18	0.25	31.28	-0.2082	-0.0919	0.0007
315	SLU 54			-2.22	0.24	31	-0.2058	-0.0931	0.0007
315	SLU 55			-2.2	0.24	30.7	-0.2026	-0.0915	0.0007
315	SLU 56			-2.15	0.25	31.65	-0.2139	-0.0892	0.0007
315	SLU 57			-2.18	0.25	31.37	-0.2115	-0.0904	0.0007
315	SLU 58			-2.1	0.25	31.53	-0.2123	-0.0869	0.0007
315	SLU 59			-2.13	0.25	31.25	-0.2099	-0.088	0.0007
315	SLU 60			-2.3	0.25	32.16	-0.2088	-0.0977	0.0007
315	SLU 61			-2.34	0.25	31.88	-0.2064	-0.0988	0.0007
315	SLU 62			-2.26	0.26	32.53	-0.2145	-0.095	0.0007
315	SLU 63			-2.3	0.25	32.25	-0.2121	-0.0962	0.0007
315	SLU 64			-2.13	0.24	30.41	-0.2027	-0.0901	0.0007
315	SLU 65			-2.19	0.24	29.95	-0.1987	-0.092	0.0006
315	SLU 66			-2.14	0.25	30.91	-0.21	-0.0898	0.0007
315	SLU 67			-2.18	0.25	30.63	-0.2076	-0.0909	0.0007
315	SLU 68			-2.15	0.24	30.32	-0.2044	-0.0894	0.0007
315	SLU 69			-2.1	0.26	31.28	-0.2158	-0.0871	0.0007
315	SLU 70			-2.14	0.25	31	-0.2133	-0.0883	0.0007
315	SLU 71			-2.05	0.25	31.15	-0.2141	-0.0847	0.0007
315	SLU 72			-2.09	0.25	30.88	-0.2117	-0.0859	0.0007
315	SLU 73			-2.5	0.26	33.14	-0.2172	-0.1047	0.0007
315	SLU 74			-2.45	0.27	34.1	-0.2285	-0.1024	0.0007
315	SLU 75			-2.48	0.27	33.82	-0.2261	-0.1036	0.0007
315	SLU 76			-2.46	0.26	33.52	-0.2229	-0.102	0.0007
315	SLU 77			-2.41	0.28	34.47	-0.2343	-0.0998	0.0008
315	SLU 78			-2.45	0.27	34.19	-0.2318	-0.1009	0.0007
315	SLU 79			-2.36	0.28	34.35	-0.2326	-0.0974	0.0008
315	SLU 80			-2.4	0.27	34.07	-0.2302	-0.0986	0.0007
315	SLU 81			-2.57	0.27	34.98	-0.2291	-0.1082	0.0007
315	SLU 82			-2.6	0.27	34.7	-0.2267	-0.1094	0.0007
315	SLU 83			-2.53	0.28	35.35	-0.2348	-0.1055	0.0008
315	SLU 84			-2.57	0.28	35.07	-0.2324	-0.1067	0.0008
315	SLE RA 1			-1.58	0.18	22.77	-0.1515	-0.067	0.0005
315	SLE RA 2			-1.62	0.18	22.47	-0.1488	-0.0683	0.0005
315	SLE RA 3			-1.59	0.19	23.1	-0.1564	-0.0668	0.0005
315	SLE RA 4			-1.61	0.18	22.92	-0.1547	-0.0675	0.0005
315	SLE RA 5			-1.6	0.18	22.71	-0.1526	-0.0665	0.0005
315	SLE RA 6			-1.56	0.19	23.35	-0.1602	-0.065	0.0005
315	SLE RA 7			-1.59	0.19	23.17	-0.1586	-0.0658	0.0005
315	SLE RA 8			-1.53	0.19	23.27	-0.1591	-0.0634	0.0005
315	SLE RA 9			-1.55	0.19	23.08	-0.1575	-0.0642	0.0005
315	SLE RA 10			-1.82	0.19	24.6	-0.1611	-0.0767	0.0005
315	SLE RA 11			-1.79	0.2	25.23	-0.1687	-0.0752	0.0005
315	SLE RA 12			-1.82	0.2	25.05	-0.1671	-0.076	0.0005
315	SLE RA 13			-1.8	0.2	24.84	-0.1649	-0.075	0.0005
315	SLE RA 14			-1.77	0.21	25.48	-0.1725	-0.0734	0.0006
315	SLE RA 15			-1.79	0.2	25.3	-0.1709	-0.0742	0.0006
315	SLE RA 16			-1.73	0.2	25.4	-0.1714	-0.0719	0.0006
315	SLE RA 17			-1.76	0.2	25.21	-0.1698	-0.0726	0.0005
315	SLE RA 18			-1.87	0.2	25.82	-0.1691	-0.0791	0.0006
315	SLE RA 19			-1.9	0.2	25.63	-0.1675	-0.0798	0.0005
315	SLE RA 20			-1.85	0.21	26.06	-0.1729	-0.0773	0.0006
315	SLE RA 21			-1.87	0.2	25.88	-0.1713	-0.0781	0.0006
315	SLE FR 1			-1.58	0.18	22.77	-0.1515	-0.067	0.0005
315	SLE FR 2			-1.59	0.18	22.71	-0.1509	-0.0672	0.0005
315	SLE FR 3			-1.57	0.18	22.87	-0.153	-0.0663	0.0005
315	SLE FR 4			-1.67	0.19	23.62	-0.1562	-0.0709	0.0005
315	SLE FR 5			-1.66	0.19	23.79	-0.1583	-0.0699	0.0005
315	SLE FR 6			-1.72	0.19	24.3	-0.1603	-0.073	0.0005
315	SLE QP 1			-1.58	0.18	22.77	-0.1515	-0.067	0.0005
315	SLE QP 2			-1.67	0.19	23.69	-0.1567	-0.0706	0.0005
315	SLD 1			5.51	0.24	19.89	-0.2159	0.2448	0.0006
315	SLD 2			5.51	0.24	19.89	-0.2159	0.2448	0.0006
315	SLD 3			4.22	-0.1	23.77	0.1079	0.1863	-0.0002
315	SLD 4			4.22	-0.1	23.77	0.1079	0.1863	-0.0002
315	SLD 5			2.44	0.72	16.65	-0.6655	0.1127	0.0018
315	SLD 6			2.44	0.72	16.65	-0.6655	0.1127	0.0018
315	SLD 7			-1.85	-0.42	29.61	0.4137	-0.0822	-0.001
315	SLD 8			-1.85	-0.42	29.61	0.4137	-0.0822	-0.001
315	SLD 9			-1.48	0.79	17.76	-0.7272	-0.059	0.002
315	SLD 10			-1.48	0.79	17.76	-0.7272	-0.059	0.002
315	SLD 11			-5.77	-0.34	30.72	0.352	-0.2539	-0.0008
315	SLD 12			-5.77	-0.34	30.72	0.352	-0.2539	-0.0008
315	SLD 13			-7.55	0.48	23.6	-0.4214	-0.3275	0.0012
315	SLD 14			-7.55	0.48	23.6	-0.4214	-0.3275	0.0012
315	SLD 15			-8.84	0.14	27.49	-0.0976	-0.386	0.0004
315	SLD 16			-8.84	0.14	27.49	-0.0976	-0.386	0.0004
315	SLV 1			15.15	0.32	14.42	-0.3095	0.6684	0.0008
315	SLV 2			15.15	0.32	14.42	-0.3095	0.6684	0.0008
315	SLV 3			12.08	-0.53	24.09	0.504	0.529	-0.0013
315	SLV 4			12.08	-0.53	24.09	0.504	0.529	-0.0013
315	SLV 5			8.03	1.52	6.25	-1.4364	0.3626	0.0038
315	SLV 6			8.03	1.52	6.25	-1.4364	0.3626	0.0038
315	SLV 7			-2.19	-1.32	38.46	1.2753	-0.1022	-0.0033



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
315	SLV 8	-2.19	-1.32	38.46	1.2753	-0.1022	-0.0033
315	SLV 9	-1.14	1.69	8.91	-1.5888	-0.039	0.0043
315	SLV 10	-1.14	1.69	8.91	-1.5888	-0.039	0.0043
315	SLV 11	-11.36	-1.15	41.12	1.1229	-0.5038	-0.0028
315	SLV 12	-11.36	-1.15	41.12	1.1229	-0.5038	-0.0028
315	SLV 13	-15.41	0.9	23.29	-0.8175	-0.6702	0.0023
315	SLV 14	-15.41	0.9	23.29	-0.8175	-0.6702	0.0023
315	SLV 15	-18.48	0.05	32.95	-0.004	-0.8096	0.0002
315	SLV 16	-18.48	0.05	32.95	-0.004	-0.8096	0.0002
316	SLU 1	-0.99	0.16	22.44	-0.1249	-0.0495	0.0004
316	SLU 2	-1.11	0.15	21.81	-0.1207	-0.054	0.0004
316	SLU 3	-1	0.16	22.88	-0.1306	-0.0499	0.0004
316	SLU 4	-1.07	0.16	22.49	-0.1281	-0.0526	0.0004
316	SLU 5	-1.08	0.16	22.1	-0.1249	-0.0527	0.0004
316	SLU 6	-0.96	0.17	23.17	-0.1348	-0.0486	0.0004
316	SLU 7	-1.04	0.16	22.78	-0.1322	-0.0513	0.0004
316	SLU 8	-0.93	0.17	23.02	-0.1333	-0.0469	0.0004
316	SLU 9	-1	0.16	22.64	-0.1308	-0.0496	0.0004
316	SLU 10	-1.38	0.17	25	-0.1356	-0.0659	0.0004
316	SLU 11	-1.26	0.18	26.07	-0.1455	-0.0619	0.0004
316	SLU 12	-1.33	0.18	25.68	-0.143	-0.0646	0.0004
316	SLU 13	-1.34	0.17	25.29	-0.1398	-0.0646	0.0004
316	SLU 14	-1.22	0.19	26.36	-0.1497	-0.0606	0.0005
316	SLU 15	-1.3	0.18	25.97	-0.1472	-0.0633	0.0004
316	SLU 16	-1.19	0.19	26.21	-0.1482	-0.0589	0.0005
316	SLU 17	-1.26	0.18	25.83	-0.1457	-0.0615	0.0004
316	SLU 18	-1.36	0.18	27	-0.1463	-0.0666	0.0004
316	SLU 19	-1.44	0.18	26.62	-0.1437	-0.0693	0.0004
316	SLU 20	-1.33	0.19	27.29	-0.1504	-0.0653	0.0005
316	SLU 21	-1.4	0.18	26.91	-0.1479	-0.068	0.0004
316	SLU 22	-1.21	0.18	25.24	-0.1413	-0.0596	0.0004
316	SLU 23	-1.33	0.17	24.6	-0.1371	-0.064	0.0004
316	SLU 24	-1.21	0.18	25.67	-0.147	-0.06	0.0004
316	SLU 25	-1.29	0.18	25.29	-0.1445	-0.0627	0.0004
316	SLU 26	-1.3	0.18	24.89	-0.1413	-0.0627	0.0004
316	SLU 27	-1.18	0.19	25.96	-0.1512	-0.0587	0.0005
316	SLU 28	-1.26	0.18	25.58	-0.1487	-0.0614	0.0004
316	SLU 29	-1.14	0.19	25.82	-0.1497	-0.0569	0.0005
316	SLU 30	-1.22	0.18	25.43	-0.1472	-0.0596	0.0004
316	SLU 31	-1.59	0.19	27.79	-0.1521	-0.076	0.0005
316	SLU 32	-1.47	0.2	28.86	-0.162	-0.072	0.0005
316	SLU 33	-1.55	0.2	28.48	-0.1594	-0.0747	0.0005
316	SLU 34	-1.56	0.19	28.08	-0.1563	-0.0747	0.0005
316	SLU 35	-1.44	0.21	29.15	-0.1661	-0.0707	0.0005
316	SLU 36	-1.52	0.2	28.77	-0.1636	-0.0734	0.0005
316	SLU 37	-1.4	0.21	29.01	-0.1646	-0.0689	0.0005
316	SLU 38	-1.48	0.2	28.62	-0.1621	-0.0716	0.0005
316	SLU 39	-1.58	0.2	29.79	-0.1627	-0.0767	0.0005
316	SLU 40	-1.65	0.2	29.41	-0.1602	-0.0793	0.0005
316	SLU 41	-1.55	0.21	30.08	-0.1669	-0.0754	0.0005
316	SLU 42	-1.62	0.2	29.7	-0.1643	-0.078	0.0005
316	SLU 43	-1.21	0.2	28.22	-0.1567	-0.0609	0.0005
316	SLU 44	-1.34	0.19	27.58	-0.1525	-0.0654	0.0005
316	SLU 45	-1.22	0.2	28.65	-0.1624	-0.0613	0.0005
316	SLU 46	-1.29	0.2	28.27	-0.1599	-0.064	0.0005
316	SLU 47	-1.31	0.2	27.87	-0.1567	-0.0641	0.0005
316	SLU 48	-1.19	0.21	28.94	-0.1666	-0.06	0.0005
316	SLU 49	-1.26	0.2	28.56	-0.1641	-0.0627	0.0005
316	SLU 50	-1.15	0.21	28.8	-0.1651	-0.0583	0.0005
316	SLU 51	-1.22	0.2	28.42	-0.1626	-0.061	0.0005
316	SLU 52	-1.6	0.21	30.77	-0.1675	-0.0773	0.0005
316	SLU 53	-1.48	0.22	31.84	-0.1774	-0.0733	0.0005
316	SLU 54	-1.55	0.22	31.46	-0.1748	-0.076	0.0005
316	SLU 55	-1.57	0.21	31.06	-0.1717	-0.076	0.0005
316	SLU 56	-1.45	0.23	32.13	-0.1816	-0.072	0.0006
316	SLU 57	-1.52	0.22	31.75	-0.179	-0.0747	0.0005
316	SLU 58	-1.41	0.23	31.99	-0.1801	-0.0702	0.0005
316	SLU 59	-1.48	0.22	31.61	-0.1775	-0.0729	0.0005
316	SLU 60	-1.58	0.22	32.78	-0.1781	-0.078	0.0005
316	SLU 61	-1.66	0.22	32.39	-0.1756	-0.0807	0.0005
316	SLU 62	-1.55	0.23	33.07	-0.1823	-0.0767	0.0006
316	SLU 63	-1.63	0.22	32.68	-0.1798	-0.0794	0.0005
316	SLU 64	-1.43	0.22	31.01	-0.1732	-0.071	0.0005
316	SLU 65	-1.55	0.21	30.37	-0.169	-0.0754	0.0005
316	SLU 66	-1.43	0.22	31.45	-0.1788	-0.0714	0.0005
316	SLU 67	-1.51	0.22	31.06	-0.1763	-0.0741	0.0005
316	SLU 68	-1.52	0.22	30.66	-0.1732	-0.0741	0.0005
316	SLU 69	-1.4	0.23	31.74	-0.183	-0.0701	0.0006
316	SLU 70	-1.48	0.22	31.35	-0.1805	-0.0728	0.0005
316	SLU 71	-1.36	0.23	31.59	-0.1815	-0.0683	0.0006
316	SLU 72	-1.44	0.22	31.21	-0.179	-0.071	0.0005
316	SLU 73	-1.81	0.23	33.56	-0.1839	-0.0874	0.0006
316	SLU 74	-1.7	0.24	34.63	-0.1938	-0.0834	0.0006
316	SLU 75	-1.77	0.24	34.25	-0.1913	-0.0861	0.0006
316	SLU 76	-1.78	0.23	33.85	-0.1881	-0.0861	0.0006
316	SLU 77	-1.66	0.25	34.92	-0.198	-0.0821	0.0006
316	SLU 78	-1.74	0.24	34.54	-0.1955	-0.0848	0.0006
316	SLU 79	-1.62	0.25	34.78	-0.1965	-0.0803	0.0006
316	SLU 80	-1.7	0.24	34.4	-0.194	-0.083	0.0006
316	SLU 81	-1.8	0.24	35.57	-0.1945	-0.0881	0.0006



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
316	SLU 82	-1.88	0.24	35.18	-0.192	-0.0907	0.0006
316	SLU 83	-1.77	0.25	35.86	-0.1987	-0.0868	0.0006
316	SLU 84	-1.84	0.24	35.48	-0.1962	-0.0894	0.0006
316	SLE RA 1	-1.05	0.16	23.24	-0.1296	-0.0524	0.0004
316	SLE RA 2	-1.13	0.16	22.82	-0.1268	-0.0554	0.0004
316	SLE RA 3	-1.06	0.17	23.53	-0.1334	-0.0527	0.0004
316	SLE RA 4	-1.11	0.16	23.28	-0.1317	-0.0545	0.0004
316	SLE RA 5	-1.11	0.16	23.01	-0.1296	-0.0545	0.0004
316	SLE RA 6	-1.03	0.17	23.72	-0.1362	-0.0518	0.0004
316	SLE RA 7	-1.08	0.17	23.47	-0.1345	-0.0536	0.0004
316	SLE RA 8	-1.01	0.17	23.63	-0.1352	-0.0506	0.0004
316	SLE RA 9	-1.06	0.17	23.37	-0.1335	-0.0524	0.0004
316	SLE RA 10	-1.31	0.17	24.94	-0.1368	-0.0633	0.0004
316	SLE RA 11	-1.23	0.18	25.66	-0.1433	-0.0607	0.0004
316	SLE RA 12	-1.28	0.18	25.4	-0.1417	-0.0624	0.0004
316	SLE RA 13	-1.29	0.17	25.14	-0.1395	-0.0625	0.0004
316	SLE RA 14	-1.21	0.18	25.85	-0.1461	-0.0598	0.0004
316	SLE RA 15	-1.26	0.18	25.6	-0.1445	-0.0616	0.0004
316	SLE RA 16	-1.18	0.18	25.76	-0.1451	-0.0586	0.0004
316	SLE RA 17	-1.23	0.18	25.5	-0.1435	-0.0604	0.0004
316	SLE RA 18	-1.3	0.18	26.28	-0.1438	-0.0638	0.0004
316	SLE RA 19	-1.35	0.18	26.02	-0.1421	-0.0656	0.0004
316	SLE RA 20	-1.28	0.18	26.47	-0.1466	-0.0629	0.0004
316	SLE RA 21	-1.33	0.18	26.22	-0.1449	-0.0647	0.0004
316	SLE FR 1	-1.05	0.16	23.24	-0.1296	-0.0524	0.0004
316	SLE FR 2	-1.07	0.16	23.16	-0.129	-0.053	0.0004
316	SLE FR 3	-1.04	0.16	23.32	-0.1307	-0.052	0.0004
316	SLE FR 4	-1.14	0.17	24.07	-0.1333	-0.0564	0.0004
316	SLE FR 5	-1.12	0.17	24.23	-0.135	-0.0554	0.0004
316	SLE FR 6	-1.17	0.17	24.76	-0.1367	-0.0581	0.0004
316	SLE QP 1	-1.05	0.16	23.24	-0.1296	-0.0524	0.0004
316	SLE QP 2	-1.13	0.17	24.15	-0.1339	-0.0558	0.0004
316	SLD 1	6.2	0.22	19.84	-0.1916	0.2715	-0.0002
316	SLD 2	6.2	0.22	19.84	-0.1916	0.2715	-0.0002
316	SLD 3	4.87	-0.12	24	0.125	0.2125	0.0005
316	SLD 4	4.87	-0.12	24	0.125	0.2125	0.0005
316	SLD 5	3.08	0.69	16.56	-0.6312	0.1318	-0.0008
316	SLD 6	3.08	0.69	16.56	-0.6312	0.1318	-0.0008
316	SLD 7	-1.33	-0.42	30.41	0.4238	-0.0647	0.0015
316	SLD 8	-1.33	-0.42	30.41	0.4238	-0.0647	0.0015
316	SLD 9	-0.92	0.76	17.9	-0.6916	-0.0469	-0.0006
316	SLD 10	-0.92	0.76	17.9	-0.6916	-0.0469	-0.0006
316	SLD 11	-5.33	-0.35	31.75	0.3635	-0.2434	0.0016
316	SLD 12	-5.33	-0.35	31.75	0.3635	-0.2434	0.0016
316	SLD 13	-7.12	0.45	24.31	-0.3927	-0.3241	0.0003
316	SLD 14	-7.12	0.45	24.31	-0.3927	-0.3241	0.0003
316	SLD 15	-8.45	0.12	28.46	-0.0762	-0.3831	0.001
316	SLD 16	-8.45	0.12	28.46	-0.0762	-0.3831	0.001
316	SLV 1	16.03	0.29	13.69	-0.2819	0.7115	-0.0011
316	SLV 2	16.03	0.29	13.69	-0.2819	0.7115	-0.0011
316	SLV 3	12.87	-0.54	24.01	0.5135	0.5707	0.0006
316	SLV 4	12.87	-0.54	24.01	0.5135	0.5707	0.0006
316	SLV 5	8.82	1.46	5.35	-1.3847	0.3879	-0.0026
316	SLV 6	8.82	1.46	5.35	-1.3847	0.3879	-0.0026
316	SLV 7	-1.73	-1.3	39.77	1.2668	-0.0813	0.0031
316	SLV 8	-1.73	-1.3	39.77	1.2668	-0.0813	0.0031
316	SLV 9	-0.52	1.64	8.54	-1.5345	-0.0303	-0.0022
316	SLV 10	-0.52	1.64	8.54	-1.5345	-0.0303	-0.0022
316	SLV 11	-11.07	-1.13	42.95	1.1169	-0.4994	0.0034
316	SLV 12	-11.07	-1.13	42.95	1.1169	-0.4994	0.0034
316	SLV 13	-15.12	0.87	24.29	-0.7813	-0.6823	0.0002
316	SLV 14	-15.12	0.87	24.29	-0.7813	-0.6823	0.0002
316	SLV 15	-18.28	0.04	34.62	0.0142	-0.823	0.0019
316	SLV 16	-18.28	0.04	34.62	0.0142	-0.823	0.0019
317	SLU 1	-0.32	0.16	23.98	-0.1102	-0.0261	0.0003
317	SLU 2	-0.52	0.15	23.1	-0.106	-0.033	0.0003
317	SLU 3	-0.31	0.16	24.38	-0.1147	-0.025	0.0003
317	SLU 4	-0.42	0.16	23.85	-0.1121	-0.0291	0.0003
317	SLU 5	-0.47	0.15	23.32	-0.109	-0.0304	0.0003
317	SLU 6	-0.26	0.16	24.6	-0.1177	-0.0223	0.0004
317	SLU 7	-0.38	0.16	24.07	-0.1151	-0.0265	0.0003
317	SLU 8	-0.24	0.16	24.42	-0.1163	-0.0208	0.0004
317	SLU 9	-0.35	0.16	23.89	-0.1137	-0.0249	0.0003
317	SLU 10	-0.71	0.17	26.44	-0.1186	-0.0429	0.0004
317	SLU 11	-0.5	0.18	27.72	-0.1273	-0.0349	0.0004
317	SLU 12	-0.62	0.17	27.19	-0.1247	-0.039	0.0004
317	SLU 13	-0.67	0.17	26.65	-0.1216	-0.0402	0.0004
317	SLU 14	-0.46	0.18	27.94	-0.1303	-0.0322	0.0004
317	SLU 15	-0.58	0.18	27.4	-0.1278	-0.0363	0.0004
317	SLU 16	-0.43	0.18	27.76	-0.1289	-0.0307	0.0004
317	SLU 17	-0.55	0.17	27.23	-0.1263	-0.0348	0.0004
317	SLU 18	-0.6	0.18	28.75	-0.1283	-0.0402	0.0004
317	SLU 19	-0.72	0.18	28.22	-0.1257	-0.0444	0.0004
317	SLU 20	-0.56	0.18	28.97	-0.1313	-0.0376	0.0004
317	SLU 21	-0.67	0.18	28.44	-0.1287	-0.0417	0.0004
317	SLU 22	-0.46	0.17	26.89	-0.124	-0.0332	0.0004
317	SLU 23	-0.66	0.17	26	-0.1197	-0.0401	0.0004
317	SLU 24	-0.45	0.18	27.28	-0.1284	-0.0321	0.0004
317	SLU 25	-0.56	0.17	26.75	-0.1259	-0.0362	0.0004
317	SLU 26	-0.62	0.17	26.22	-0.1227	-0.0375	0.0004



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
317	SLU 27	-0.41	0.18	27.5	-0.1314	-0.0294	0.0004
317	SLU 28	-0.52	0.18	26.97	-0.1289	-0.0336	0.0004
317	SLU 29	-0.38	0.18	27.32	-0.13	-0.0279	0.0004
317	SLU 30	-0.5	0.18	26.79	-0.1275	-0.0321	0.0004
317	SLU 31	-0.85	0.18	29.34	-0.1323	-0.05	0.0004
317	SLU 32	-0.64	0.2	30.62	-0.141	-0.042	0.0004
317	SLU 33	-0.76	0.19	30.09	-0.1385	-0.0461	0.0004
317	SLU 34	-0.81	0.19	29.56	-0.1354	-0.0474	0.0004
317	SLU 35	-0.6	0.2	30.84	-0.1441	-0.0393	0.0004
317	SLU 36	-0.72	0.2	30.31	-0.1415	-0.0435	0.0004
317	SLU 37	-0.57	0.2	30.66	-0.1427	-0.0378	0.0004
317	SLU 38	-0.69	0.19	30.13	-0.1401	-0.0419	0.0004
317	SLU 39	-0.74	0.2	31.66	-0.142	-0.0474	0.0004
317	SLU 40	-0.86	0.19	31.13	-0.1394	-0.0515	0.0004
317	SLU 41	-0.7	0.2	31.88	-0.145	-0.0447	0.0004
317	SLU 42	-0.82	0.2	31.35	-0.1425	-0.0488	0.0004
317	SLU 43	-0.37	0.2	30.18	-0.1386	-0.0315	0.0004
317	SLU 44	-0.56	0.19	29.3	-0.1343	-0.0384	0.0004
317	SLU 45	-0.35	0.2	30.58	-0.143	-0.0304	0.0004
317	SLU 46	-0.47	0.2	30.05	-0.1405	-0.0345	0.0004
317	SLU 47	-0.52	0.19	29.52	-0.1373	-0.0357	0.0004
317	SLU 48	-0.31	0.2	30.8	-0.1461	-0.0277	0.0004
317	SLU 49	-0.43	0.2	30.26	-0.1435	-0.0318	0.0004
317	SLU 50	-0.29	0.2	30.62	-0.1446	-0.0262	0.0004
317	SLU 51	-0.4	0.2	30.09	-0.1421	-0.0303	0.0004
317	SLU 52	-0.76	0.21	32.64	-0.1469	-0.0483	0.0004
317	SLU 53	-0.55	0.22	33.92	-0.1556	-0.0403	0.0005
317	SLU 54	-0.67	0.21	33.39	-0.1531	-0.0444	0.0005
317	SLU 55	-0.72	0.21	32.85	-0.15	-0.0456	0.0005
317	SLU 56	-0.51	0.22	34.13	-0.1587	-0.0376	0.0005
317	SLU 57	-0.62	0.22	33.6	-0.1561	-0.0417	0.0005
317	SLU 58	-0.48	0.22	33.96	-0.1573	-0.0361	0.0005
317	SLU 59	-0.6	0.22	33.43	-0.1547	-0.0402	0.0005
317	SLU 60	-0.65	0.22	34.95	-0.1566	-0.0456	0.0005
317	SLU 61	-0.76	0.22	34.42	-0.1541	-0.0498	0.0005
317	SLU 62	-0.61	0.22	35.17	-0.1596	-0.043	0.0005
317	SLU 63	-0.72	0.22	34.64	-0.1571	-0.0471	0.0005
317	SLU 64	-0.51	0.21	33.09	-0.1523	-0.0386	0.0005
317	SLU 65	-0.7	0.21	32.2	-0.1481	-0.0455	0.0004
317	SLU 66	-0.5	0.22	33.48	-0.1568	-0.0375	0.0005
317	SLU 67	-0.61	0.22	32.95	-0.1542	-0.0416	0.0005
317	SLU 68	-0.66	0.21	32.42	-0.1511	-0.0429	0.0005
317	SLU 69	-0.45	0.22	33.7	-0.1598	-0.0348	0.0005
317	SLU 70	-0.57	0.22	33.17	-0.1572	-0.039	0.0005
317	SLU 71	-0.43	0.22	33.52	-0.1584	-0.0333	0.0005
317	SLU 72	-0.54	0.22	32.99	-0.1558	-0.0375	0.0005
317	SLU 73	-0.9	0.22	35.54	-0.1607	-0.0554	0.0005
317	SLU 74	-0.69	0.24	36.82	-0.1694	-0.0474	0.0005
317	SLU 75	-0.81	0.23	36.29	-0.1668	-0.0515	0.0005
317	SLU 76	-0.86	0.23	35.76	-0.1637	-0.0528	0.0005
317	SLU 77	-0.65	0.24	37.04	-0.1724	-0.0447	0.0005
317	SLU 78	-0.77	0.24	36.51	-0.1699	-0.0489	0.0005
317	SLU 79	-0.62	0.24	36.86	-0.171	-0.0432	0.0005
317	SLU 80	-0.74	0.23	36.33	-0.1684	-0.0473	0.0005
317	SLU 81	-0.79	0.24	37.86	-0.1704	-0.0528	0.0005
317	SLU 82	-0.91	0.23	37.33	-0.1678	-0.0569	0.0005
317	SLU 83	-0.75	0.24	38.08	-0.1734	-0.0501	0.0005
317	SLU 84	-0.86	0.24	37.54	-0.1708	-0.0542	0.0005
317	SLE RA 1	-0.36	0.16	24.81	-0.1142	-0.0282	0.0003
317	SLE RA 2	-0.49	0.16	24.22	-0.1113	-0.0328	0.0003
317	SLE RA 3	-0.35	0.16	25.08	-0.1171	-0.0274	0.0004
317	SLE RA 4	-0.43	0.16	24.72	-0.1154	-0.0302	0.0004
317	SLE RA 5	-0.46	0.16	24.37	-0.1133	-0.031	0.0003
317	SLE RA 6	-0.32	0.17	25.22	-0.1191	-0.0256	0.0004
317	SLE RA 7	-0.4	0.16	24.87	-0.1174	-0.0284	0.0004
317	SLE RA 8	-0.31	0.17	25.1	-0.1182	-0.0246	0.0004
317	SLE RA 9	-0.38	0.16	24.75	-0.1165	-0.0274	0.0004
317	SLE RA 10	-0.62	0.17	26.45	-0.1197	-0.0393	0.0004
317	SLE RA 11	-0.48	0.18	27.3	-0.1255	-0.034	0.0004
317	SLE RA 12	-0.56	0.17	26.95	-0.1238	-0.0367	0.0004
317	SLE RA 13	-0.59	0.17	26.59	-0.1217	-0.0376	0.0004
317	SLE RA 14	-0.45	0.18	27.45	-0.1275	-0.0322	0.0004
317	SLE RA 15	-0.53	0.18	27.09	-0.1258	-0.035	0.0004
317	SLE RA 16	-0.44	0.18	27.33	-0.1266	-0.0312	0.0004
317	SLE RA 17	-0.51	0.17	26.98	-0.1249	-0.034	0.0004
317	SLE RA 18	-0.55	0.18	27.99	-0.1262	-0.0376	0.0004
317	SLE RA 19	-0.62	0.17	27.64	-0.1245	-0.0403	0.0004
317	SLE RA 20	-0.52	0.18	28.14	-0.1282	-0.0358	0.0004
317	SLE RA 21	-0.6	0.18	27.78	-0.1265	-0.0386	0.0004
317	SLE FR 1	-0.36	0.16	24.81	-0.1142	-0.0282	0.0003
317	SLE FR 2	-0.39	0.16	24.7	-0.1136	-0.0291	0.0003
317	SLE FR 3	-0.35	0.16	24.87	-0.115	-0.0274	0.0004
317	SLE FR 4	-0.44	0.16	25.65	-0.1172	-0.0319	0.0004
317	SLE FR 5	-0.41	0.17	25.83	-0.1186	-0.0303	0.0004
317	SLE FR 6	-0.45	0.17	26.4	-0.1202	-0.0329	0.0004
317	SLE QP 1	-0.36	0.16	24.81	-0.1142	-0.0282	0.0003
317	SLE QP 2	-0.42	0.17	25.77	-0.1178	-0.031	0.0004
317	SLD 1	6.53	-0.1	20.85	-0.1676	0.2753	-0.0001
317	SLD 2	6.53	-0.1	20.85	-0.1676	0.2753	-0.0001
317	SLD 3	5.22	0.2	24.92	0.1227	0.218	0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
317	SLD 4			5.22	0.2	24.92	0.1227	0.218	0.0004
317	SLD 5			3.65	-0.37	18.11	-0.573	0.1479	-0.0005
317	SLD 6			3.65	-0.37	18.11	-0.573	0.1479	-0.0005
317	SLD 7			-0.71	0.63	31.69	0.3946	-0.0433	0.0011
317	SLD 8			-0.71	0.63	31.69	0.3946	-0.0433	0.0011
317	SLD 9			-0.12	-0.3	19.84	-0.6302	-0.0186	-0.0004
317	SLD 10			-0.12	-0.3	19.84	-0.6302	-0.0186	-0.0004
317	SLD 11			-4.48	0.7	33.42	0.3374	-0.2099	0.0012
317	SLD 12			-4.48	0.7	33.42	0.3374	-0.2099	0.0012
317	SLD 13			-6.05	0.13	26.61	-0.3582	-0.2799	0.0003
317	SLD 14			-6.05	0.13	26.61	-0.3582	-0.2799	0.0003
317	SLD 15			-7.36	0.43	30.69	-0.0679	-0.3373	0.0008
317	SLD 16			-7.36	0.43	30.69	-0.0679	-0.3373	0.0008
317	SLV 1			15.87	-0.49	13.95	-0.245	0.6871	-0.0007
317	SLV 2			15.87	-0.49	13.95	-0.245	0.6871	-0.0007
317	SLV 3			12.71	0.26	24.01	0.4844	0.5491	0.0005
317	SLV 4			12.71	0.26	24.01	0.4844	0.5491	0.0005
317	SLV 5			9.25	-1.18	6.98	-1.2622	0.3938	-0.0017
317	SLV 6			9.25	-1.18	6.98	-1.2622	0.3938	-0.0017
317	SLV 7			-1.26	1.34	40.49	1.1691	-0.0663	0.0022
317	SLV 8			-1.26	1.34	40.49	1.1691	-0.0663	0.0022
317	SLV 9			0.43	-1.01	11.05	-1.4047	0.0044	-0.0014
317	SLV 10			0.43	-1.01	11.05	-1.4047	0.0044	-0.0014
317	SLV 11			-10.08	1.51	44.56	1.0266	-0.4558	0.0024
317	SLV 12			-10.08	1.51	44.56	1.0266	-0.4558	0.0024
317	SLV 13			-13.55	0.07	27.53	-0.72	-0.6111	0.0003
317	SLV 14			-13.55	0.07	27.53	-0.72	-0.6111	0.0003
317	SLV 15			-16.7	0.83	37.58	0.0094	-0.7491	0.0014
317	SLV 16			-16.7	0.83	37.58	0.0094	-0.7491	0.0014
318	SLU 1			0.17	0.15	26.68	-0.0954	-0.0093	0.0002
318	SLU 2			-0.09	0.14	25.46	-0.0915	-0.0187	0.0002
318	SLU 3			0.19	0.16	27.05	-0.0988	-0.0088	0.0002
318	SLU 4			0.03	0.15	26.32	-0.0965	-0.0145	0.0002
318	SLU 5			-0.06	0.15	25.61	-0.0937	-0.0175	0.0002
318	SLU 6			0.22	0.16	27.2	-0.1009	-0.0076	0.0002
318	SLU 7			0.06	0.15	26.47	-0.0986	-0.0133	0.0002
318	SLU 8			0.23	0.16	26.97	-0.0997	-0.0069	0.0002
318	SLU 9			0.07	0.15	26.24	-0.0974	-0.0126	0.0002
318	SLU 10			-0.25	0.16	29.11	-0.1022	-0.0276	0.0002
318	SLU 11			0.03	0.17	30.7	-0.1094	-0.0177	0.0003
318	SLU 12			-0.13	0.17	29.97	-0.1071	-0.0233	0.0002
318	SLU 13			-0.22	0.16	29.25	-0.1043	-0.0264	0.0002
318	SLU 14			0.05	0.18	30.84	-0.1116	-0.0165	0.0003
318	SLU 15			-0.1	0.17	30.12	-0.1093	-0.0222	0.0002
318	SLU 16			0.07	0.17	30.61	-0.1103	-0.0158	0.0003
318	SLU 17			-0.09	0.17	29.88	-0.108	-0.0215	0.0002
318	SLU 18			-0.06	0.18	31.89	-0.1106	-0.0219	0.0003
318	SLU 19			-0.22	0.17	31.16	-0.1083	-0.0276	0.0002
318	SLU 20			-0.03	0.18	32.03	-0.1127	-0.0208	0.0003
318	SLU 21			-0.19	0.17	31.3	-0.1104	-0.0264	0.0003
318	SLU 22			0.07	0.17	29.84	-0.1068	-0.0155	0.0002
318	SLU 23			-0.19	0.16	28.63	-0.103	-0.0249	0.0002
318	SLU 24			0.09	0.17	30.22	-0.1103	-0.015	0.0003
318	SLU 25			-0.07	0.17	29.49	-0.108	-0.0207	0.0002
318	SLU 26			-0.16	0.16	28.77	-0.1051	-0.0238	0.0002
318	SLU 27			0.11	0.18	30.37	-0.1124	-0.0139	0.0003
318	SLU 28			-0.04	0.17	29.64	-0.1101	-0.0195	0.0003
318	SLU 29			0.12	0.17	30.13	-0.1111	-0.0132	0.0003
318	SLU 30			-0.03	0.17	29.4	-0.1088	-0.0188	0.0002
318	SLU 31			-0.35	0.18	32.27	-0.1136	-0.0338	0.0003
318	SLU 32			-0.08	0.19	33.87	-0.1209	-0.0239	0.0003
318	SLU 33			-0.23	0.19	33.14	-0.1186	-0.0296	0.0003
318	SLU 34			-0.32	0.18	32.42	-0.1158	-0.0326	0.0003
318	SLU 35			-0.05	0.19	34.01	-0.1231	-0.0227	0.0003
318	SLU 36			-0.2	0.19	33.28	-0.1208	-0.0284	0.0003
318	SLU 37			-0.04	0.19	33.78	-0.1218	-0.022	0.0003
318	SLU 38			-0.19	0.19	33.05	-0.1195	-0.0277	0.0003
318	SLU 39			-0.16	0.19	35.05	-0.122	-0.0282	0.0003
318	SLU 40			-0.32	0.19	34.32	-0.1197	-0.0338	0.0003
318	SLU 41			-0.13	0.2	35.2	-0.1242	-0.027	0.0003
318	SLU 42			-0.29	0.19	34.47	-0.1219	-0.0327	0.0003
318	SLU 43			0.26	0.19	33.6	-0.12	-0.0099	0.0003
318	SLU 44			0	0.18	32.38	-0.1162	-0.0193	0.0003
318	SLU 45			0.27	0.19	33.97	-0.1235	-0.0095	0.0003
318	SLU 46			0.12	0.19	33.24	-0.1212	-0.0151	0.0003
318	SLU 47			0.02	0.18	32.53	-0.1183	-0.0182	0.0003
318	SLU 48			0.3	0.2	34.12	-0.1256	-0.0083	0.0003
318	SLU 49			0.15	0.19	33.39	-0.1233	-0.014	0.0003
318	SLU 50			0.31	0.2	33.89	-0.1243	-0.0076	0.0003
318	SLU 51			0.16	0.19	33.16	-0.122	-0.0132	0.0003
318	SLU 52			-0.16	0.2	36.03	-0.1268	-0.0282	0.0003
318	SLU 53			0.11	0.21	37.62	-0.1341	-0.0183	0.0003
318	SLU 54			-0.04	0.21	36.89	-0.1318	-0.024	0.0003
318	SLU 55			-0.14	0.2	36.17	-0.129	-0.027	0.0003
318	SLU 56			0.14	0.21	37.76	-0.1363	-0.0172	0.0003
318	SLU 57			-0.02	0.21	37.03	-0.134	-0.0228	0.0003
318	SLU 58			0.15	0.21	37.53	-0.135	-0.0164	0.0003
318	SLU 59			0	0.21	36.8	-0.1327	-0.0221	0.0003
318	SLU 60			0.02	0.21	38.8	-0.1353	-0.0226	0.0003
318	SLU 61			-0.13	0.21	38.07	-0.133	-0.0282	0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
318	SLU 62			0.05	0.22	38.95	-0.1374	-0.0214	0.0003
318	SLU 63			-0.1	0.21	38.22	-0.1351	-0.0271	0.0003
318	SLU 64			0.15	0.21	36.76	-0.1315	-0.0161	0.0003
318	SLU 65			-0.11	0.2	35.55	-0.1277	-0.0256	0.0003
318	SLU 66			0.17	0.21	37.14	-0.1349	-0.0157	0.0003
318	SLU 67			0.02	0.21	36.41	-0.1326	-0.0213	0.0003
318	SLU 68			-0.08	0.2	35.69	-0.1298	-0.0244	0.0003
318	SLU 69			0.2	0.22	37.28	-0.1371	-0.0145	0.0003
318	SLU 70			0.04	0.21	36.55	-0.1348	-0.0202	0.0003
318	SLU 71			0.21	0.21	37.05	-0.1358	-0.0138	0.0003
318	SLU 72			0.06	0.21	36.32	-0.1335	-0.0195	0.0003
318	SLU 73			-0.27	0.22	39.19	-0.1383	-0.0344	0.0003
318	SLU 74			0.01	0.23	40.78	-0.1456	-0.0246	0.0003
318	SLU 75			-0.15	0.23	40.05	-0.1433	-0.0302	0.0003
318	SLU 76			-0.24	0.22	39.34	-0.1405	-0.0333	0.0003
318	SLU 77			0.04	0.23	40.93	-0.1477	-0.0234	0.0003
318	SLU 78			-0.12	0.23	40.2	-0.1454	-0.0291	0.0003
318	SLU 79			0.05	0.23	40.7	-0.1465	-0.0227	0.0003
318	SLU 80			-0.11	0.23	39.97	-0.1442	-0.0283	0.0003
318	SLU 81			-0.08	0.23	41.97	-0.1467	-0.0288	0.0003
318	SLU 82			-0.23	0.23	41.24	-0.1444	-0.0345	0.0003
318	SLU 83			-0.05	0.24	42.11	-0.1489	-0.0276	0.0003
318	SLU 84			-0.2	0.23	41.39	-0.1466	-0.0333	0.0003
318	SLE RA 1			0.14	0.16	27.58	-0.0986	-0.011	0.0002
318	SLE RA 2			-0.03	0.15	26.77	-0.0961	-0.0173	0.0002
318	SLE RA 3			0.15	0.16	27.83	-0.1009	-0.0107	0.0002
318	SLE RA 4			0.05	0.16	27.35	-0.0994	-0.0145	0.0002
318	SLE RA 5			-0.01	0.15	26.87	-0.0975	-0.0166	0.0002
318	SLE RA 6			0.17	0.16	27.93	-0.1024	-0.01	0.0002
318	SLE RA 7			0.07	0.16	27.44	-0.1008	-0.0137	0.0002
318	SLE RA 8			0.18	0.16	27.78	-0.1015	-0.0095	0.0002
318	SLE RA 9			0.07	0.16	27.29	-0.1	-0.0133	0.0002
318	SLE RA 10			-0.14	0.16	29.2	-0.1032	-0.0232	0.0002
318	SLE RA 11			0.04	0.17	30.26	-0.108	-0.0167	0.0002
318	SLE RA 12			-0.06	0.17	29.78	-0.1065	-0.0204	0.0002
318	SLE RA 13			-0.12	0.16	29.3	-0.1046	-0.0225	0.0002
318	SLE RA 14			0.06	0.17	30.36	-0.1095	-0.0159	0.0003
318	SLE RA 15			-0.04	0.17	29.87	-0.1079	-0.0197	0.0002
318	SLE RA 16			0.07	0.17	30.21	-0.1086	-0.0154	0.0002
318	SLE RA 17			-0.03	0.17	29.72	-0.1071	-0.0192	0.0002
318	SLE RA 18			-0.01	0.17	31.05	-0.1088	-0.0195	0.0002
318	SLE RA 19			-0.12	0.17	30.57	-0.1072	-0.0233	0.0002
318	SLE RA 20			0.01	0.17	31.15	-0.1102	-0.0187	0.0003
318	SLE RA 21			-0.1	0.17	30.66	-0.1087	-0.0225	0.0002
318	SLE FR 1			0.14	0.16	27.58	-0.0986	-0.011	0.0002
318	SLE FR 2			0.11	0.16	27.42	-0.0981	-0.0123	0.0002
318	SLE FR 3			0.15	0.16	27.62	-0.0992	-0.0107	0.0002
318	SLE FR 4			0.06	0.16	28.46	-0.1012	-0.0148	0.0002
318	SLE FR 5			0.1	0.16	28.66	-0.1023	-0.0133	0.0002
318	SLE FR 6			0.06	0.16	29.32	-0.1037	-0.0153	0.0002
318	SLE QP 1			0.14	0.16	27.58	-0.0986	-0.011	0.0002
318	SLE QP 2			0.09	0.16	28.62	-0.1017	-0.0136	0.0002
318	SLD 1			6.47	-0.07	22.45	-0.1384	0.2748	0
318	SLD 2			6.47	-0.07	22.45	-0.1384	0.2748	0
318	SLD 3			5.26	0.18	26.4	0.1084	0.2238	0.0002
318	SLD 4			5.26	0.18	26.4	0.1084	0.2238	0.0002
318	SLD 5			3.83	-0.29	20.79	-0.4869	0.1504	-0.0001
318	SLD 6			3.83	-0.29	20.79	-0.4869	0.1504	-0.0001
318	SLD 7			-0.18	0.55	33.94	0.3356	-0.0198	0.0005
318	SLD 8			-0.18	0.55	33.94	0.3356	-0.0198	0.0005
318	SLD 9			0.37	-0.23	23.31	-0.5389	-0.0073	-0.0001
318	SLD 10			0.37	-0.23	23.31	-0.5389	-0.0073	-0.0001
318	SLD 11			-3.64	0.61	36.46	0.2836	-0.1775	0.0006
318	SLD 12			-3.64	0.61	36.46	0.2836	-0.1775	0.0006
318	SLD 13			-5.08	0.14	30.85	-0.3117	-0.2509	0.0002
318	SLD 14			-5.08	0.14	30.85	-0.3117	-0.2509	0.0002
318	SLD 15			-6.28	0.4	34.79	-0.065	-0.302	0.0004
318	SLD 16			-6.28	0.4	34.79	-0.065	-0.302	0.0004
318	SLV 1			15.04	-0.42	14	-0.1951	0.6626	-0.0003
318	SLV 2			15.04	-0.42	14	-0.1951	0.6626	-0.0003
318	SLV 3			12.13	0.21	23.57	0.4248	0.5399	0.0002
318	SLV 4			12.13	0.21	23.57	0.4248	0.5399	0.0002
318	SLV 5			8.99	-0.97	9.73	-1.0698	0.3753	-0.0006
318	SLV 6			8.99	-0.97	9.73	-1.0698	0.3753	-0.0006
318	SLV 7			-0.71	1.13	41.62	0.9964	-0.0336	0.0009
318	SLV 8			-0.71	1.13	41.62	0.9964	-0.0336	0.0009
318	SLV 9			0.9	-0.81	15.63	-1.1997	0.0064	-0.0005
318	SLV 10			0.9	-0.81	15.63	-1.1997	0.0064	-0.0005
318	SLV 11			-8.81	1.29	47.52	0.8664	-0.4025	0.0011
318	SLV 12			-8.81	1.29	47.52	0.8664	-0.4025	0.0011
318	SLV 13			-11.94	0.11	33.68	-0.6282	-0.5671	0.0003
318	SLV 14			-11.94	0.11	33.68	-0.6282	-0.5671	0.0003
318	SLV 15			-14.85	0.74	43.25	-0.0083	-0.6897	0.0007
318	SLV 16			-14.85	0.74	43.25	-0.0083	-0.6897	0.0007
319	SLU 1			0.11	0.12	30.33	-0.0734	-0.0186	0.0001
319	SLU 2			-0.18	0.12	28.7	-0.0708	-0.0284	0.0001
319	SLU 3			0.13	0.13	30.7	-0.0758	-0.0172	0.0001
319	SLU 4			-0.04	0.12	29.72	-0.0743	-0.0231	0.0001
319	SLU 5			-0.15	0.12	28.76	-0.0722	-0.0262	0.0001
319	SLU 6			0.16	0.13	30.76	-0.0773	-0.015	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
319	SLU 7			-0.01	0.13	29.79	-0.0757	-0.0209	0.0001
319	SLU 8			0.17	0.13	30.46	-0.0763	-0.0143	0.0001
319	SLU 9			0	0.12	29.48	-0.0747	-0.0201	0.0001
319	SLU 10			-0.39	0.13	32.77	-0.0789	-0.0404	0.0001
319	SLU 11			-0.08	0.14	34.76	-0.0839	-0.0292	0.0001
319	SLU 12			-0.25	0.14	33.79	-0.0823	-0.035	0.0001
319	SLU 13			-0.36	0.13	32.83	-0.0803	-0.0382	0.0001
319	SLU 14			-0.05	0.14	34.83	-0.0853	-0.027	0.0001
319	SLU 15			-0.22	0.14	33.85	-0.0838	-0.0329	0.0001
319	SLU 16			-0.04	0.14	34.52	-0.0843	-0.0263	0.0001
319	SLU 17			-0.21	0.14	33.55	-0.0828	-0.0321	0.0001
319	SLU 18			-0.19	0.14	36.14	-0.0849	-0.0357	0.0001
319	SLU 19			-0.36	0.14	35.16	-0.0834	-0.0416	0.0001
319	SLU 20			-0.16	0.15	36.2	-0.0864	-0.0336	0.0001
319	SLU 21			-0.33	0.14	35.23	-0.0848	-0.0394	0.0001
319	SLU 22			-0.02	0.14	33.86	-0.082	-0.0265	0.0001
319	SLU 23			-0.3	0.13	32.24	-0.0794	-0.0363	0.0001
319	SLU 24			0.01	0.14	34.23	-0.0844	-0.0251	0.0001
319	SLU 25			-0.16	0.14	33.26	-0.0829	-0.0309	0.0001
319	SLU 26			-0.27	0.13	32.3	-0.0808	-0.0341	0.0001
319	SLU 27			0.04	0.14	34.3	-0.0859	-0.0229	0.0001
319	SLU 28			-0.13	0.14	33.32	-0.0843	-0.0288	0.0001
319	SLU 29			0.04	0.14	33.99	-0.0849	-0.0221	0.0001
319	SLU 30			-0.13	0.14	33.02	-0.0833	-0.028	0.0001
319	SLU 31			-0.51	0.15	36.3	-0.0875	-0.0482	0.0001
319	SLU 32			-0.2	0.16	38.3	-0.0925	-0.037	0.0001
319	SLU 33			-0.37	0.15	37.33	-0.091	-0.0429	0.0001
319	SLU 34			-0.48	0.15	36.37	-0.0889	-0.0461	0.0001
319	SLU 35			-0.17	0.16	38.37	-0.0939	-0.0349	0.0001
319	SLU 36			-0.35	0.15	37.39	-0.0924	-0.0407	0.0001
319	SLU 37			-0.17	0.16	38.06	-0.0929	-0.0341	0.0001
319	SLU 38			-0.34	0.15	37.09	-0.0914	-0.04	0.0001
319	SLU 39			-0.32	0.16	39.67	-0.0935	-0.0436	0.0001
319	SLU 40			-0.49	0.16	38.7	-0.092	-0.0495	0.0001
319	SLU 41			-0.29	0.16	39.74	-0.095	-0.0414	0.0001
319	SLU 42			-0.46	0.16	38.76	-0.0934	-0.0473	0.0001
319	SLU 43			0.19	0.16	38.21	-0.0925	-0.0215	0.0001
319	SLU 44			-0.1	0.15	36.59	-0.0899	-0.0313	0.0001
319	SLU 45			0.21	0.16	38.58	-0.0949	-0.0201	0.0001
319	SLU 46			0.04	0.16	37.61	-0.0933	-0.0259	0.0001
319	SLU 47			-0.07	0.15	36.65	-0.0913	-0.0291	0.0001
319	SLU 48			0.24	0.16	38.65	-0.0963	-0.0179	0.0001
319	SLU 49			0.07	0.16	37.67	-0.0948	-0.0238	0.0001
319	SLU 50			0.24	0.16	38.34	-0.0953	-0.0172	0.0001
319	SLU 51			0.07	0.16	37.37	-0.0938	-0.023	0.0001
319	SLU 52			-0.31	0.16	40.65	-0.0979	-0.0433	0.0001
319	SLU 53			0	0.17	42.65	-0.103	-0.0321	0.0001
319	SLU 54			-0.17	0.17	41.67	-0.1014	-0.0379	0.0001
319	SLU 55			-0.28	0.17	40.72	-0.0994	-0.0411	0.0001
319	SLU 56			0.03	0.18	42.71	-0.1044	-0.0299	0.0001
319	SLU 57			-0.14	0.17	41.74	-0.1028	-0.0358	0.0001
319	SLU 58			0.03	0.17	42.41	-0.1034	-0.0291	0.0001
319	SLU 59			-0.14	0.17	41.43	-0.1018	-0.035	0.0001
319	SLU 60			-0.11	0.18	44.02	-0.104	-0.0386	0.0001
319	SLU 61			-0.29	0.17	43.05	-0.1024	-0.0445	0.0001
319	SLU 62			-0.09	0.18	44.09	-0.1054	-0.0364	0.0001
319	SLU 63			-0.26	0.17	43.11	-0.1039	-0.0423	0.0001
319	SLU 64			0.06	0.17	41.75	-0.1011	-0.0294	0.0001
319	SLU 65			-0.23	0.17	40.12	-0.0985	-0.0391	0.0001
319	SLU 66			0.08	0.17	42.12	-0.1035	-0.0279	0.0001
319	SLU 67			-0.09	0.17	41.14	-0.1019	-0.0338	0.0001
319	SLU 68			-0.2	0.17	40.19	-0.0999	-0.037	0.0001
319	SLU 69			0.11	0.18	42.18	-0.1049	-0.0258	0.0001
319	SLU 70			-0.06	0.17	41.21	-0.1034	-0.0316	0.0001
319	SLU 71			0.12	0.17	41.88	-0.1039	-0.025	0.0001
319	SLU 72			-0.05	0.17	40.9	-0.1024	-0.0309	0.0001
319	SLU 73			-0.44	0.18	44.19	-0.1065	-0.0511	0.0001
319	SLU 74			-0.13	0.19	46.19	-0.1116	-0.0399	0.0001
319	SLU 75			-0.3	0.19	45.21	-0.11	-0.0458	0.0001
319	SLU 76			-0.41	0.18	44.25	-0.108	-0.049	0.0001
319	SLU 77			-0.1	0.19	46.25	-0.113	-0.0378	0.0001
319	SLU 78			-0.27	0.19	45.28	-0.1114	-0.0436	0.0001
319	SLU 79			-0.09	0.19	45.95	-0.112	-0.037	0.0001
319	SLU 80			-0.26	0.19	44.97	-0.1104	-0.0429	0.0001
319	SLU 81			-0.24	0.19	47.56	-0.1126	-0.0465	0.0001
319	SLU 82			-0.41	0.19	46.58	-0.111	-0.0523	0.0001
319	SLU 83			-0.21	0.19	47.62	-0.114	-0.0443	0.0001
319	SLU 84			-0.38	0.19	46.65	-0.1125	-0.0502	0.0001
319	SLE RA 1			0.07	0.13	31.34	-0.0759	-0.0209	0.0001
319	SLE RA 2			-0.12	0.12	30.25	-0.0741	-0.0274	0.0001
319	SLE RA 3			0.09	0.13	31.58	-0.0775	-0.0199	0.0001
319	SLE RA 4			-0.02	0.13	30.93	-0.0764	-0.0238	0.0001
319	SLE RA 5			-0.1	0.13	30.3	-0.0751	-0.0259	0.0001
319	SLE RA 6			0.11	0.13	31.63	-0.0784	-0.0185	0.0001
319	SLE RA 7			0	0.13	30.98	-0.0774	-0.0224	0.0001
319	SLE RA 8			0.11	0.13	31.42	-0.0778	-0.018	0.0001
319	SLE RA 9			0	0.13	30.77	-0.0767	-0.0219	0.0001
319	SLE RA 10			-0.26	0.13	32.96	-0.0795	-0.0354	0.0001
319	SLE RA 11			-0.05	0.14	34.3	-0.0829	-0.0279	0.0001
319	SLE RA 12			-0.16	0.14	33.64	-0.0818	-0.0318	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
319	SLE RA 13			-0.24	0.14	33.01	-0.0804	-0.0339	0.0001
319	SLE RA 14			-0.03	0.14	34.34	-0.0838	-0.0265	0.0001
319	SLE RA 15			-0.15	0.14	33.69	-0.0828	-0.0304	0.0001
319	SLE RA 16			-0.03	0.14	34.14	-0.0831	-0.026	0.0001
319	SLE RA 17			-0.14	0.14	33.48	-0.0821	-0.0299	0.0001
319	SLE RA 18			-0.13	0.14	35.21	-0.0835	-0.0323	0.0001
319	SLE RA 19			-0.24	0.14	34.56	-0.0825	-0.0362	0.0001
319	SLE RA 20			-0.11	0.14	35.25	-0.0845	-0.0308	0.0001
319	SLE RA 21			-0.22	0.14	34.6	-0.0835	-0.0347	0.0001
319	SLE FR 1			0.07	0.13	31.34	-0.0759	-0.0209	0.0001
319	SLE FR 2			0.03	0.13	31.12	-0.0755	-0.0222	0.0001
319	SLE FR 3			0.08	0.13	31.35	-0.0762	-0.0203	0.0001
319	SLE FR 4			-0.03	0.13	32.28	-0.0778	-0.0256	0.0001
319	SLE FR 5			0.02	0.13	32.52	-0.0785	-0.0237	0.0001
319	SLE FR 6			-0.03	0.14	33.27	-0.0797	-0.0266	0.0001
319	SLE QP 1			0.07	0.13	31.34	-0.0759	-0.0209	0.0001
319	SLE QP 2			0.01	0.13	32.5	-0.0782	-0.0243	0.0001
319	SLD 1			4.63	-0.06	23.92	-0.098	0.2326	0.0001
319	SLD 2			4.63	-0.06	23.92	-0.098	0.2326	0.0001
319	SLD 3			5.7	0.12	28.15	0.0919	0.1874	0.0002
319	SLD 4			5.7	0.12	28.15	0.0919	0.1874	0.0002
319	SLD 5			-0.23	-0.21	23.51	-0.3722	0.1213	0
319	SLD 6			-0.23	-0.21	23.51	-0.3722	0.1213	0
319	SLD 7			3.34	0.41	37.61	0.261	-0.0293	0.0002
319	SLD 8			3.34	0.41	37.61	0.261	-0.0293	0.0002
319	SLD 9			-3.32	-0.14	27.39	-0.4173	-0.0193	-0.0001
319	SLD 10			-3.32	-0.14	27.39	-0.4173	-0.0193	-0.0001
319	SLD 11			0.25	0.47	41.49	0.2159	-0.1699	0.0002
319	SLD 12			0.25	0.47	41.49	0.2159	-0.1699	0.0002
319	SLD 13			-5.67	0.14	36.85	-0.2483	-0.236	0
319	SLD 14			-5.67	0.14	36.85	-0.2483	-0.236	0
319	SLD 15			-4.6	0.33	41.08	-0.0583	-0.2812	0
319	SLD 16			-4.6	0.33	41.08	-0.0583	-0.2812	0
319	SLV 1			10.74	-0.35	12.33	-0.1287	0.5779	0.0002
319	SLV 2			10.74	-0.35	12.33	-0.1287	0.5779	0.0002
319	SLV 3			13.35	0.11	22.37	0.3483	0.4686	0.0004
319	SLV 4			13.35	0.11	22.37	0.3483	0.4686	0.0004
319	SLV 5			-0.72	-0.71	11.22	-0.8168	0.3221	-0.0001
319	SLV 6			-0.72	-0.71	11.22	-0.8168	0.3221	-0.0001
319	SLV 7			7.97	0.82	44.69	0.7733	-0.0421	0.0004
319	SLV 8			7.97	0.82	44.69	0.7733	-0.0421	0.0004
319	SLV 9			-7.94	-0.56	20.31	-0.9296	-0.0064	-0.0003
319	SLV 10			-7.94	-0.56	20.31	-0.9296	-0.0064	-0.0003
319	SLV 11			0.75	0.97	53.78	0.6605	-0.3707	0.0003
319	SLV 12			0.75	0.97	53.78	0.6605	-0.3707	0.0003
319	SLV 13			-13.32	0.16	42.63	-0.5046	-0.5172	-0.0002
319	SLV 14			-13.32	0.16	42.63	-0.5046	-0.5172	-0.0002
319	SLV 15			-10.72	0.62	52.67	-0.0276	-0.6264	0
319	SLV 16			-10.72	0.62	52.67	-0.0276	-0.6264	0
320	SLU 1			-0.7	0.07	34.66	-0.0415	-0.0529	0
320	SLU 2			-0.95	0.06	32.55	-0.0409	-0.0615	0
320	SLU 3			-0.69	0.07	35.03	-0.0428	-0.0528	0
320	SLU 4			-0.84	0.07	33.76	-0.0425	-0.058	0
320	SLU 5			-0.94	0.06	32.52	-0.0417	-0.0608	0
320	SLU 6			-0.67	0.07	35	-0.0436	-0.0521	0
320	SLU 7			-0.82	0.07	33.74	-0.0433	-0.0573	0
320	SLU 8			-0.67	0.07	34.61	-0.043	-0.0514	0
320	SLU 9			-0.82	0.07	33.34	-0.0427	-0.0566	0
320	SLU 10			-1.3	0.07	37.12	-0.0453	-0.0787	0
320	SLU 11			-1.03	0.07	39.6	-0.0472	-0.07	0
320	SLU 12			-1.18	0.07	38.33	-0.0469	-0.0752	0
320	SLU 13			-1.28	0.07	37.09	-0.0461	-0.078	0
320	SLU 14			-1.01	0.07	39.57	-0.048	-0.0693	0
320	SLU 15			-1.17	0.07	38.31	-0.0476	-0.0745	0
320	SLU 16			-1.01	0.07	39.18	-0.0474	-0.0687	0
320	SLU 17			-1.16	0.07	37.91	-0.0471	-0.0738	0
320	SLU 18			-1.19	0.08	41.19	-0.0477	-0.0775	0
320	SLU 19			-1.34	0.08	39.92	-0.0474	-0.0827	0
320	SLU 20			-1.17	0.08	41.16	-0.0485	-0.0768	0
320	SLU 21			-1.32	0.08	39.9	-0.0482	-0.0819	0
320	SLU 22			-0.94	0.07	38.65	-0.0462	-0.0656	0
320	SLU 23			-1.19	0.07	36.54	-0.0456	-0.0742	0
320	SLU 24			-0.92	0.07	39.01	-0.0475	-0.0655	0
320	SLU 25			-1.08	0.07	37.75	-0.0472	-0.0707	0
320	SLU 26			-1.18	0.07	36.51	-0.0464	-0.0735	0
320	SLU 27			-0.91	0.08	38.99	-0.0483	-0.0648	0
320	SLU 28			-1.06	0.07	37.72	-0.048	-0.07	0
320	SLU 29			-0.9	0.07	38.59	-0.0477	-0.0641	0
320	SLU 30			-1.06	0.07	37.33	-0.0474	-0.0693	0
320	SLU 31			-1.53	0.08	41.11	-0.05	-0.0914	0
320	SLU 32			-1.27	0.08	43.58	-0.0519	-0.0827	0.0001
320	SLU 33			-1.42	0.08	42.32	-0.0516	-0.0879	0
320	SLU 34			-1.52	0.08	41.08	-0.0508	-0.0907	0
320	SLU 35			-1.25	0.08	43.56	-0.0527	-0.082	0.0001
320	SLU 36			-1.4	0.08	42.29	-0.0524	-0.0872	0
320	SLU 37			-1.25	0.08	43.16	-0.0521	-0.0814	0.0001
320	SLU 38			-1.4	0.08	41.9	-0.0518	-0.0865	0
320	SLU 39			-1.42	0.08	45.17	-0.0524	-0.0902	0.0001
320	SLU 40			-1.58	0.08	43.91	-0.0521	-0.0954	0.0001
320	SLU 41			-1.41	0.08	45.15	-0.0532	-0.0895	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
320	SLU 42		-1.56	0.08	43.88	-0.0529	-0.0947	0.0001
320	SLU 43		-0.83	0.08	43.69	-0.0523	-0.0644	0.0001
320	SLU 44		-1.08	0.08	41.58	-0.0517	-0.073	0
320	SLU 45		-0.81	0.08	44.06	-0.0536	-0.0643	0.0001
320	SLU 46		-0.97	0.08	42.79	-0.0533	-0.0695	0.0001
320	SLU 47		-1.07	0.08	41.56	-0.0525	-0.0723	0
320	SLU 48		-0.8	0.08	44.03	-0.0544	-0.0636	0.0001
320	SLU 49		-0.95	0.08	42.77	-0.0541	-0.0688	0.0001
320	SLU 50		-0.79	0.08	43.64	-0.0538	-0.0629	0.0001
320	SLU 51		-0.95	0.08	42.37	-0.0535	-0.0681	0.0001
320	SLU 52		-1.42	0.09	46.15	-0.0561	-0.0903	0.0001
320	SLU 53		-1.16	0.09	48.63	-0.058	-0.0815	0.0001
320	SLU 54		-1.31	0.09	47.36	-0.0577	-0.0867	0.0001
320	SLU 55		-1.41	0.09	46.13	-0.0569	-0.0895	0.0001
320	SLU 56		-1.14	0.09	48.6	-0.0588	-0.0808	0.0001
320	SLU 57		-1.29	0.09	47.34	-0.0585	-0.086	0.0001
320	SLU 58		-1.14	0.09	48.21	-0.0582	-0.0802	0.0001
320	SLU 59		-1.29	0.09	46.94	-0.0579	-0.0854	0.0001
320	SLU 60		-1.31	0.09	50.22	-0.0585	-0.089	0.0001
320	SLU 61		-1.47	0.09	48.95	-0.0582	-0.0942	0.0001
320	SLU 62		-1.3	0.09	50.19	-0.0593	-0.0883	0.0001
320	SLU 63		-1.45	0.09	48.93	-0.059	-0.0935	0.0001
320	SLU 64		-1.06	0.09	47.68	-0.057	-0.0771	0.0001
320	SLU 65		-1.32	0.09	45.57	-0.0565	-0.0857	0.0001
320	SLU 66		-1.05	0.09	48.05	-0.0584	-0.077	0.0001
320	SLU 67		-1.21	0.09	46.78	-0.058	-0.0822	0.0001
320	SLU 68		-1.3	0.09	45.54	-0.0572	-0.085	0.0001
320	SLU 69		-1.04	0.09	48.02	-0.0591	-0.0763	0.0001
320	SLU 70		-1.19	0.09	46.75	-0.0588	-0.0815	0.0001
320	SLU 71		-1.03	0.09	47.62	-0.0585	-0.0756	0.0001
320	SLU 72		-1.18	0.09	46.36	-0.0582	-0.0808	0.0001
320	SLU 73		-1.66	0.1	50.14	-0.0608	-0.103	0.0001
320	SLU 74		-1.39	0.1	52.62	-0.0627	-0.0942	0.0001
320	SLU 75		-1.55	0.1	51.35	-0.0624	-0.0994	0.0001
320	SLU 76		-1.65	0.1	50.11	-0.0616	-0.1022	0.0001
320	SLU 77		-1.38	0.1	52.59	-0.0635	-0.0935	0.0001
320	SLU 78		-1.53	0.1	51.32	-0.0632	-0.0987	0.0001
320	SLU 79		-1.37	0.1	52.19	-0.0629	-0.0929	0.0001
320	SLU 80		-1.53	0.1	50.93	-0.0626	-0.0981	0.0001
320	SLU 81		-1.55	0.1	54.2	-0.0633	-0.1017	0.0001
320	SLU 82		-1.71	0.1	52.94	-0.0629	-0.1069	0.0001
320	SLU 83		-1.54	0.1	54.18	-0.064	-0.101	0.0001
320	SLU 84		-1.69	0.1	52.91	-0.0637	-0.1062	0.0001
320	SLE RA 1		-0.77	0.07	35.8	-0.0428	-0.0565	0
320	SLE RA 2		-0.94	0.07	34.39	-0.0424	-0.0623	0
320	SLE RA 3		-0.76	0.07	36.04	-0.0437	-0.0565	0
320	SLE RA 4		-0.86	0.07	35.2	-0.0435	-0.0599	0
320	SLE RA 5		-0.93	0.07	34.38	-0.043	-0.0618	0
320	SLE RA 6		-0.75	0.07	36.03	-0.0442	-0.056	0
320	SLE RA 7		-0.85	0.07	35.18	-0.044	-0.0594	0
320	SLE RA 8		-0.74	0.07	35.76	-0.0438	-0.0555	0
320	SLE RA 9		-0.85	0.07	34.92	-0.0436	-0.059	0
320	SLE RA 10		-1.16	0.07	37.44	-0.0454	-0.0738	0
320	SLE RA 11		-0.99	0.07	39.09	-0.0466	-0.0679	0
320	SLE RA 12		-1.09	0.07	38.25	-0.0464	-0.0714	0
320	SLE RA 13		-1.15	0.07	37.42	-0.0459	-0.0733	0
320	SLE RA 14		-0.98	0.07	39.07	-0.0471	-0.0675	0
320	SLE RA 15		-1.08	0.07	38.23	-0.0469	-0.0709	0
320	SLE RA 16		-0.97	0.07	38.81	-0.0468	-0.067	0
320	SLE RA 17		-1.07	0.07	37.97	-0.0465	-0.0705	0
320	SLE RA 18		-1.09	0.07	40.15	-0.047	-0.0729	0
320	SLE RA 19		-1.19	0.07	39.31	-0.0468	-0.0764	0
320	SLE RA 20		-1.08	0.07	40.13	-0.0475	-0.0724	0
320	SLE RA 21		-1.18	0.07	39.29	-0.0473	-0.0759	0
320	SLE FR 1		-0.77	0.07	35.8	-0.0428	-0.0565	0
320	SLE FR 2		-0.8	0.07	35.52	-0.0427	-0.0577	0
320	SLE FR 3		-0.76	0.07	35.79	-0.043	-0.0563	0
320	SLE FR 4		-0.9	0.07	36.82	-0.044	-0.0626	0
320	SLE FR 5		-0.86	0.07	37.1	-0.0443	-0.0612	0
320	SLE FR 6		-0.93	0.07	37.97	-0.0449	-0.0647	0
320	SLE QP 1		-0.77	0.07	35.8	-0.0428	-0.0565	0
320	SLE QP 2		-0.86	0.07	37.1	-0.0441	-0.0614	0
320	SLD 1		3.46	-0.1	24.71	-0.0467	0.1828	-0.0001
320	SLD 2		3.46	-0.1	24.71	-0.0467	0.1828	-0.0001
320	SLD 3		4.34	0.02	29.94	0.0809	0.1459	0
320	SLD 4		4.34	0.02	29.94	0.0809	0.1459	0
320	SLD 5		-0.91	-0.15	25.45	-0.2384	0.0678	-0.0002
320	SLD 6		-0.91	-0.15	25.45	-0.2384	0.0678	-0.0002
320	SLD 7		2.05	0.23	42.89	0.187	-0.0552	0.0002
320	SLD 8		2.05	0.23	42.89	0.187	-0.0552	0.0002
320	SLD 9		-3.77	-0.09	31.32	-0.2751	-0.0677	-0.0001
320	SLD 10		-3.77	-0.09	31.32	-0.2751	-0.0677	-0.0001
320	SLD 11		-0.81	0.29	48.75	0.1503	-0.1907	0.0003
320	SLD 12		-0.81	0.29	48.75	0.1503	-0.1907	0.0003
320	SLD 13		-6.07	0.12	44.26	-0.169	-0.2688	0.0001
320	SLD 14		-6.07	0.12	44.26	-0.169	-0.2688	0.0001
320	SLD 15		-5.18	0.24	49.5	-0.0414	-0.3057	0.0002
320	SLD 16		-5.18	0.24	49.5	-0.0414	-0.3057	0.0002
320	SLV 1		9.19	-0.34	8.04	-0.0514	0.5108	-0.0004
320	SLV 2		9.19	-0.34	8.04	-0.0514	0.5108	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
320	SLV 3		11.34	-0.06	20.35	0.269	0.4226	0
320	SLV 4		11.34	-0.06	20.35	0.269	0.4226	0
320	SLV 5		-1.12	-0.48	9.72	-0.5323	0.244	-0.0006
320	SLV 6		-1.12	-0.48	9.72	-0.5323	0.244	-0.0006
320	SLV 7		6.07	0.46	50.74	0.5359	-0.05	0.0005
320	SLV 8		6.07	0.46	50.74	0.5359	-0.05	0.0005
320	SLV 9		-7.8	-0.32	23.46	-0.624	-0.0729	-0.0004
320	SLV 10		-7.8	-0.32	23.46	-0.624	-0.0729	-0.0004
320	SLV 11		-0.61	0.62	64.49	0.4442	-0.3669	0.0007
320	SLV 12		-0.61	0.62	64.49	0.4442	-0.3669	0.0007
320	SLV 13		-13.07	0.2	53.86	-0.3571	-0.5455	0.0001
320	SLV 14		-13.07	0.2	53.86	-0.3571	-0.5455	0.0001
320	SLV 15		-10.91	0.48	66.17	-0.0367	-0.6337	0.0005
320	SLV 16		-10.91	0.48	66.17	-0.0367	-0.6337	0.0005
321	SLU 1		-2.65	-0.04	40.43	0.0004	-0.1582	0
321	SLU 2		-2.75	-0.03	37.77	-0.0017	-0.1589	0
321	SLU 3		-2.65	-0.04	40.81	0.0002	-0.158	0
321	SLU 4		-2.71	-0.04	39.21	-0.0011	-0.1585	0
321	SLU 5		-2.72	-0.03	37.63	-0.002	-0.1567	0
321	SLU 6		-2.62	-0.04	40.68	-0.0001	-0.1558	0
321	SLU 7		-2.68	-0.04	39.08	-0.0014	-0.1563	0
321	SLU 8		-2.59	-0.04	40.16	-0.0001	-0.1537	0
321	SLU 9		-2.65	-0.04	38.56	-0.0014	-0.1541	0
321	SLU 10		-3.34	-0.04	43.08	-0.0012	-0.1907	0
321	SLU 11		-3.23	-0.05	46.13	0.0007	-0.1898	0
321	SLU 12		-3.3	-0.04	44.53	-0.0006	-0.1903	0
321	SLU 13		-3.31	-0.04	42.95	-0.0015	-0.1884	0
321	SLU 14		-3.21	-0.05	45.99	0.0004	-0.1875	0
321	SLU 15		-3.27	-0.04	44.39	-0.0009	-0.188	0
321	SLU 16		-3.18	-0.05	45.48	0.0004	-0.1854	0
321	SLU 17		-3.24	-0.04	43.88	-0.0009	-0.1859	0
321	SLU 18		-3.48	-0.05	48.03	0.0012	-0.2035	0
321	SLU 19		-3.55	-0.04	46.43	-0.0001	-0.204	0
321	SLU 20		-3.46	-0.05	47.89	0.0009	-0.2013	0
321	SLU 21		-3.52	-0.04	46.29	-0.0004	-0.2017	0
321	SLU 22		-3.1	-0.05	45.07	0.0006	-0.1829	0
321	SLU 23		-3.2	-0.04	42.41	-0.0015	-0.1837	0
321	SLU 24		-3.1	-0.05	45.45	0.0004	-0.1828	0
321	SLU 25		-3.16	-0.04	43.85	-0.0009	-0.1832	0
321	SLU 26		-3.17	-0.04	42.27	-0.0018	-0.1814	0
321	SLU 27		-3.07	-0.05	45.32	0.0001	-0.1805	0
321	SLU 28		-3.13	-0.04	43.72	-0.0012	-0.181	0
321	SLU 29		-3.04	-0.05	44.8	0.0001	-0.1784	0
321	SLU 30		-3.1	-0.04	43.21	-0.0012	-0.1789	0
321	SLU 31		-3.79	-0.04	47.73	-0.001	-0.2154	0
321	SLU 32		-3.68	-0.05	50.77	0.0009	-0.2145	0
321	SLU 33		-3.75	-0.05	49.17	-0.0004	-0.215	0
321	SLU 34		-3.76	-0.04	47.59	-0.0013	-0.2132	0
321	SLU 35		-3.66	-0.05	50.64	0.0006	-0.2123	0
321	SLU 36		-3.72	-0.05	49.04	-0.0006	-0.2127	0
321	SLU 37		-3.63	-0.05	50.12	0.0006	-0.2101	0
321	SLU 38		-3.69	-0.05	48.52	-0.0007	-0.2106	0
321	SLU 39		-3.93	-0.05	52.67	0.0014	-0.2283	0
321	SLU 40		-4	-0.05	51.07	0.0001	-0.2287	0
321	SLU 41		-3.91	-0.05	52.54	0.0011	-0.226	0
321	SLU 42		-3.97	-0.05	50.94	-0.0002	-0.2265	0
321	SLU 43		-3.28	-0.05	50.97	0.0005	-0.1971	0
321	SLU 44		-3.39	-0.04	48.3	-0.0017	-0.1979	0
321	SLU 45		-3.29	-0.05	51.35	0.0002	-0.197	0
321	SLU 46		-3.35	-0.05	49.75	-0.0011	-0.1975	0
321	SLU 47		-3.36	-0.04	48.17	-0.0019	-0.1957	0
321	SLU 48		-3.26	-0.05	51.21	0	-0.1948	0
321	SLU 49		-3.32	-0.05	49.61	-0.0013	-0.1952	0
321	SLU 50		-3.23	-0.05	50.7	0	-0.1926	0
321	SLU 51		-3.29	-0.05	49.1	-0.0013	-0.1931	0
321	SLU 52		-3.98	-0.05	53.62	-0.0012	-0.2297	0
321	SLU 53		-3.87	-0.06	56.67	0.0007	-0.2288	0
321	SLU 54		-3.94	-0.05	55.07	-0.0005	-0.2292	0
321	SLU 55		-3.95	-0.05	53.49	-0.0014	-0.2274	0
321	SLU 56		-3.85	-0.06	56.53	0.0005	-0.2265	0
321	SLU 57		-3.91	-0.05	54.93	-0.0008	-0.227	0
321	SLU 58		-3.82	-0.06	56.02	0.0005	-0.2244	0
321	SLU 59		-3.88	-0.05	54.42	-0.0008	-0.2248	0
321	SLU 60		-4.12	-0.06	58.57	0.0012	-0.2425	0
321	SLU 61		-4.19	-0.05	56.97	-0.0001	-0.243	0
321	SLU 62		-4.1	-0.06	58.43	0.001	-0.2402	0
321	SLU 63		-4.16	-0.05	56.83	-0.0003	-0.2407	0
321	SLU 64		-3.73	-0.06	55.61	0.0007	-0.2219	0
321	SLU 65		-3.84	-0.05	52.95	-0.0015	-0.2226	0
321	SLU 66		-3.74	-0.06	55.99	0.0004	-0.2217	0
321	SLU 67		-3.8	-0.05	54.39	-0.0008	-0.2222	0
321	SLU 68		-3.81	-0.05	52.81	-0.0017	-0.2204	0
321	SLU 69		-3.71	-0.06	55.86	0.0002	-0.2195	0
321	SLU 70		-3.77	-0.05	54.26	-0.0011	-0.22	0
321	SLU 71		-3.68	-0.06	55.34	0.0002	-0.2174	0
321	SLU 72		-3.74	-0.05	53.74	-0.0011	-0.2178	0
321	SLU 73		-4.43	-0.05	58.26	-0.0009	-0.2544	0
321	SLU 74		-4.32	-0.06	61.31	0.001	-0.2535	0
321	SLU 75		-4.39	-0.06	59.71	-0.0003	-0.254	0
321	SLU 76		-4.4	-0.05	58.13	-0.0012	-0.2521	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
321	SLU 77			-4.3	-0.06	61.17	0.0007	-0.2512	0
321	SLU 78			-4.36	-0.06	59.57	-0.0006	-0.2517	0
321	SLU 79			-4.27	-0.06	60.66	0.0007	-0.2491	0
321	SLU 80			-4.33	-0.06	59.06	-0.0006	-0.2496	0
321	SLU 81			-4.57	-0.06	63.21	0.0014	-0.2672	0
321	SLU 82			-4.64	-0.06	61.61	0.0001	-0.2677	0
321	SLU 83			-4.55	-0.06	63.07	0.0012	-0.265	0
321	SLU 84			-4.61	-0.06	61.47	-0.0001	-0.2654	0
321	SLE RA 1			-2.77	-0.04	41.76	0.0005	-0.1652	0
321	SLE RA 2			-2.84	-0.04	39.98	-0.0009	-0.1657	0
321	SLE RA 3			-2.77	-0.04	42.01	0.0003	-0.1651	0
321	SLE RA 4			-2.82	-0.04	40.94	-0.0005	-0.1655	0
321	SLE RA 5			-2.83	-0.04	39.89	-0.0011	-0.1642	0
321	SLE RA 6			-2.76	-0.04	41.92	0.0001	-0.1636	0
321	SLE RA 7			-2.8	-0.04	40.85	-0.0007	-0.164	0
321	SLE RA 8			-2.74	-0.04	41.58	0.0001	-0.1622	0
321	SLE RA 9			-2.78	-0.04	40.51	-0.0007	-0.1625	0
321	SLE RA 10			-3.24	-0.04	43.53	-0.0006	-0.1869	0
321	SLE RA 11			-3.17	-0.05	45.55	0.0007	-0.1863	0
321	SLE RA 12			-3.21	-0.04	44.49	-0.0002	-0.1866	0
321	SLE RA 13			-3.22	-0.04	43.44	-0.0008	-0.1854	0
321	SLE RA 14			-3.15	-0.05	45.47	0.0005	-0.1848	0
321	SLE RA 15			-3.19	-0.04	44.4	-0.0004	-0.1851	0
321	SLE RA 16			-3.13	-0.05	45.12	0.0005	-0.1834	0
321	SLE RA 17			-3.17	-0.04	44.06	-0.0004	-0.1837	0
321	SLE RA 18			-3.33	-0.05	46.82	0.001	-0.1955	0
321	SLE RA 19			-3.38	-0.04	45.76	0.0001	-0.1958	0
321	SLE RA 20			-3.32	-0.05	46.73	0.0008	-0.194	0
321	SLE RA 21			-3.36	-0.04	45.67	-0.0001	-0.1943	0
321	SLE FR 1			-2.77	-0.04	41.76	0.0005	-0.1652	0
321	SLE FR 2			-2.79	-0.04	41.4	0.0002	-0.1653	0
321	SLE FR 3			-2.77	-0.04	41.72	0.0004	-0.1646	0
321	SLE FR 4			-2.96	-0.04	42.92	0.0003	-0.1744	0
321	SLE FR 5			-2.93	-0.04	43.24	0.0006	-0.1737	0
321	SLE FR 6			-3.05	-0.04	44.29	0.0007	-0.1803	0
321	SLE QP 1			-2.77	-0.04	41.76	0.0005	-0.1652	0
321	SLE QP 2			-2.94	-0.04	43.28	0.0006	-0.1743	0
321	SLD 1			1.85	-0.13	24.76	0.0063	0.0733	-0.0002
321	SLD 2			1.85	-0.13	24.76	0.0063	0.0733	-0.0002
321	SLD 3			1.15	-0.23	31.8	0.0737	0.034	-0.0007
321	SLD 4			1.15	-0.23	31.8	0.0737	0.034	-0.0007
321	SLD 5			-0.44	0.09	27.04	-0.1	-0.0405	0.0007
321	SLD 6			-0.44	0.09	27.04	-0.1	-0.0405	0.0007
321	SLD 7			-2.77	-0.25	50.51	0.1249	-0.1713	-0.001
321	SLD 8			-2.77	-0.25	50.51	0.1249	-0.1713	-0.001
321	SLD 9			-3.11	0.17	36.04	-0.1236	-0.1773	0.001
321	SLD 10			-3.11	0.17	36.04	-0.1236	-0.1773	0.001
321	SLD 11			-5.44	-0.17	59.51	0.1012	-0.3081	-0.0008
321	SLD 12			-5.44	-0.17	59.51	0.1012	-0.3081	-0.0008
321	SLD 13			-7.04	0.14	54.75	-0.0725	-0.3826	0.0007
321	SLD 14			-7.04	0.14	54.75	-0.0725	-0.3826	0.0007
321	SLD 15			-7.73	0.04	61.79	-0.005	-0.4219	0.0002
321	SLD 16			-7.73	0.04	61.79	-0.005	-0.4219	0.0002
321	SLV 1			8.28	-0.24	-0.17	0.0143	0.4054	-0.0004
321	SLV 2			8.28	-0.24	-0.17	0.0143	0.4054	-0.0004
321	SLV 3			6.61	-0.5	16.42	0.1836	0.3115	-0.0018
321	SLV 4			6.61	-0.5	16.42	0.1836	0.3115	-0.0018
321	SLV 5			2.96	0.29	5.08	-0.2521	0.1419	0.0018
321	SLV 6			2.96	0.29	5.08	-0.2521	0.1419	0.0018
321	SLV 7			-2.61	-0.57	60.38	0.3124	-0.1709	-0.0025
321	SLV 8			-2.61	-0.57	60.38	0.3124	-0.1709	-0.0025
321	SLV 9			-3.27	0.48	26.17	-0.3111	-0.1777	0.0025
321	SLV 10			-3.27	0.48	26.17	-0.3111	-0.1777	0.0025
321	SLV 11			-8.85	-0.37	81.47	0.2534	-0.4905	-0.0019
321	SLV 12			-8.85	-0.37	81.47	0.2534	-0.4905	-0.0019
321	SLV 13			-12.49	0.41	70.13	-0.1824	-0.6601	0.0017
321	SLV 14			-12.49	0.41	70.13	-0.1824	-0.6601	0.0017
321	SLV 15			-14.17	0.16	86.73	-0.013	-0.754	0.0004
321	SLV 16			-14.17	0.16	86.73	-0.013	-0.754	0.0004
323	SLU 1			0	-7.06	38.41	0.2771	0.0004	0
323	SLU 2			0	-7.05	38.35	0.2767	0.0004	0
323	SLU 3			0	-7.45	39.66	0.2936	0.0005	0
323	SLU 4			0	-7.44	39.62	0.2934	0.0005	0
323	SLU 5			0	-7.38	39.14	0.2911	0.0005	0
323	SLU 6			0	-7.78	40.45	0.308	0.0005	0
323	SLU 7			0	-7.78	40.41	0.3077	0.0005	0
323	SLU 8			0	-7.72	39.99	0.3059	0.0005	0
323	SLU 9			0	-7.71	39.96	0.3056	0.0005	0
323	SLU 10			0	-8.15	44.21	0.3194	0.0005	0
323	SLU 11			0	-8.55	45.51	0.3363	0.0006	0
323	SLU 12			0	-8.54	45.48	0.3361	0.0006	0
323	SLU 13			0	-8.48	45	0.3338	0.0006	0
323	SLU 14			0.01	-8.88	46.31	0.3507	0.0006	0
323	SLU 15			0.01	-8.87	46.27	0.3505	0.0006	0
323	SLU 16			0.01	-8.82	45.85	0.3486	0.0006	0
323	SLU 17			0.01	-8.81	45.81	0.3483	0.0006	0
323	SLU 18			0	-8.63	46.78	0.3382	0.0005	0
323	SLU 19			0	-8.62	46.74	0.3379	0.0005	0
323	SLU 20			0.01	-8.96	47.57	0.3525	0.0006	0
323	SLU 21			0.01	-8.95	47.53	0.3523	0.0006	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
323	SLU 22		0	-8.21	44.04	0.3227	0.0005	0
323	SLU 23		0	-8.21	43.98	0.3223	0.0005	0
323	SLU 24		0	-8.61	45.29	0.3392	0.0006	0
323	SLU 25		0	-8.6	45.25	0.339	0.0006	0
323	SLU 26		0	-8.54	44.77	0.3367	0.0006	0
323	SLU 27		0.01	-8.94	46.08	0.3536	0.0006	0
323	SLU 28		0.01	-8.93	46.04	0.3533	0.0006	0
323	SLU 29		0.01	-8.88	45.63	0.3515	0.0006	0
323	SLU 30		0.01	-8.87	45.59	0.3512	0.0006	0
323	SLU 31		0.01	-9.3	49.84	0.365	0.0006	0
323	SLU 32		0.01	-9.7	51.15	0.3819	0.0007	0
323	SLU 33		0.01	-9.7	51.11	0.3817	0.0007	0
323	SLU 34		0.01	-9.63	50.63	0.3794	0.0007	0
323	SLU 35		0.01	-10.03	51.94	0.3963	0.0007	0
323	SLU 36		0.01	-10.03	51.9	0.3961	0.0007	0
323	SLU 37		0.01	-9.97	51.48	0.3942	0.0007	0
323	SLU 38		0.01	-9.97	51.44	0.3939	0.0007	0
323	SLU 39		0.01	-9.78	52.41	0.3838	0.0006	0
323	SLU 40		0.01	-9.78	52.37	0.3835	0.0006	0
323	SLU 41		0.01	-10.11	53.2	0.3981	0.0007	0
323	SLU 42		0.01	-10.11	53.16	0.3979	0.0007	0
323	SLU 43		0	-8.78	48.01	0.3446	0.0005	0
323	SLU 44		0	-8.77	47.94	0.3442	0.0005	0
323	SLU 45		0.01	-9.17	49.25	0.3611	0.0006	0
323	SLU 46		0.01	-9.17	49.21	0.3609	0.0006	0
323	SLU 47		0.01	-9.1	48.73	0.3586	0.0006	0
323	SLU 48		0.01	-9.5	50.04	0.3755	0.0006	0
323	SLU 49		0.01	-9.5	50	0.3752	0.0006	0
323	SLU 50		0.01	-9.44	49.59	0.3734	0.0006	0
323	SLU 51		0.01	-9.44	49.55	0.3731	0.0006	0
323	SLU 52		0.01	-9.87	53.8	0.3869	0.0006	0
323	SLU 53		0.01	-10.27	55.11	0.4038	0.0007	0
323	SLU 54		0.01	-10.26	55.07	0.4036	0.0007	0
323	SLU 55		0.01	-10.2	54.59	0.4013	0.0007	0
323	SLU 56		0.01	-10.6	55.9	0.4182	0.0007	0
323	SLU 57		0.01	-10.59	55.86	0.418	0.0007	0
323	SLU 58		0.01	-10.54	55.45	0.4161	0.0007	0
323	SLU 59		0.01	-10.53	55.41	0.4158	0.0007	0
323	SLU 60		0.01	-10.35	56.37	0.4057	0.0006	0
323	SLU 61		0.01	-10.34	56.33	0.4054	0.0006	0
323	SLU 62		0.01	-10.68	57.16	0.42	0.0007	0
323	SLU 63		0.01	-10.67	57.13	0.4198	0.0007	0
323	SLU 64		0.01	-9.94	53.64	0.3902	0.0006	0
323	SLU 65		0.01	-9.93	53.57	0.3898	0.0006	0
323	SLU 66		0.01	-10.33	54.88	0.4067	0.0007	0
323	SLU 67		0.01	-10.32	54.84	0.4065	0.0007	0
323	SLU 68		0.01	-10.26	54.36	0.4042	0.0007	0
323	SLU 69		0.01	-10.66	55.67	0.4211	0.0007	0
323	SLU 70		0.01	-10.65	55.63	0.4208	0.0007	0
323	SLU 71		0.01	-10.6	55.22	0.419	0.0007	0
323	SLU 72		0.01	-10.59	55.18	0.4187	0.0007	0
323	SLU 73		0.01	-11.02	59.43	0.4325	0.0007	0
323	SLU 74		0.01	-11.42	60.74	0.4494	0.0008	0
323	SLU 75		0.01	-11.42	60.7	0.4492	0.0008	0
323	SLU 76		0.01	-11.35	60.22	0.4469	0.0008	0
323	SLU 77		0.01	-11.75	61.53	0.4638	0.0008	0
323	SLU 78		0.01	-11.75	61.49	0.4636	0.0008	0
323	SLU 79		0.01	-11.69	61.08	0.4617	0.0008	0
323	SLU 80		0.01	-11.69	61.04	0.4614	0.0008	0
323	SLU 81		0.01	-11.5	62	0.4513	0.0007	0
323	SLU 82		0.01	-11.5	61.97	0.451	0.0007	0
323	SLU 83		0.01	-11.83	62.8	0.4656	0.0008	0
323	SLU 84		0.01	-11.83	62.76	0.4654	0.0008	0
323	SLE RA 1		0	-7.39	40.02	0.2902	0.0005	0
323	SLE RA 2		0	-7.38	39.98	0.2899	0.0005	0
323	SLE RA 3		0	-7.65	40.85	0.3012	0.0005	0
323	SLE RA 4		0	-7.65	40.83	0.301	0.0005	0
323	SLE RA 5		0	-7.6	40.51	0.2995	0.0005	0
323	SLE RA 6		0	-7.87	41.38	0.3107	0.0005	0
323	SLE RA 7		0	-7.87	41.35	0.3106	0.0005	0
323	SLE RA 8		0	-7.83	41.08	0.3093	0.0005	0
323	SLE RA 9		0	-7.83	41.05	0.3091	0.0005	0
323	SLE RA 10		0	-8.11	43.88	0.3184	0.0005	0
323	SLE RA 11		0	-8.38	44.76	0.3296	0.0005	0
323	SLE RA 12		0	-8.38	44.73	0.3295	0.0005	0
323	SLE RA 13		0	-8.33	44.41	0.3279	0.0005	0
323	SLE RA 14		0	-8.6	45.28	0.3392	0.0006	0
323	SLE RA 15		0	-8.6	45.26	0.339	0.0006	0
323	SLE RA 16		0	-8.56	44.98	0.3378	0.0006	0
323	SLE RA 17		0	-8.56	44.96	0.3376	0.0006	0
323	SLE RA 18		0	-8.43	45.6	0.3308	0.0005	0
323	SLE RA 19		0	-8.43	45.57	0.3307	0.0005	0
323	SLE RA 20		0	-8.65	46.13	0.3404	0.0006	0
323	SLE RA 21		0	-8.65	46.1	0.3403	0.0006	0
323	SLE FR 1		0	-7.39	40.02	0.2902	0.0005	0
323	SLE FR 2		0	-7.39	40.01	0.2901	0.0005	0
323	SLE FR 3		0	-7.48	40.23	0.294	0.0005	0
323	SLE FR 4		0	-7.7	41.69	0.3023	0.0005	0
323	SLE FR 5		0	-7.79	41.91	0.3062	0.0005	0
323	SLE FR 6		0	-7.91	42.81	0.3105	0.0005	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
323	SLE QP 1	0	-7.39	40.02	0.2902	0.0005	0
323	SLE QP 2	0	-7.7	41.69	0.3024	0.0005	0
323	SLD 1	0.04	-6.69	40.64	0.2615	-0.0107	-0.0001
323	SLD 2	0.04	-6.69	40.64	0.2615	-0.0107	-0.0001
323	SLD 3	0.01	-10.99	45.54	0.4357	-0.0252	-0.0001
323	SLD 4	0.01	-10.99	45.54	0.4357	-0.0252	-0.0001
323	SLD 5	0.05	-0.88	33.95	0.0259	0.0191	0
323	SLD 6	0.05	-0.88	33.95	0.0259	0.0191	0
323	SLD 7	-0.03	-15.21	50.28	0.6066	-0.0292	-0.0001
323	SLD 8	-0.03	-15.21	50.28	0.6066	-0.0292	-0.0001
323	SLD 9	0.04	-0.19	33.11	-0.0019	0.0302	0
323	SLD 10	0.04	-0.19	33.11	-0.0019	0.0302	0
323	SLD 11	-0.05	-14.53	49.44	0.5789	-0.0182	0
323	SLD 12	-0.05	-14.53	49.44	0.5789	-0.0182	0
323	SLD 13	0	-4.42	37.85	0.169	0.0261	0.0001
323	SLD 14	0	-4.42	37.85	0.169	0.0261	0.0001
323	SLD 15	-0.03	-8.72	42.75	0.3432	0.0116	0
323	SLD 16	-0.03	-8.72	42.75	0.3432	0.0116	0
323	SLV 1	0.09	-5.31	39.18	0.2057	-0.0265	-0.0001
323	SLV 2	0.09	-5.31	39.18	0.2057	-0.0265	-0.0001
323	SLV 3	0.02	-15.45	50.77	0.6166	-0.0618	-0.0002
323	SLV 4	0.02	-15.45	50.77	0.6166	-0.0618	-0.0002
323	SLV 5	0.12	8.4	23.36	-0.3499	0.0459	0
323	SLV 6	0.12	8.4	23.36	-0.3499	0.0459	0
323	SLV 7	-0.08	-25.41	62	1.0199	-0.0718	-0.0001
323	SLV 8	-0.08	-25.41	62	1.0199	-0.0718	-0.0001
323	SLV 9	0.09	10	21.39	-0.4151	0.0727	0.0001
323	SLV 10	0.09	10	21.39	-0.4151	0.0727	0.0001
323	SLV 11	-0.12	-23.8	60.03	0.9546	-0.045	-0.0001
323	SLV 12	-0.12	-23.8	60.03	0.9546	-0.045	-0.0001
323	SLV 13	-0.02	0.04	32.62	-0.0119	0.0628	0.0002
323	SLV 14	-0.02	0.04	32.62	-0.0119	0.0628	0.0002
323	SLV 15	-0.08	-10.1	44.21	0.3991	0.0275	0.0001
323	SLV 16	-0.08	-10.1	44.21	0.3991	0.0275	0.0001
324	SLU 1	0.01	-4.43	65.22	0.2105	0.0026	0.0001
324	SLU 2	0.01	-4.32	64.68	0.2064	0.0024	0.0001
324	SLU 3	0.01	-4.72	69.02	0.2246	0.0027	0.0001
324	SLU 4	0.01	-4.66	68.69	0.2221	0.0026	0.0001
324	SLU 5	0.01	-4.58	67.99	0.2185	0.0025	0.0001
324	SLU 6	0.01	-4.97	72.33	0.2367	0.0028	0.0001
324	SLU 7	0.01	-4.91	72	0.2342	0.0027	0.0001
324	SLU 8	0.01	-4.93	71.84	0.2348	0.0028	0.0001
324	SLU 9	0.01	-4.87	71.51	0.2323	0.0027	0.0001
324	SLU 10	0.01	-5.17	74.92	0.2457	0.0028	0.0001
324	SLU 11	0.01	-5.57	79.26	0.2639	0.0031	0.0001
324	SLU 12	0.01	-5.51	78.94	0.2614	0.0029	0.0001
324	SLU 13	0.01	-5.43	78.23	0.2579	0.0029	0.0001
324	SLU 14	0.01	-5.82	82.57	0.2761	0.0032	0.0001
324	SLU 15	0.01	-5.76	82.25	0.2736	0.003	0.0001
324	SLU 16	0.01	-5.78	82.08	0.2742	0.0031	0.0001
324	SLU 17	0.01	-5.72	81.76	0.2717	0.003	0.0001
324	SLU 18	0.01	-5.64	79.85	0.2668	0.0031	0.0001
324	SLU 19	0.01	-5.58	79.53	0.2643	0.003	0.0001
324	SLU 20	0.01	-5.9	83.16	0.2789	0.0032	0.0001
324	SLU 21	0.01	-5.83	82.84	0.2764	0.0031	0.0001
324	SLU 22	0.01	-5.3	75.91	0.2509	0.003	0.0001
324	SLU 23	0.01	-5.19	75.37	0.2468	0.0028	0.0001
324	SLU 24	0.01	-5.59	79.71	0.265	0.0031	0.0001
324	SLU 25	0.01	-5.53	79.38	0.2625	0.003	0.0001
324	SLU 26	0.01	-5.44	78.68	0.2589	0.0029	0.0001
324	SLU 27	0.01	-5.84	83.02	0.2771	0.0032	0.0001
324	SLU 28	0.01	-5.78	82.69	0.2746	0.0031	0.0001
324	SLU 29	0.01	-5.8	82.53	0.2752	0.0032	0.0001
324	SLU 30	0.01	-5.74	82.2	0.2727	0.0031	0.0001
324	SLU 31	0.01	-6.04	85.61	0.2861	0.0031	0.0001
324	SLU 32	0.01	-6.44	89.95	0.3043	0.0034	0.0001
324	SLU 33	0.01	-6.38	89.63	0.3018	0.0033	0.0001
324	SLU 34	0.01	-6.29	88.92	0.2983	0.0032	0.0001
324	SLU 35	0.01	-6.69	93.26	0.3165	0.0035	0.0001
324	SLU 36	0.01	-6.63	92.94	0.314	0.0034	0.0001
324	SLU 37	0.01	-6.65	92.77	0.3146	0.0035	0.0001
324	SLU 38	0.01	-6.59	92.45	0.3121	0.0034	0.0001
324	SLU 39	0.01	-6.51	90.54	0.3072	0.0035	0.0001
324	SLU 40	0.01	-6.45	90.22	0.3047	0.0033	0.0001
324	SLU 41	0.01	-6.76	93.85	0.3193	0.0036	0.0001
324	SLU 42	0.01	-6.7	93.53	0.3168	0.0034	0.0001
324	SLU 43	0.01	-5.46	81.12	0.2598	0.0033	0.0001
324	SLU 44	0.01	-5.36	80.58	0.2557	0.0031	0.0001
324	SLU 45	0.01	-5.75	84.92	0.2739	0.0034	0.0001
324	SLU 46	0.01	-5.69	84.6	0.2714	0.0033	0.0001
324	SLU 47	0.01	-5.61	83.89	0.2678	0.0032	0.0001
324	SLU 48	0.01	-6.01	88.23	0.286	0.0035	0.0001
324	SLU 49	0.01	-5.94	87.91	0.2835	0.0034	0.0001
324	SLU 50	0.01	-5.96	87.74	0.2841	0.0035	0.0001
324	SLU 51	0.01	-5.9	87.42	0.2816	0.0034	0.0001
324	SLU 52	0.01	-6.21	90.82	0.295	0.0034	0.0001
324	SLU 53	0.01	-6.6	95.16	0.3132	0.0037	0.0001
324	SLU 54	0.01	-6.54	94.84	0.3108	0.0036	0.0001
324	SLU 55	0.01	-6.46	94.13	0.3072	0.0035	0.0001
324	SLU 56	0.02	-6.86	98.47	0.3254	0.0038	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
324	SLU 57		0.01	-6.79	98.15	0.3229	0.0037	0.0001
324	SLU 58		0.02	-6.82	97.98	0.3235	0.0038	0.0002
324	SLU 59		0.01	-6.75	97.66	0.321	0.0037	0.0001
324	SLU 60		0.01	-6.68	95.75	0.3161	0.0038	0.0001
324	SLU 61		0.01	-6.61	95.43	0.3136	0.0036	0.0001
324	SLU 62		0.02	-6.93	99.06	0.3282	0.0039	0.0002
324	SLU 63		0.02	-6.86	98.74	0.3257	0.0037	0.0001
324	SLU 64		0.01	-6.33	91.81	0.3002	0.0036	0.0001
324	SLU 65		0.01	-6.22	91.27	0.2961	0.0035	0.0001
324	SLU 66		0.01	-6.62	95.61	0.3143	0.0038	0.0001
324	SLU 67		0.01	-6.56	95.28	0.3118	0.0036	0.0001
324	SLU 68		0.01	-6.47	94.58	0.3082	0.0036	0.0001
324	SLU 69		0.02	-6.87	98.92	0.3264	0.0039	0.0002
324	SLU 70		0.02	-6.81	98.59	0.3239	0.0037	0.0001
324	SLU 71		0.02	-6.83	98.43	0.3245	0.0038	0.0002
324	SLU 72		0.01	-6.77	98.1	0.322	0.0037	0.0001
324	SLU 73		0.02	-7.07	101.51	0.3354	0.0038	0.0002
324	SLU 74		0.02	-7.47	105.85	0.3537	0.0041	0.0002
324	SLU 75		0.02	-7.41	105.53	0.3512	0.004	0.0002
324	SLU 76		0.02	-7.33	104.82	0.3476	0.0039	0.0002
324	SLU 77		0.02	-7.72	109.16	0.3658	0.0042	0.0002
324	SLU 78		0.02	-7.66	108.84	0.3633	0.0041	0.0002
324	SLU 79		0.02	-7.68	108.67	0.3639	0.0042	0.0002
324	SLU 80		0.02	-7.62	108.35	0.3614	0.0041	0.0002
324	SLU 81		0.02	-7.54	106.44	0.3565	0.0041	0.0002
324	SLU 82		0.02	-7.48	106.12	0.354	0.004	0.0002
324	SLU 83		0.02	-7.8	109.75	0.3686	0.0042	0.0002
324	SLU 84		0.02	-7.73	109.43	0.3661	0.0041	0.0002
324	SLE RA 1		0.01	-4.68	68.27	0.2221	0.0027	0.0001
324	SLE RA 2		0.01	-4.61	67.91	0.2193	0.0026	0.0001
324	SLE RA 3		0.01	-4.87	70.81	0.2314	0.0028	0.0001
324	SLE RA 4		0.01	-4.83	70.59	0.2298	0.0027	0.0001
324	SLE RA 5		0.01	-4.77	70.12	0.2274	0.0027	0.0001
324	SLE RA 6		0.01	-5.04	73.01	0.2395	0.0029	0.0001
324	SLE RA 7		0.01	-5	72.8	0.2379	0.0028	0.0001
324	SLE RA 8		0.01	-5.01	72.69	0.2383	0.0029	0.0001
324	SLE RA 9		0.01	-4.97	72.47	0.2366	0.0028	0.0001
324	SLE RA 10		0.01	-5.17	74.74	0.2455	0.0028	0.0001
324	SLE RA 11		0.01	-5.44	77.63	0.2577	0.003	0.0001
324	SLE RA 12		0.01	-5.4	77.42	0.256	0.0029	0.0001
324	SLE RA 13		0.01	-5.34	76.95	0.2536	0.0029	0.0001
324	SLE RA 14		0.01	-5.61	79.84	0.2658	0.0031	0.0001
324	SLE RA 15		0.01	-5.56	79.63	0.2641	0.003	0.0001
324	SLE RA 16		0.01	-5.58	79.51	0.2645	0.0031	0.0001
324	SLE RA 17		0.01	-5.54	79.3	0.2628	0.003	0.0001
324	SLE RA 18		0.01	-5.49	78.03	0.2596	0.003	0.0001
324	SLE RA 19		0.01	-5.45	77.81	0.2579	0.003	0.0001
324	SLE RA 20		0.01	-5.66	80.23	0.2677	0.0031	0.0001
324	SLE RA 21		0.01	-5.61	80.02	0.266	0.003	0.0001
324	SLE FR 1		0.01	-4.68	68.27	0.2221	0.0027	0.0001
324	SLE FR 2		0.01	-4.66	68.2	0.2215	0.0027	0.0001
324	SLE FR 3		0.01	-4.74	69.16	0.2253	0.0028	0.0001
324	SLE FR 4		0.01	-4.91	71.13	0.2328	0.0028	0.0001
324	SLE FR 5		0.01	-4.99	72.08	0.2366	0.0028	0.0001
324	SLE FR 6		0.01	-5.08	73.15	0.2408	0.0029	0.0001
324	SLE QP 1		0.01	-4.68	68.27	0.2221	0.0027	0.0001
324	SLE QP 2		0.01	-4.92	71.2	0.2333	0.0028	0.0001
324	SLD 1		-0.17	-2.32	72.01	0.13	0.1029	-0.0031
324	SLD 2		-0.17	-2.32	72.01	0.13	0.1029	-0.0031
324	SLD 3		-0.14	-5.55	80.06	0.2567	0.1181	-0.0026
324	SLD 4		-0.14	-5.55	80.06	0.2567	0.1181	-0.0026
324	SLD 5		-0.08	0.77	59.24	0.0102	0.0098	-0.0015
324	SLD 6		-0.08	0.77	59.24	0.0102	0.0098	-0.0015
324	SLD 7		0	-10.02	86.06	0.4325	0.0604	0
324	SLD 8		0	-10.02	86.06	0.4325	0.0604	0
324	SLD 9		0.02	0.18	56.34	0.0342	-0.0548	0.0002
324	SLD 10		0.02	0.18	56.34	0.0342	-0.0548	0.0002
324	SLD 11		0.1	-10.61	83.16	0.4564	-0.0042	0.0018
324	SLD 12		0.1	-10.61	83.16	0.4564	-0.0042	0.0018
324	SLD 13		0.16	-4.29	62.34	0.2099	-0.1125	0.0029
324	SLD 14		0.16	-4.29	62.34	0.2099	-0.1125	0.0029
324	SLD 15		0.19	-7.53	70.39	0.3366	-0.0973	0.0033
324	SLD 16		0.19	-7.53	70.39	0.3366	-0.0973	0.0033
324	SLV 1		-0.41	1.26	73.01	-0.0116	0.2371	-0.0075
324	SLV 2		-0.41	1.26	73.01	-0.0116	0.2371	-0.0075
324	SLV 3		-0.35	-6.37	92.14	0.2871	0.2728	-0.0064
324	SLV 4		-0.35	-6.37	92.14	0.2871	0.2728	-0.0064
324	SLV 5		-0.21	8.5	42.72	-0.2933	0.0188	-0.0038
324	SLV 6		-0.21	8.5	42.72	-0.2933	0.0188	-0.0038
324	SLV 7		0	-16.92	106.5	0.7026	0.1381	-0.0002
324	SLV 8		0	-16.92	106.5	0.7026	0.1381	-0.0002
324	SLV 9		0.02	7.08	35.9	-0.2359	-0.1325	0.0004
324	SLV 10		0.02	7.08	35.9	-0.2359	-0.1325	0.0004
324	SLV 11		0.23	-18.34	99.68	0.7599	-0.0132	0.0041
324	SLV 12		0.23	-18.34	99.68	0.7599	-0.0132	0.0041
324	SLV 13		0.37	-3.48	50.26	0.1795	-0.2672	0.0066
324	SLV 14		0.37	-3.48	50.26	0.1795	-0.2672	0.0066
324	SLV 15		0.43	-11.1	69.39	0.4783	-0.2314	0.0077
324	SLV 16		0.43	-11.1	69.39	0.4783	-0.2314	0.0077
326	SLU 1		-5.84	-10.84	59.66	-5.2327	-0.1356	-1.3216



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
326	SLU 2			-5.57	-9.84	54.91	-4.9012	-0.1319	-1.2618
326	SLU 3			-5.88	-11	60.28	-5.2747	-0.1364	-1.3313
326	SLU 4			-5.72	-10.4	57.43	-5.0757	-0.1342	-1.2954
326	SLU 5			-5.54	-9.84	54.7	-4.8737	-0.1311	-1.2544
326	SLU 6			-5.85	-11	60.07	-5.2472	-0.1356	-1.324
326	SLU 7			-5.69	-10.39	57.22	-5.0483	-0.1334	-1.2881
326	SLU 8			-5.78	-10.84	59.24	-5.1778	-0.1339	-1.3069
326	SLU 9			-5.62	-10.24	56.39	-4.9788	-0.1317	-1.271
326	SLU 10			-6.47	-11.19	62.59	-5.611	-0.155	-1.4626
326	SLU 11			-6.78	-12.35	67.96	-5.9845	-0.1595	-1.5322
326	SLU 12			-6.62	-11.75	65.11	-5.7856	-0.1574	-1.4963
326	SLU 13			-6.43	-11.19	62.38	-5.5835	-0.1542	-1.4553
326	SLU 14			-6.74	-12.35	67.75	-5.957	-0.1587	-1.5248
326	SLU 15			-6.58	-11.75	64.9	-5.7581	-0.1565	-1.4889
326	SLU 16			-6.67	-12.19	66.92	-5.8876	-0.157	-1.5078
326	SLU 17			-6.51	-11.59	64.07	-5.6887	-0.1548	-1.4719
326	SLU 18			-7.12	-12.78	70.63	-6.2468	-0.1686	-1.6085
326	SLU 19			-6.96	-12.17	67.78	-6.0479	-0.1664	-1.5726
326	SLU 20			-7.08	-12.77	70.42	-6.2193	-0.1677	-1.6012
326	SLU 21			-6.92	-12.17	67.57	-6.0204	-0.1655	-1.5653
326	SLU 22			-6.59	-12.09	66.49	-5.8459	-0.1545	-1.4905
326	SLU 23			-6.32	-11.09	61.74	-5.5143	-0.1509	-1.4307
326	SLU 24			-6.63	-12.24	67.11	-5.8878	-0.1554	-1.5004
326	SLU 25			-6.47	-11.64	64.26	-5.6889	-0.1532	-1.4643
326	SLU 26			-6.29	-11.08	61.53	-5.4869	-0.15	-1.4234
326	SLU 27			-6.6	-12.24	66.9	-5.8603	-0.1545	-1.4929
326	SLU 28			-6.44	-11.64	64.05	-5.6614	-0.1523	-1.457
326	SLU 29			-6.53	-12.09	66.07	-5.7909	-0.1528	-1.4759
326	SLU 30			-6.36	-11.48	63.22	-5.592	-0.1506	-1.44
326	SLU 31			-7.22	-12.44	69.42	-6.2242	-0.174	-1.6316
326	SLU 32			-7.53	-13.6	74.79	-6.5977	-0.1785	-1.7011
326	SLU 33			-7.37	-13	71.94	-6.3987	-0.1763	-1.6652
326	SLU 34			-7.18	-12.44	69.21	-6.1967	-0.1731	-1.6242
326	SLU 35			-7.49	-13.6	74.58	-6.5702	-0.1776	-1.6938
326	SLU 36			-7.33	-12.99	71.73	-6.3713	-0.1754	-1.6579
326	SLU 37			-7.42	-13.44	73.75	-6.5008	-0.1759	-1.6767
326	SLU 38			-7.26	-12.84	70.9	-6.3018	-0.1737	-1.6408
326	SLU 39			-7.87	-14.02	77.46	-6.8599	-0.1875	-1.7775
326	SLU 40			-7.71	-13.42	74.61	-6.661	-0.1854	-1.7416
326	SLU 41			-7.83	-14.02	77.25	-6.8325	-0.1867	-1.7701
326	SLU 42			-7.67	-13.42	74.4	-6.6335	-0.1845	-1.7342
326	SLU 43			-7.34	-13.67	75.22	-6.5923	-0.1697	-1.6601
326	SLU 44			-7.07	-12.67	70.46	-6.2508	-0.1661	-1.6003
326	SLU 45			-7.38	-13.82	75.84	-6.6343	-0.1706	-1.6699
326	SLU 46			-7.22	-13.22	72.98	-6.4353	-0.1684	-1.634
326	SLU 47			-7.04	-12.66	70.25	-6.2333	-0.1652	-1.593
326	SLU 48			-7.35	-13.82	75.63	-6.6068	-0.1697	-1.6625
326	SLU 49			-7.19	-13.22	72.77	-6.4079	-0.1676	-1.6266
326	SLU 50			-7.27	-13.66	74.8	-6.5374	-0.168	-1.6455
326	SLU 51			-7.11	-13.06	71.95	-6.3384	-0.1658	-1.6096
326	SLU 52			-7.96	-14.02	78.14	-6.9706	-0.1892	-1.8012
326	SLU 53			-8.27	-15.18	83.52	-7.3441	-0.1937	-1.8707
326	SLU 54			-8.11	-14.57	80.66	-7.1452	-0.1915	-1.8348
326	SLU 55			-7.93	-14.02	77.93	-6.9431	-0.1884	-1.7939
326	SLU 56			-8.24	-15.17	83.31	-7.3166	-0.1928	-1.8634
326	SLU 57			-8.08	-14.57	80.45	-7.1177	-0.1907	-1.8275
326	SLU 58			-8.16	-15.02	82.48	-7.2472	-0.1911	-1.8463
326	SLU 59			-8	-14.41	79.62	-7.0483	-0.189	-1.8105
326	SLU 60			-8.61	-15.6	86.19	-7.6064	-0.2028	-1.9471
326	SLU 61			-8.45	-15	83.34	-7.4074	-0.2006	-1.9112
326	SLU 62			-8.58	-15.6	85.98	-7.5789	-0.2019	-1.9398
326	SLU 63			-8.42	-15	83.13	-7.38	-0.1997	-1.9039
326	SLU 64			-8.09	-14.92	82.05	-7.2055	-0.1887	-1.8291
326	SLU 65			-7.82	-13.91	77.29	-6.8739	-0.185	-1.7693
326	SLU 66			-8.13	-15.07	82.67	-7.2474	-0.1895	-1.8388
326	SLU 67			-7.97	-14.47	79.82	-7.0485	-0.1874	-1.8029
326	SLU 68			-7.79	-13.91	77.08	-6.8464	-0.1842	-1.7619
326	SLU 69			-8.1	-15.07	82.46	-7.2199	-0.1887	-1.8315
326	SLU 70			-7.94	-14.47	79.61	-7.021	-0.1865	-1.7956
326	SLU 71			-8.02	-14.91	81.63	-7.1505	-0.187	-1.8144
326	SLU 72			-7.86	-14.31	78.78	-6.9516	-0.1848	-1.7785
326	SLU 73			-8.71	-15.26	84.97	-7.5838	-0.2082	-1.9701
326	SLU 74			-9.02	-16.42	90.35	-7.9573	-0.2127	-2.0396
326	SLU 75			-8.86	-15.82	87.49	-7.7583	-0.2105	-2.0038
326	SLU 76			-8.68	-15.26	84.76	-7.5563	-0.2073	-1.9628
326	SLU 77			-8.99	-16.42	90.14	-7.9298	-0.2118	-2.0323
326	SLU 78			-8.83	-15.82	87.28	-7.7308	-0.2096	-1.9964
326	SLU 79			-8.91	-16.26	89.31	-7.8604	-0.2101	-2.0153
326	SLU 80			-8.75	-15.66	86.46	-7.6614	-0.2079	-1.9794
326	SLU 81			-9.36	-16.85	93.02	-8.2195	-0.2217	-2.116
326	SLU 82			-9.2	-16.25	90.17	-8.0206	-0.2195	-2.0801
326	SLU 83			-9.33	-16.85	92.81	-8.192	-0.2209	-2.1087
326	SLU 84			-9.17	-16.24	89.96	-7.9931	-0.2187	-2.0728
326	SLE RA 1			-6.06	-11.2	61.61	-5.4079	-0.141	-1.3698
326	SLE RA 2			-5.88	-10.53	58.44	-5.1869	-0.1386	-1.33
326	SLE RA 3			-6.08	-11.3	62.03	-5.4359	-0.1415	-1.3763
326	SLE RA 4			-5.98	-10.9	60.12	-5.3033	-0.1401	-1.3524
326	SLE RA 5			-5.86	-10.53	58.3	-5.1686	-0.138	-1.3251
326	SLE RA 6			-6.06	-11.3	61.89	-5.4176	-0.141	-1.3714
326	SLE RA 7			-5.96	-10.9	59.98	-5.2849	-0.1395	-1.3475



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
326	SLE RA 8			-6.01	-11.2	61.33	-5.3713	-0.1398	-1.3601
326	SLE RA 9			-5.9	-10.79	59.43	-5.2387	-0.1384	-1.3362
326	SLE RA 10			-6.47	-11.43	63.56	-5.6601	-0.154	-1.4639
326	SLE RA 11			-6.68	-12.2	67.14	-5.9091	-0.157	-1.5102
326	SLE RA 12			-6.57	-11.8	65.24	-5.7765	-0.1555	-1.4863
326	SLE RA 13			-6.45	-11.43	63.42	-5.6418	-0.1534	-1.459
326	SLE RA 14			-6.66	-12.2	67	-5.8908	-0.1564	-1.5053
326	SLE RA 15			-6.55	-11.8	65.1	-5.7582	-0.1549	-1.4814
326	SLE RA 16			-6.61	-12.1	66.45	-5.8445	-0.1552	-1.494
326	SLE RA 17			-6.5	-11.7	64.55	-5.7119	-0.1538	-1.4701
326	SLE RA 18			-6.91	-12.49	68.93	-6.0839	-0.163	-1.5611
326	SLE RA 19			-6.8	-12.09	67.02	-5.9513	-0.1615	-1.5372
326	SLE RA 20			-6.88	-12.49	68.79	-6.0656	-0.1624	-1.5563
326	SLE RA 21			-6.78	-12.08	66.88	-5.933	-0.161	-1.5323
326	SLE FR 1			-6.06	-11.2	61.61	-5.4079	-0.141	-1.3698
326	SLE FR 2			-6.02	-11.07	60.98	-5.3637	-0.1405	-1.3619
326	SLE FR 3			-6.05	-11.2	61.56	-5.4006	-0.1407	-1.3679
326	SLE FR 4			-6.28	-11.45	63.17	-5.5665	-0.1471	-1.4193
326	SLE FR 5			-6.3	-11.59	63.75	-5.6034	-0.1474	-1.4253
326	SLE FR 6			-6.48	-11.84	65.27	-5.7459	-0.152	-1.4655
326	SLE QP 1			-6.06	-11.2	61.61	-5.4079	-0.141	-1.3698
326	SLE QP 2			-6.31	-11.59	63.81	-5.6107	-0.1476	-1.4272
326	SLD 1			-1.82	-6.8	34.67	-2.6281	0.0001	-0.3964
326	SLD 2			-1.82	-6.8	34.67	-2.6281	0.0001	-0.3964
326	SLD 3			-2.87	-9.69	47.55	-3.5939	-0.0273	-0.6395
326	SLD 4			-2.87	-9.69	47.55	-3.5939	-0.0273	-0.6395
326	SLD 5			-3.36	-5.77	35.53	-3.2512	-0.0617	-0.7493
326	SLD 6			-3.36	-5.77	35.53	-3.2512	-0.0617	-0.7493
326	SLD 7			-6.88	-15.4	78.47	-6.4704	-0.1531	-1.5597
326	SLD 8			-6.88	-15.4	78.47	-6.4704	-0.1531	-1.5597
326	SLD 9			-5.74	-7.77	49.15	-4.751	-0.1421	-1.2948
326	SLD 10			-5.74	-7.77	49.15	-4.751	-0.1421	-1.2948
326	SLD 11			-9.26	-17.4	92.08	-7.9702	-0.2335	-2.1052
326	SLD 12			-9.26	-17.4	92.08	-7.9702	-0.2335	-2.1052
326	SLD 13			-9.75	-13.48	80.06	-7.6275	-0.2679	-2.2149
326	SLD 14			-9.75	-13.48	80.06	-7.6275	-0.2679	-2.2149
326	SLD 15			-10.81	-16.37	92.94	-8.5933	-0.2953	-2.4581
326	SLD 16			-10.81	-16.37	92.94	-8.5933	-0.2953	-2.4581
326	SLV 1			4.22	-0.37	-4.54	1.3878	0.1984	0.99
326	SLV 2			4.22	-0.37	-4.54	1.3878	0.1984	0.99
326	SLV 3			1.73	-7.15	25.75	-0.8923	0.1332	0.4156
326	SLV 4			1.73	-7.15	25.75	-0.8923	0.1332	0.4156
326	SLV 5			0.63	2.05	-2.63	-0.053	0.0551	0.1691
326	SLV 6			0.63	2.05	-2.63	-0.053	0.0551	0.1691
326	SLV 7			-7.68	-20.52	98.32	-7.6533	-0.1622	-1.7456
326	SLV 8			-7.68	-20.52	98.32	-7.6533	-0.1622	-1.7456
326	SLV 9			-4.94	-2.65	29.29	-3.5681	-0.133	-1.1089
326	SLV 10			-4.94	-2.65	29.29	-3.5681	-0.133	-1.1089
326	SLV 11			-13.25	-25.22	130.24	-11.1684	-0.3502	-3.0236
326	SLV 12			-13.25	-25.22	130.24	-11.1684	-0.3502	-3.0236
326	SLV 13			-14.35	-16.03	101.86	-10.3291	-0.4283	-3.2701
326	SLV 14			-14.35	-16.03	101.86	-10.3291	-0.4283	-3.2701
326	SLV 15			-16.84	-22.8	132.15	-12.6092	-0.4935	-3.8445
326	SLV 16			-16.84	-22.8	132.15	-12.6092	-0.4935	-3.8445
327	SLU 1			0.2	0.15	35	-0.0363	0.0205	0.0002
327	SLU 2			0.2	0.16	34.97	-0.0378	0.0202	0.0002
327	SLU 3			0.21	0.16	36.01	-0.0379	0.0213	0.0002
327	SLU 4			0.21	0.17	35.99	-0.0389	0.0212	0.0002
327	SLU 5			0.21	0.17	35.58	-0.0393	0.0207	0.0002
327	SLU 6			0.22	0.17	36.62	-0.0394	0.0218	0.0002
327	SLU 7			0.22	0.18	36.6	-0.0404	0.0217	0.0002
327	SLU 8			0.21	0.17	36.23	-0.0392	0.0215	0.0002
327	SLU 9			0.21	0.18	36.21	-0.0401	0.0214	0.0002
327	SLU 10			0.23	0.06	40.31	-0.0372	0.0232	0.0003
327	SLU 11			0.24	0.05	41.35	-0.0373	0.0243	0.0003
327	SLU 12			0.24	0.06	41.33	-0.0382	0.0242	0.0003
327	SLU 13			0.24	0.07	40.92	-0.0386	0.0237	0.0003
327	SLU 14			0.25	0.06	41.96	-0.0388	0.0248	0.0003
327	SLU 15			0.25	0.07	41.94	-0.0397	0.0247	0.0003
327	SLU 16			0.24	0.06	41.56	-0.0386	0.0245	0.0003
327	SLU 17			0.24	0.07	41.54	-0.0395	0.0244	0.0003
327	SLU 18			0.25	0	42.63	-0.0353	0.0248	0.0003
327	SLU 19			0.25	0.01	42.61	-0.0363	0.0246	0.0003
327	SLU 20			0.25	0.01	43.24	-0.0368	0.0253	0.0003
327	SLU 21			0.25	0.02	43.22	-0.0377	0.0251	0.0003
327	SLU 22			0.23	0.06	40.06	-0.0368	0.0235	0.0003
327	SLU 23			0.23	0.08	40.03	-0.0384	0.0232	0.0003
327	SLU 24			0.24	0.08	41.07	-0.0385	0.0244	0.0003
327	SLU 25			0.24	0.09	41.05	-0.0394	0.0242	0.0003
327	SLU 26			0.24	0.09	40.64	-0.0399	0.0238	0.0003
327	SLU 27			0.25	0.09	41.68	-0.04	0.0249	0.0003
327	SLU 28			0.25	0.1	41.66	-0.0409	0.0247	0.0003
327	SLU 29			0.24	0.09	41.29	-0.0398	0.0246	0.0003
327	SLU 30			0.24	0.1	41.26	-0.0407	0.0244	0.0003
327	SLU 31			0.26	-0.02	45.37	-0.0377	0.0262	0.0003
327	SLU 32			0.27	-0.03	46.41	-0.0378	0.0274	0.0003
327	SLU 33			0.27	-0.02	46.39	-0.0388	0.0272	0.0003
327	SLU 34			0.27	-0.01	45.98	-0.0392	0.0267	0.0003
327	SLU 35			0.28	-0.02	47.02	-0.0393	0.0279	0.0003
327	SLU 36			0.28	-0.01	47	-0.0403	0.0277	0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
327	SLU 37		0.27	-0.02	46.62	-0.0391	0.0276	0.0003
327	SLU 38		0.27	-0.01	46.6	-0.0401	0.0274	0.0003
327	SLU 39		0.28	-0.08	47.69	-0.0359	0.0278	0.0003
327	SLU 40		0.28	-0.07	47.67	-0.0368	0.0276	0.0003
327	SLU 41		0.28	-0.07	48.3	-0.0374	0.0283	0.0003
327	SLU 42		0.28	-0.06	48.28	-0.0383	0.0281	0.0003
327	SLU 43		0.26	0.22	43.77	-0.047	0.0256	0.0003
327	SLU 44		0.25	0.23	43.73	-0.0485	0.0253	0.0003
327	SLU 45		0.26	0.23	44.78	-0.0486	0.0265	0.0003
327	SLU 46		0.26	0.24	44.76	-0.0496	0.0263	0.0003
327	SLU 47		0.26	0.24	44.35	-0.05	0.0259	0.0003
327	SLU 48		0.27	0.24	45.39	-0.0501	0.027	0.0003
327	SLU 49		0.27	0.25	45.37	-0.051	0.0268	0.0003
327	SLU 50		0.26	0.24	44.99	-0.0499	0.0267	0.0003
327	SLU 51		0.26	0.25	44.97	-0.0508	0.0265	0.0003
327	SLU 52		0.28	0.13	49.07	-0.0479	0.0283	0.0003
327	SLU 53		0.29	0.12	50.12	-0.048	0.0295	0.0003
327	SLU 54		0.29	0.13	50.09	-0.0489	0.0293	0.0003
327	SLU 55		0.29	0.14	49.68	-0.0493	0.0289	0.0003
327	SLU 56		0.3	0.13	50.73	-0.0494	0.03	0.0003
327	SLU 57		0.3	0.14	50.71	-0.0504	0.0298	0.0003
327	SLU 58		0.3	0.13	50.33	-0.0492	0.0297	0.0003
327	SLU 59		0.29	0.14	50.31	-0.0502	0.0295	0.0003
327	SLU 60		0.3	0.07	51.4	-0.046	0.0299	0.0003
327	SLU 61		0.3	0.08	51.37	-0.047	0.0297	0.0003
327	SLU 62		0.3	0.08	52.01	-0.0475	0.0304	0.0003
327	SLU 63		0.3	0.09	51.99	-0.0484	0.0303	0.0003
327	SLU 64		0.29	0.14	48.83	-0.0475	0.0286	0.0003
327	SLU 65		0.28	0.15	48.79	-0.0491	0.0284	0.0003
327	SLU 66		0.29	0.15	49.84	-0.0492	0.0295	0.0003
327	SLU 67		0.29	0.16	49.82	-0.0501	0.0293	0.0003
327	SLU 68		0.29	0.16	49.41	-0.0506	0.0289	0.0003
327	SLU 69		0.3	0.16	50.45	-0.0507	0.03	0.0003
327	SLU 70		0.3	0.17	50.43	-0.0516	0.0298	0.0003
327	SLU 71		0.29	0.16	50.05	-0.0505	0.0297	0.0003
327	SLU 72		0.29	0.17	50.03	-0.0514	0.0295	0.0003
327	SLU 73		0.31	0.05	54.13	-0.0484	0.0314	0.0004
327	SLU 74		0.32	0.04	55.17	-0.0485	0.0325	0.0004
327	SLU 75		0.32	0.05	55.15	-0.0495	0.0323	0.0004
327	SLU 76		0.32	0.06	54.74	-0.0499	0.0319	0.0004
327	SLU 77		0.33	0.05	55.79	-0.05	0.033	0.0004
327	SLU 78		0.33	0.06	55.77	-0.0509	0.0328	0.0004
327	SLU 79		0.33	0.05	55.39	-0.0498	0.0327	0.0004
327	SLU 80		0.32	0.06	55.37	-0.0507	0.0325	0.0004
327	SLU 81		0.33	-0.01	56.45	-0.0466	0.0329	0.0004
327	SLU 82		0.33	0	56.43	-0.0475	0.0328	0.0004
327	SLU 83		0.33	0	57.07	-0.0481	0.0334	0.0004
327	SLU 84		0.33	0.01	57.05	-0.049	0.0333	0.0004
327	SLE RA 1		0.21	0.12	36.45	-0.0364	0.0214	0.0002
327	SLE RA 2		0.21	0.13	36.42	-0.0375	0.0212	0.0002
327	SLE RA 3		0.22	0.13	37.12	-0.0375	0.0219	0.0002
327	SLE RA 4		0.22	0.14	37.11	-0.0382	0.0218	0.0002
327	SLE RA 5		0.22	0.14	36.83	-0.0385	0.0215	0.0002
327	SLE RA 6		0.22	0.14	37.53	-0.0385	0.0223	0.0003
327	SLE RA 7		0.22	0.14	37.51	-0.0391	0.0221	0.0003
327	SLE RA 8		0.22	0.14	37.26	-0.0384	0.0221	0.0003
327	SLE RA 9		0.22	0.14	37.25	-0.039	0.0219	0.0003
327	SLE RA 10		0.23	0.06	39.98	-0.037	0.0232	0.0003
327	SLE RA 11		0.24	0.06	40.68	-0.0371	0.0239	0.0003
327	SLE RA 12		0.24	0.07	40.67	-0.0377	0.0238	0.0003
327	SLE RA 13		0.24	0.07	40.39	-0.038	0.0235	0.0003
327	SLE RA 14		0.24	0.07	41.09	-0.0381	0.0243	0.0003
327	SLE RA 15		0.24	0.07	41.07	-0.0387	0.0241	0.0003
327	SLE RA 16		0.24	0.07	40.82	-0.038	0.0241	0.0003
327	SLE RA 17		0.24	0.07	40.81	-0.0386	0.0239	0.0003
327	SLE RA 18		0.24	0.02	41.53	-0.0358	0.0242	0.0003
327	SLE RA 19		0.24	0.03	41.52	-0.0364	0.0241	0.0003
327	SLE RA 20		0.25	0.03	41.94	-0.0368	0.0246	0.0003
327	SLE RA 21		0.24	0.04	41.93	-0.0374	0.0245	0.0003
327	SLE FR 1		0.21	0.12	36.45	-0.0364	0.0214	0.0002
327	SLE FR 2		0.21	0.12	36.44	-0.0366	0.0213	0.0002
327	SLE FR 3		0.21	0.13	36.61	-0.0368	0.0215	0.0002
327	SLE FR 4		0.22	0.09	37.97	-0.0365	0.0222	0.0003
327	SLE FR 5		0.22	0.1	38.14	-0.0366	0.0224	0.0003
327	SLE FR 6		0.23	0.07	38.99	-0.0361	0.0228	0.0003
327	SLE QP 1		0.21	0.12	36.45	-0.0364	0.0214	0.0002
327	SLE QP 2		0.22	0.09	37.97	-0.0362	0.0222	0.0003
327	SLD 1		0.25	3.15	31.94	-0.1925	0.0309	0.0004
327	SLD 2		0.25	3.15	31.94	-0.1925	0.0309	0.0004
327	SLD 3		0.31	0.98	34.86	-0.0516	0.0359	0.0003
327	SLD 4		0.31	0.98	34.86	-0.0516	0.0359	0.0003
327	SLD 5		0.14	4.31	31.73	-0.2968	0.0173	0.0005
327	SLD 6		0.14	4.31	31.73	-0.2968	0.0173	0.0005
327	SLD 7		0.34	-2.94	41.47	0.1728	0.0339	0.0001
327	SLD 8		0.34	-2.94	41.47	0.1728	0.0339	0.0001
327	SLD 9		0.11	3.13	34.47	-0.2453	0.0106	0.0004
327	SLD 10		0.11	3.13	34.47	-0.2453	0.0106	0.0004
327	SLD 11		0.3	-4.13	44.22	0.2243	0.0272	0
327	SLD 12		0.3	-4.13	44.22	0.2243	0.0272	0
327	SLD 13		0.13	-0.79	41.08	-0.0209	0.0085	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
327	SLD 14		0.13	-0.79	41.08	-0.0209	0.0085	0.0002
327	SLD 15		0.19	-2.97	44.01	0.12	0.0135	0.0001
327	SLD 16		0.19	-2.97	44.01	0.12	0.0135	0.0001
327	SLV 1		0.29	7.25	23.69	-0.4029	0.0425	0.0006
327	SLV 2		0.29	7.25	23.69	-0.4029	0.0425	0.0006
327	SLV 3		0.43	2.14	30.75	-0.0714	0.0544	0.0003
327	SLV 4		0.43	2.14	30.75	-0.0714	0.0544	0.0003
327	SLV 5		0.03	9.98	22.98	-0.6491	0.0103	0.0008
327	SLV 6		0.03	9.98	22.98	-0.6491	0.0103	0.0008
327	SLV 7		0.5	-7.03	46.51	0.456	0.0499	-0.0002
327	SLV 8		0.5	-7.03	46.51	0.456	0.0499	-0.0002
327	SLV 9		-0.06	7.22	29.44	-0.5285	-0.0054	0.0007
327	SLV 10		-0.06	7.22	29.44	-0.5285	-0.0054	0.0007
327	SLV 11		0.42	-9.79	52.97	0.5766	0.0341	-0.0003
327	SLV 12		0.42	-9.79	52.97	0.5766	0.0341	-0.0003
327	SLV 13		0.01	-1.96	45.2	-0.0011	-0.0099	0.0002
327	SLV 14		0.01	-1.96	45.2	-0.0011	-0.0099	0.0002
327	SLV 15		0.15	-7.06	52.26	0.3305	0.0019	-0.0001
327	SLV 16		0.15	-7.06	52.26	0.3305	0.0019	-0.0001
328	SLU 1		0	-11.95	37.02	0.7686	-0.0006	0
328	SLU 2		0	-11.91	36.92	0.7661	-0.0006	0
328	SLU 3		0	-12.73	38.53	0.8181	-0.0006	0
328	SLU 4		0	-12.71	38.47	0.8166	-0.0006	0
328	SLU 5		0	-12.61	38.07	0.8092	-0.0006	0
328	SLU 6		0	-13.43	39.67	0.8612	-0.0006	0
328	SLU 7		0	-13.41	39.62	0.8597	-0.0006	0
328	SLU 8		0	-13.34	39.3	0.8548	-0.0006	0
328	SLU 9		0	-13.32	39.25	0.8533	-0.0006	0
328	SLU 10		0	-13.83	42.57	0.8893	-0.0008	0
328	SLU 11		0	-14.65	44.17	0.9412	-0.0007	0
328	SLU 12		0	-14.63	44.12	0.9397	-0.0008	0
328	SLU 13		0	-14.52	43.71	0.9324	-0.0007	0
328	SLU 14		0	-15.34	45.32	0.9844	-0.0007	0
328	SLU 15		0	-15.32	45.26	0.9829	-0.0007	0
328	SLU 16		0	-15.25	44.95	0.978	-0.0007	0
328	SLU 17		0	-15.23	44.89	0.9765	-0.0007	0
328	SLU 18		0	-14.68	45.08	0.9446	-0.0008	0
328	SLU 19		0	-14.66	45.02	0.9431	-0.0008	0
328	SLU 20		0	-15.38	46.22	0.9877	-0.0008	0
328	SLU 21		0	-15.36	46.17	0.9862	-0.0008	0
328	SLU 22		0	-13.89	42.39	0.895	-0.0007	0
328	SLU 23		0	-13.86	42.3	0.8925	-0.0007	0
328	SLU 24		0	-14.68	43.91	0.9445	-0.0007	0
328	SLU 25		0	-14.66	43.85	0.943	-0.0007	0
328	SLU 26		0	-14.55	43.45	0.9356	-0.0007	0
328	SLU 27		0	-15.37	45.05	0.9876	-0.0007	0
328	SLU 28		0	-15.35	45	0.9861	-0.0007	0
328	SLU 29		0	-15.28	44.68	0.9812	-0.0007	0
328	SLU 30		0	-15.26	44.63	0.9797	-0.0007	0
328	SLU 31		0	-15.77	47.94	1.0157	-0.0009	0
328	SLU 32		0	-16.59	49.55	1.0677	-0.0008	0
328	SLU 33		0	-16.57	49.49	1.0662	-0.0008	0
328	SLU 34		0	-16.47	49.09	1.0588	-0.0008	0
328	SLU 35		0	-17.29	50.69	1.1108	-0.0008	0
328	SLU 36		0	-17.27	50.64	1.1093	-0.0008	0
328	SLU 37		0	-17.2	50.32	1.1044	-0.0008	0
328	SLU 38		0	-17.17	50.27	1.1029	-0.0008	0
328	SLU 39		0	-16.62	50.45	1.071	-0.0009	0
328	SLU 40		0	-16.6	50.4	1.0695	-0.0009	0
328	SLU 41		0	-17.32	51.6	1.1141	-0.0009	0
328	SLU 42		0	-17.3	51.54	1.1126	-0.0009	0
328	SLU 43		0	-14.87	46.28	0.9558	-0.0008	0
328	SLU 44		0	-14.83	46.19	0.9533	-0.0008	0
328	SLU 45		0	-15.65	47.79	1.0053	-0.0008	0
328	SLU 46		0	-15.63	47.74	1.0038	-0.0008	0
328	SLU 47		0	-15.53	47.33	0.9965	-0.0008	0
328	SLU 48		0	-16.35	48.93	1.0484	-0.0008	0
328	SLU 49		0	-16.33	48.88	1.0469	-0.0008	0
328	SLU 50		0	-16.26	48.57	1.0421	-0.0007	0
328	SLU 51		0	-16.24	48.51	1.0406	-0.0007	0
328	SLU 52		0	-16.74	51.83	1.0765	-0.0009	0
328	SLU 53		0	-17.57	53.43	1.1285	-0.0009	0
328	SLU 54		0	-17.55	53.38	1.127	-0.0009	0
328	SLU 55		0	-17.44	52.97	1.1196	-0.0009	0
328	SLU 56		0	-18.26	54.58	1.1716	-0.0009	0
328	SLU 57		0	-18.24	54.52	1.1701	-0.0009	0
328	SLU 58		0	-18.17	54.21	1.1652	-0.0009	0
328	SLU 59		0	-18.15	54.15	1.1637	-0.0009	0
328	SLU 60		0	-17.6	54.34	1.1318	-0.001	0
328	SLU 61		0	-17.58	54.28	1.1303	-0.001	0
328	SLU 62		0	-18.29	55.48	1.1749	-0.0009	0
328	SLU 63		0	-18.27	55.43	1.1734	-0.0009	0
328	SLU 64		0	-16.81	51.65	1.0823	-0.0009	0
328	SLU 65		0	-16.77	51.56	1.0798	-0.0009	0
328	SLU 66		0	-17.6	53.17	1.1317	-0.0009	0
328	SLU 67		0	-17.58	53.11	1.1302	-0.0009	0
328	SLU 68		0	-17.47	52.71	1.1229	-0.0009	0
328	SLU 69		0	-18.29	54.31	1.1748	-0.0009	0
328	SLU 70		0	-18.27	54.26	1.1733	-0.0009	0
328	SLU 71		0	-18.2	53.94	1.1685	-0.0008	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
328	SLU 72			0	-18.18	53.89	1.167	-0.0008	0
328	SLU 73			-0.01	-18.69	57.2	1.2029	-0.001	0
328	SLU 74			-0.01	-19.51	58.81	1.2549	-0.001	0
328	SLU 75			-0.01	-19.49	58.75	1.2534	-0.001	0
328	SLU 76			0	-19.38	58.35	1.2461	-0.001	0
328	SLU 77			0	-20.2	59.95	1.298	-0.001	0
328	SLU 78			0	-20.18	59.9	1.2965	-0.001	0
328	SLU 79			0	-20.11	59.58	1.2917	-0.001	0
328	SLU 80			0	-20.09	59.53	1.2902	-0.001	0
328	SLU 81			-0.01	-19.54	59.71	1.2582	-0.0011	0
328	SLU 82			-0.01	-19.52	59.66	1.2567	-0.0011	0
328	SLU 83			-0.01	-20.24	60.86	1.3013	-0.001	0
328	SLU 84			-0.01	-20.22	60.8	1.2998	-0.001	0
328	SLE RA 1			0	-12.5	38.55	0.8047	-0.0007	0
328	SLE RA 2			0	-12.48	38.49	0.8031	-0.0007	0
328	SLE RA 3			0	-13.03	39.56	0.8377	-0.0007	0
328	SLE RA 4			0	-13.01	39.52	0.8367	-0.0007	0
328	SLE RA 5			0	-12.94	39.25	0.8318	-0.0007	0
328	SLE RA 6			0	-13.49	40.32	0.8664	-0.0006	0
328	SLE RA 7			0	-13.48	40.29	0.8654	-0.0006	0
328	SLE RA 8			0	-13.43	40.08	0.8622	-0.0006	0
328	SLE RA 9			0	-13.42	40.04	0.8612	-0.0006	0
328	SLE RA 10			0	-13.76	42.25	0.8852	-0.0008	0
328	SLE RA 11			0	-14.3	43.32	0.9198	-0.0007	0
328	SLE RA 12			0	-14.29	43.29	0.9188	-0.0007	0
328	SLE RA 13			0	-14.22	43.02	0.9139	-0.0007	0
328	SLE RA 14			0	-14.77	44.08	0.9486	-0.0007	0
328	SLE RA 15			0	-14.75	44.05	0.9476	-0.0007	0
328	SLE RA 16			0	-14.71	43.84	0.9443	-0.0007	0
328	SLE RA 17			0	-14.69	43.8	0.9433	-0.0007	0
328	SLE RA 18			0	-14.33	43.92	0.922	-0.0008	0
328	SLE RA 19			0	-14.31	43.89	0.921	-0.0008	0
328	SLE RA 20			0	-14.79	44.69	0.9508	-0.0008	0
328	SLE RA 21			0	-14.77	44.65	0.9498	-0.0008	0
328	SLE FR 1			0	-12.5	38.55	0.8047	-0.0007	0
328	SLE FR 2			0	-12.5	38.54	0.8044	-0.0007	0
328	SLE FR 3			0	-12.69	38.86	0.8162	-0.0007	0
328	SLE FR 4			0	-13.05	40.15	0.8396	-0.0007	0
328	SLE FR 5			0	-13.24	40.47	0.8514	-0.0007	0
328	SLE FR 6			0	-13.41	41.24	0.8634	-0.0007	0
328	SLE QP 1			0	-12.5	38.55	0.8047	-0.0007	0
328	SLE QP 2			0	-13.05	40.16	0.8399	-0.0007	0
328	SLD 1			0.01	-9.43	36.34	0.6575	-0.0229	0
328	SLD 2			0.01	-9.43	36.34	0.6575	-0.0229	0
328	SLD 3			0.03	-14.23	39.75	0.8837	-0.0129	0
328	SLD 4			0.03	-14.23	39.75	0.8837	-0.0129	0
328	SLD 5			-0.03	-4.68	33.85	0.4421	-0.0225	0
328	SLD 6			-0.03	-4.68	33.85	0.4421	-0.0225	0
328	SLD 7			0.04	-20.68	45.21	1.1961	0.0107	0
328	SLD 8			0.04	-20.68	45.21	1.1961	0.0107	0
328	SLD 9			-0.05	-5.42	35.12	0.4837	-0.0121	0
328	SLD 10			-0.05	-5.42	35.12	0.4837	-0.0121	0
328	SLD 11			0.02	-21.42	46.48	1.2377	0.0211	0.0001
328	SLD 12			0.02	-21.42	46.48	1.2377	0.0211	0.0001
328	SLD 13			-0.04	-11.87	40.58	0.7961	0.0115	0.0001
328	SLD 14			-0.04	-11.87	40.58	0.7961	0.0115	0.0001
328	SLD 15			-0.02	-16.67	43.99	1.0223	0.0215	0.0001
328	SLD 16			-0.02	-16.67	43.99	1.0223	0.0215	0.0001
328	SLV 1			0.04	-4.5	31.16	0.4094	-0.0544	-0.0001
328	SLV 2			0.04	-4.5	31.16	0.4094	-0.0544	-0.0001
328	SLV 3			0.09	-15.83	39.25	0.9449	-0.0301	-0.0001
328	SLV 4			0.09	-15.83	39.25	0.9449	-0.0301	-0.0001
328	SLV 5			-0.07	6.7	25.19	-0.1014	-0.0537	-0.0001
328	SLV 6			-0.07	6.7	25.19	-0.1014	-0.0537	-0.0001
328	SLV 7			0.1	-31.07	52.16	1.6835	0.0274	0.0001
328	SLV 8			0.1	-31.07	52.16	1.6835	0.0274	0.0001
328	SLV 9			-0.11	4.97	28.17	-0.0037	-0.0288	0
328	SLV 10			-0.11	4.97	28.17	-0.0037	-0.0288	0
328	SLV 11			0.06	-32.8	55.13	1.7812	0.0523	0.0001
328	SLV 12			0.06	-32.8	55.13	1.7812	0.0523	0.0001
328	SLV 13			-0.1	-10.27	41.07	0.7349	0.0287	0.0001
328	SLV 14			-0.1	-10.27	41.07	0.7349	0.0287	0.0001
328	SLV 15			-0.05	-21.6	49.16	1.2704	0.053	0.0002
328	SLV 16			-0.05	-21.6	49.16	1.2704	0.053	0.0002
329	SLU 1			0.18	-2.85	36.21	0.212	0.0302	-0.0001
329	SLU 2			0.18	-2.82	36.09	0.2095	0.03	-0.0001
329	SLU 3			0.19	-2.94	37.24	0.2186	0.0312	-0.0001
329	SLU 4			0.19	-2.92	37.16	0.2171	0.0311	-0.0001
329	SLU 5			0.19	-2.87	36.67	0.213	0.0306	-0.0001
329	SLU 6			0.19	-2.99	37.82	0.222	0.0318	-0.0001
329	SLU 7			0.19	-2.97	37.74	0.2205	0.0317	-0.0001
329	SLU 8			0.19	-2.95	37.37	0.2189	0.0314	-0.0001
329	SLU 9			0.19	-2.93	37.3	0.2174	0.0313	-0.0001
329	SLU 10			0.21	-3.39	41.64	0.2491	0.0345	-0.0001
329	SLU 11			0.22	-3.52	42.79	0.2581	0.0357	-0.0001
329	SLU 12			0.22	-3.49	42.71	0.2566	0.0356	-0.0001
329	SLU 13			0.21	-3.44	42.22	0.2525	0.0351	-0.0001
329	SLU 14			0.22	-3.57	43.37	0.2616	0.0363	-0.0001
329	SLU 15			0.22	-3.54	43.29	0.2601	0.0362	-0.0001
329	SLU 16			0.22	-3.53	42.92	0.2584	0.0359	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
329	SLU 17		0.22	-3.51	42.85	0.2569	0.0358	-0.0001
329	SLU 18		0.22	-3.68	44.14	0.2685	0.0367	-0.0001
329	SLU 19		0.22	-3.65	44.06	0.267	0.0365	-0.0001
329	SLU 20		0.23	-3.73	44.72	0.272	0.0373	-0.0001
329	SLU 21		0.23	-3.7	44.64	0.2705	0.0371	-0.0001
329	SLU 22		0.21	-3.39	41.45	0.2492	0.0346	-0.0001
329	SLU 23		0.21	-3.35	41.33	0.2467	0.0344	-0.0001
329	SLU 24		0.22	-3.48	42.48	0.2558	0.0356	-0.0001
329	SLU 25		0.22	-3.45	42.4	0.2543	0.0355	-0.0001
329	SLU 26		0.21	-3.4	41.91	0.2501	0.035	-0.0001
329	SLU 27		0.22	-3.53	43.06	0.2592	0.0362	-0.0001
329	SLU 28		0.22	-3.5	42.98	0.2577	0.0361	-0.0001
329	SLU 29		0.22	-3.49	42.61	0.2561	0.0358	-0.0001
329	SLU 30		0.22	-3.47	42.54	0.2546	0.0356	-0.0001
329	SLU 31		0.24	-3.93	46.88	0.2863	0.0389	-0.0001
329	SLU 32		0.24	-4.05	48.03	0.2953	0.0401	-0.0001
329	SLU 33		0.24	-4.03	47.95	0.2938	0.04	-0.0001
329	SLU 34		0.24	-3.98	47.46	0.2897	0.0395	-0.0001
329	SLU 35		0.25	-4.1	48.61	0.2987	0.0407	-0.0001
329	SLU 36		0.25	-4.08	48.53	0.2972	0.0406	-0.0001
329	SLU 37		0.25	-4.07	48.16	0.2956	0.0403	-0.0001
329	SLU 38		0.25	-4.04	48.09	0.2941	0.0402	-0.0001
329	SLU 39		0.25	-4.21	49.38	0.3057	0.0411	-0.0001
329	SLU 40		0.25	-4.19	49.31	0.3042	0.0409	-0.0001
329	SLU 41		0.25	-4.26	49.96	0.3092	0.0417	-0.0001
329	SLU 42		0.25	-4.24	49.89	0.3077	0.0415	-0.0001
329	SLU 43		0.23	-3.52	45.28	0.2629	0.0377	-0.0001
329	SLU 44		0.23	-3.49	45.15	0.2604	0.0375	-0.0001
329	SLU 45		0.24	-3.61	46.3	0.2694	0.0387	-0.0001
329	SLU 46		0.23	-3.59	46.23	0.2679	0.0386	-0.0001
329	SLU 47		0.23	-3.54	45.73	0.2638	0.0381	-0.0001
329	SLU 48		0.24	-3.66	46.88	0.2728	0.0393	-0.0001
329	SLU 49		0.24	-3.64	46.81	0.2713	0.0392	-0.0001
329	SLU 50		0.24	-3.62	46.44	0.2697	0.0389	-0.0001
329	SLU 51		0.24	-3.6	46.36	0.2682	0.0388	-0.0001
329	SLU 52		0.26	-4.06	50.7	0.2999	0.0421	-0.0001
329	SLU 53		0.26	-4.19	51.85	0.309	0.0433	-0.0001
329	SLU 54		0.26	-4.17	51.78	0.3075	0.0432	-0.0001
329	SLU 55		0.26	-4.11	51.28	0.3034	0.0426	-0.0001
329	SLU 56		0.27	-4.24	52.43	0.3124	0.0439	-0.0001
329	SLU 57		0.27	-4.22	52.36	0.3109	0.0437	-0.0001
329	SLU 58		0.26	-4.2	51.99	0.3093	0.0435	-0.0001
329	SLU 59		0.26	-4.18	51.91	0.3078	0.0433	-0.0001
329	SLU 60		0.27	-4.35	53.21	0.3194	0.0442	-0.0001
329	SLU 61		0.27	-4.33	53.13	0.3179	0.0441	-0.0001
329	SLU 62		0.27	-4.4	53.79	0.3228	0.0448	-0.0001
329	SLU 63		0.27	-4.38	53.71	0.3213	0.0447	-0.0001
329	SLU 64		0.26	-4.06	50.52	0.3001	0.0421	-0.0001
329	SLU 65		0.26	-4.02	50.39	0.2976	0.0419	-0.0001
329	SLU 66		0.26	-4.15	51.54	0.3066	0.0431	-0.0001
329	SLU 67		0.26	-4.13	51.47	0.3051	0.043	-0.0001
329	SLU 68		0.26	-4.07	50.97	0.301	0.0425	-0.0001
329	SLU 69		0.27	-4.2	52.12	0.31	0.0437	-0.0001
329	SLU 70		0.27	-4.18	52.05	0.3085	0.0436	-0.0001
329	SLU 71		0.26	-4.16	51.68	0.3069	0.0433	-0.0001
329	SLU 72		0.26	-4.14	51.6	0.3054	0.0432	-0.0001
329	SLU 73		0.28	-4.6	55.94	0.3371	0.0464	-0.0001
329	SLU 74		0.29	-4.72	57.09	0.3462	0.0477	-0.0001
329	SLU 75		0.29	-4.7	57.02	0.3447	0.0475	-0.0001
329	SLU 76		0.29	-4.65	56.52	0.3406	0.047	-0.0001
329	SLU 77		0.29	-4.77	57.67	0.3496	0.0483	-0.0001
329	SLU 78		0.29	-4.75	57.6	0.3481	0.0481	-0.0001
329	SLU 79		0.29	-4.74	57.23	0.3465	0.0479	-0.0001
329	SLU 80		0.29	-4.71	57.15	0.345	0.0477	-0.0001
329	SLU 81		0.3	-4.88	58.45	0.3566	0.0486	-0.0001
329	SLU 82		0.3	-4.86	58.37	0.3551	0.0485	-0.0001
329	SLU 83		0.3	-4.93	59.03	0.36	0.0492	-0.0001
329	SLU 84		0.3	-4.91	58.95	0.3585	0.0491	-0.0001
329	SLE RA 1		0.19	-3	37.71	0.2227	0.0314	-0.0001
329	SLE RA 2		0.19	-2.98	37.63	0.221	0.0313	-0.0001
329	SLE RA 3		0.2	-3.06	38.39	0.227	0.0321	-0.0001
329	SLE RA 4		0.19	-3.05	38.34	0.226	0.032	-0.0001
329	SLE RA 5		0.19	-3.01	38.01	0.2233	0.0317	-0.0001
329	SLE RA 6		0.2	-3.1	38.78	0.2293	0.0325	-0.0001
329	SLE RA 7		0.2	-3.08	38.73	0.2283	0.0324	-0.0001
329	SLE RA 8		0.2	-3.07	38.48	0.2272	0.0322	-0.0001
329	SLE RA 9		0.2	-3.06	38.43	0.2262	0.0322	-0.0001
329	SLE RA 10		0.21	-3.37	41.33	0.2474	0.0343	-0.0001
329	SLE RA 11		0.21	-3.45	42.09	0.2534	0.0351	-0.0001
329	SLE RA 12		0.21	-3.43	42.04	0.2524	0.0351	-0.0001
329	SLE RA 13		0.21	-3.4	41.71	0.2496	0.0347	-0.0001
329	SLE RA 14		0.22	-3.48	42.48	0.2557	0.0355	-0.0001
329	SLE RA 15		0.22	-3.47	42.43	0.2547	0.0355	-0.0001
329	SLE RA 16		0.21	-3.46	42.18	0.2536	0.0353	-0.0001
329	SLE RA 17		0.21	-3.44	42.13	0.2526	0.0352	-0.0001
329	SLE RA 18		0.22	-3.55	42.99	0.2603	0.0358	-0.0001
329	SLE RA 19		0.22	-3.54	42.94	0.2593	0.0357	-0.0001
329	SLE RA 20		0.22	-3.59	43.38	0.2626	0.0362	-0.0001
329	SLE RA 21		0.22	-3.57	43.33	0.2616	0.0361	-0.0001
329	SLE FR 1		0.19	-3	37.71	0.2227	0.0314	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
329	SLE FR 2		0.19	-3	37.69	0.2223	0.0314	-0.0001
329	SLE FR 3		0.19	-3.02	37.86	0.2236	0.0316	-0.0001
329	SLE FR 4		0.2	-3.16	39.28	0.2336	0.0327	-0.0001
329	SLE FR 5		0.2	-3.18	39.45	0.2349	0.0329	-0.0001
329	SLE FR 6		0.2	-3.28	40.35	0.2415	0.0336	-0.0001
329	SLE QP 1		0.19	-3	37.71	0.2227	0.0314	-0.0001
329	SLE QP 2		0.2	-3.17	39.29	0.234	0.0327	-0.0001
329	SLD 1		0.23	-0.01	31.83	0.0788	0.0416	0
329	SLD 2		0.23	-0.01	31.83	0.0788	0.0416	0
329	SLD 3		0.25	-2.54	36.85	0.24	0.0462	-0.0002
329	SLD 4		0.25	-2.54	36.85	0.24	0.0462	-0.0002
329	SLD 5		0.16	1.61	29.44	-0.057	0.0284	0.0001
329	SLD 6		0.16	1.61	29.44	-0.057	0.0284	0.0001
329	SLD 7		0.26	-6.81	46.18	0.4802	0.0437	-0.0003
329	SLD 8		0.26	-6.81	46.18	0.4802	0.0437	-0.0003
329	SLD 9		0.14	0.47	32.41	-0.0123	0.0217	0.0002
329	SLD 10		0.14	0.47	32.41	-0.0123	0.0217	0.0002
329	SLD 11		0.23	-7.94	49.15	0.5249	0.0371	-0.0003
329	SLD 12		0.23	-7.94	49.15	0.5249	0.0371	-0.0003
329	SLD 13		0.14	-3.8	41.74	0.2279	0.0193	0
329	SLD 14		0.14	-3.8	41.74	0.2279	0.0193	0
329	SLD 15		0.17	-6.33	46.76	0.3891	0.0239	-0.0001
329	SLD 16		0.17	-6.33	46.76	0.3891	0.0239	-0.0001
329	SLV 1		0.26	4.22	21.74	-0.1306	0.0533	0
329	SLV 2		0.26	4.22	21.74	-0.1306	0.0533	0
329	SLV 3		0.33	-1.71	33.6	0.2494	0.0643	-0.0003
329	SLV 4		0.33	-1.71	33.6	0.2494	0.0643	-0.0003
329	SLV 5		0.11	8.04	16.05	-0.4518	0.0221	0.0004
329	SLV 6		0.11	8.04	16.05	-0.4518	0.0221	0.0004
329	SLV 7		0.34	-11.72	55.56	0.8149	0.059	-0.0006
329	SLV 8		0.34	-11.72	55.56	0.8149	0.059	-0.0006
329	SLV 9		0.06	5.38	23.03	-0.347	0.0065	0.0005
329	SLV 10		0.06	5.38	23.03	-0.347	0.0065	0.0005
329	SLV 11		0.28	-14.38	62.54	0.9197	0.0433	-0.0005
329	SLV 12		0.28	-14.38	62.54	0.9197	0.0433	-0.0005
329	SLV 13		0.07	-4.63	44.99	0.2185	0.0012	0.0002
329	SLV 14		0.07	-4.63	44.99	0.2185	0.0012	0.0002
329	SLV 15		0.14	-10.56	56.85	0.5985	0.0122	-0.0001
329	SLV 16		0.14	-10.56	56.85	0.5985	0.0122	-0.0001
331	SLU 1		0	-6.37	73.16	0.2769	-0.0023	-0.0001
331	SLU 2		0	-6.26	72.52	0.2713	-0.0025	-0.0001
331	SLU 3		0	-6.76	77.56	0.2949	-0.0025	-0.0001
331	SLU 4		0	-6.69	77.18	0.2916	-0.0026	-0.0001
331	SLU 5		0	-6.6	76.37	0.2872	-0.0027	-0.0001
331	SLU 6		0	-7.1	81.41	0.3109	-0.0027	-0.0001
331	SLU 7		0	-7.03	81.03	0.3075	-0.0028	-0.0001
331	SLU 8		0	-7.04	80.86	0.3087	-0.0027	-0.0001
331	SLU 9		0	-6.98	80.48	0.3054	-0.0028	-0.0001
331	SLU 10		0	-7.36	84.03	0.3183	-0.0029	-0.0001
331	SLU 11		0	-7.86	89.07	0.342	-0.0029	-0.0001
331	SLU 12		0	-7.79	88.68	0.3387	-0.0031	-0.0001
331	SLU 13		0	-7.7	87.87	0.3343	-0.0031	-0.0001
331	SLU 14		0	-8.19	92.92	0.3579	-0.0031	-0.0001
331	SLU 15		0	-8.13	92.53	0.3546	-0.0033	-0.0001
331	SLU 16		0	-8.14	92.36	0.3558	-0.0031	-0.0001
331	SLU 17		0	-8.08	91.98	0.3524	-0.0032	-0.0001
331	SLU 18		0	-7.94	89.59	0.3441	-0.0029	-0.0001
331	SLU 19		0	-7.87	89.21	0.3407	-0.003	-0.0001
331	SLU 20		0	-8.27	93.44	0.36	-0.0031	-0.0001
331	SLU 21		0	-8.21	93.06	0.3567	-0.0032	-0.0001
331	SLU 22		0	-7.5	85.25	0.3266	-0.0027	-0.0001
331	SLU 23		0	-7.4	84.61	0.321	-0.003	-0.0001
331	SLU 24		0	-7.89	89.65	0.3446	-0.003	-0.0001
331	SLU 25		0	-7.83	89.27	0.3413	-0.0031	-0.0001
331	SLU 26		0	-7.74	88.46	0.3369	-0.0031	-0.0001
331	SLU 27		0	-8.23	93.5	0.3606	-0.0031	-0.0001
331	SLU 28		0	-8.17	93.11	0.3572	-0.0033	-0.0001
331	SLU 29		0	-8.18	92.94	0.3584	-0.0031	-0.0001
331	SLU 30		0	-8.11	92.56	0.3551	-0.0032	-0.0001
331	SLU 31		0	-8.5	96.11	0.3681	-0.0034	-0.0001
331	SLU 32		0	-8.99	101.15	0.3917	-0.0034	-0.0001
331	SLU 33		0	-8.93	100.77	0.3884	-0.0035	-0.0001
331	SLU 34		0	-8.83	99.96	0.384	-0.0036	-0.0001
331	SLU 35		0	-9.33	105	0.4076	-0.0036	-0.0001
331	SLU 36		0	-9.26	104.62	0.4043	-0.0037	-0.0001
331	SLU 37		0	-9.27	104.45	0.4055	-0.0036	-0.0001
331	SLU 38		0	-9.21	104.06	0.4022	-0.0037	-0.0001
331	SLU 39		0	-9.07	101.68	0.3938	-0.0034	-0.0001
331	SLU 40		0	-9.01	101.29	0.3905	-0.0035	-0.0001
331	SLU 41		0	-9.41	105.53	0.4097	-0.0036	-0.0001
331	SLU 42		0	-9.35	105.14	0.4064	-0.0037	-0.0001
331	SLU 43		0	-7.89	90.97	0.3429	-0.0028	-0.0001
331	SLU 44		0	-7.79	90.33	0.3373	-0.003	-0.0001
331	SLU 45		0	-8.28	95.37	0.361	-0.003	-0.0001
331	SLU 46		0	-8.22	94.99	0.3576	-0.0032	-0.0001
331	SLU 47		0	-8.12	94.18	0.3532	-0.0032	-0.0001
331	SLU 48		0	-8.62	99.22	0.3769	-0.0032	-0.0001
331	SLU 49		0	-8.55	98.84	0.3735	-0.0034	-0.0001
331	SLU 50		0	-8.57	98.67	0.3747	-0.0032	-0.0001
331	SLU 51		0	-8.5	98.28	0.3714	-0.0033	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
331	SLU 52		0	-8.88	101.83	0.3844	-0.0035	-0.0001
331	SLU 53		0	-9.38	106.87	0.408	-0.0035	-0.0001
331	SLU 54		0	-9.31	106.49	0.4047	-0.0036	-0.0001
331	SLU 55		0	-9.22	105.68	0.4003	-0.0037	-0.0001
331	SLU 56		0	-9.71	110.72	0.424	-0.0037	-0.0001
331	SLU 57		0	-9.65	110.34	0.4206	-0.0038	-0.0001
331	SLU 58		0	-9.66	110.17	0.4218	-0.0036	-0.0001
331	SLU 59		0	-9.6	109.79	0.4185	-0.0038	-0.0001
331	SLU 60		0	-9.46	107.4	0.4101	-0.0035	-0.0001
331	SLU 61		0	-9.4	107.02	0.4068	-0.0036	-0.0001
331	SLU 62		0	-9.8	111.25	0.426	-0.0036	-0.0001
331	SLU 63		0	-9.73	110.87	0.4227	-0.0038	-0.0001
331	SLU 64		0	-9.02	103.05	0.3926	-0.0033	-0.0001
331	SLU 65		0	-8.92	102.41	0.387	-0.0035	-0.0001
331	SLU 66		0	-9.41	107.45	0.4107	-0.0035	-0.0001
331	SLU 67		0	-9.35	107.07	0.4073	-0.0036	-0.0001
331	SLU 68		0	-9.26	106.26	0.4029	-0.0037	-0.0001
331	SLU 69		0	-9.75	111.3	0.4266	-0.0037	-0.0001
331	SLU 70		0	-9.69	110.92	0.4232	-0.0038	-0.0001
331	SLU 71		0	-9.7	110.75	0.4244	-0.0036	-0.0001
331	SLU 72		0	-9.64	110.37	0.4211	-0.0038	-0.0001
331	SLU 73		0	-10.02	113.91	0.4341	-0.0039	-0.0001
331	SLU 74		0	-10.51	118.96	0.4577	-0.0039	-0.0001
331	SLU 75		0	-10.45	118.57	0.4544	-0.0041	-0.0001
331	SLU 76		0	-10.35	117.76	0.45	-0.0041	-0.0001
331	SLU 77		0	-10.85	122.8	0.4737	-0.0041	-0.0001
331	SLU 78		0	-10.79	122.42	0.4703	-0.0042	-0.0001
331	SLU 79		0	-10.8	122.25	0.4715	-0.0041	-0.0001
331	SLU 80		0	-10.73	121.87	0.4682	-0.0042	-0.0001
331	SLU 81		0	-10.59	119.48	0.4598	-0.0039	-0.0001
331	SLU 82		0	-10.53	119.1	0.4565	-0.004	-0.0001
331	SLU 83		0	-10.93	123.33	0.4758	-0.0041	-0.0001
331	SLU 84		0	-10.87	122.95	0.4724	-0.0042	-0.0001
331	SLE RA 1		0	-6.69	76.61	0.2911	-0.0024	-0.0001
331	SLE RA 2		0	-6.62	76.19	0.2873	-0.0026	-0.0001
331	SLE RA 3		0	-6.95	79.55	0.3031	-0.0026	-0.0001
331	SLE RA 4		0	-6.91	79.29	0.3009	-0.0026	-0.0001
331	SLE RA 5		0	-6.85	78.76	0.298	-0.0027	-0.0001
331	SLE RA 6		0	-7.18	82.12	0.3137	-0.0027	-0.0001
331	SLE RA 7		0	-7.13	81.86	0.3115	-0.0028	-0.0001
331	SLE RA 8		0	-7.14	81.75	0.3123	-0.0027	-0.0001
331	SLE RA 9		0	-7.1	81.49	0.3101	-0.0028	-0.0001
331	SLE RA 10		0	-7.35	83.86	0.3187	-0.0029	-0.0001
331	SLE RA 11		0	-7.68	87.22	0.3345	-0.0029	-0.0001
331	SLE RA 12		0	-7.64	86.96	0.3323	-0.0029	-0.0001
331	SLE RA 13		0	-7.58	86.42	0.3293	-0.003	-0.0001
331	SLE RA 14		0	-7.91	89.78	0.3451	-0.003	-0.0001
331	SLE RA 15		0	-7.87	89.53	0.3429	-0.0031	-0.0001
331	SLE RA 16		0	-7.87	89.41	0.3437	-0.003	-0.0001
331	SLE RA 17		0	-7.83	89.16	0.3415	-0.003	-0.0001
331	SLE RA 18		0	-7.74	87.57	0.3359	-0.0028	-0.0001
331	SLE RA 19		0	-7.7	87.31	0.3337	-0.0029	-0.0001
331	SLE RA 20		0	-7.96	90.13	0.3465	-0.003	-0.0001
331	SLE RA 21		0	-7.92	89.88	0.3443	-0.003	-0.0001
331	SLE FR 1		0	-6.69	76.61	0.2911	-0.0024	-0.0001
331	SLE FR 2		0	-6.68	76.53	0.2903	-0.0025	-0.0001
331	SLE FR 3		0	-6.78	77.64	0.2953	-0.0025	-0.0001
331	SLE FR 4		0	-6.99	79.82	0.3038	-0.0026	-0.0001
331	SLE FR 5		0	-7.1	80.93	0.3088	-0.0026	-0.0001
331	SLE FR 6		0	-7.22	82.09	0.3135	-0.0026	-0.0001
331	SLE QP 1		0	-6.69	76.61	0.2911	-0.0024	-0.0001
331	SLE QP 2		0	-7.01	79.9	0.3045	-0.0025	-0.0001
331	SLD 1		-0.22	-6.43	79.7	0.2721	-0.1296	-0.0016
331	SLD 2		-0.22	-6.43	79.7	0.2721	-0.1296	-0.0016
331	SLD 3		-0.19	-9.04	91.34	0.4355	-0.1132	-0.0014
331	SLD 4		-0.19	-9.04	91.34	0.4355	-0.1132	-0.0014
331	SLD 5		-0.11	-2.87	62.2	0.0469	-0.0655	-0.0009
331	SLD 6		-0.11	-2.87	62.2	0.0469	-0.0655	-0.0009
331	SLD 7		-0.01	-11.58	100.98	0.5917	-0.0109	-0.0001
331	SLD 8		-0.01	-11.58	100.98	0.5917	-0.0109	-0.0001
331	SLD 9		0.01	-2.43	58.82	0.0173	0.0058	-0.0001
331	SLD 10		0.01	-2.43	58.82	0.0173	0.0058	-0.0001
331	SLD 11		0.11	-11.15	97.61	0.5621	0.0604	0.0008
331	SLD 12		0.11	-11.15	97.61	0.5621	0.0604	0.0008
331	SLD 13		0.19	-4.97	68.46	0.1735	0.1081	0.0012
331	SLD 14		0.19	-4.97	68.46	0.1735	0.1081	0.0012
331	SLD 15		0.22	-7.59	80.1	0.3369	0.1245	0.0015
331	SLD 16		0.22	-7.59	80.1	0.3369	0.1245	0.0015
331	SLV 1		-0.53	-5.68	79.34	0.2307	-0.3037	-0.0039
331	SLV 2		-0.53	-5.68	79.34	0.2307	-0.3037	-0.0039
331	SLV 3		-0.45	-11.84	106.97	0.6155	-0.2639	-0.0032
331	SLV 4		-0.45	-11.84	106.97	0.6155	-0.2639	-0.0032
331	SLV 5		-0.28	2.75	37.83	-0.3014	-0.1532	-0.0022
331	SLV 6		-0.28	2.75	37.83	-0.3014	-0.1532	-0.0022
331	SLV 7		-0.02	-17.81	129.92	0.9815	-0.0206	0
331	SLV 8		-0.02	-17.81	129.92	0.9815	-0.0206	0
331	SLV 9		0.02	3.8	29.88	-0.3725	0.0155	-0.0001
331	SLV 10		0.02	3.8	29.88	-0.3725	0.0155	-0.0001
331	SLV 11		0.27	-16.76	121.97	0.9104	0.1481	0.0021
331	SLV 12		0.27	-16.76	121.97	0.9104	0.1481	0.0021



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
331	SLV 13		0.45	-2.17	52.84	-0.0065	0.2588	0.0031
331	SLV 14		0.45	-2.17	52.84	-0.0065	0.2588	0.0031
331	SLV 15		0.53	-8.34	80.46	0.3784	0.2986	0.0038
331	SLV 16		0.53	-8.34	80.46	0.3784	0.2986	0.0038
332	SLU 1		7.9	-6.23	50.53	0.0552	0.2401	0.0002
332	SLU 2		7.89	-6.19	50.28	0.0541	0.2398	0.0002
332	SLU 3		8.12	-6.41	51.93	0.0564	0.2471	0.0002
332	SLU 4		8.11	-6.38	51.78	0.0557	0.2469	0.0002
332	SLU 5		8	-6.28	51.03	0.0545	0.2437	0.0002
332	SLU 6		8.24	-6.5	52.68	0.0568	0.251	0.0002
332	SLU 7		8.23	-6.47	52.53	0.0561	0.2508	0.0002
332	SLU 8		8.14	-6.42	52.02	0.056	0.2479	0.0002
332	SLU 9		8.13	-6.39	51.87	0.0554	0.2477	0.0002
332	SLU 10		9.02	-7.22	58.01	0.0659	0.2739	0.0002
332	SLU 11		9.25	-7.44	59.66	0.0682	0.2812	0.0001
332	SLU 12		9.24	-7.41	59.51	0.0676	0.2811	0.0002
332	SLU 13		9.14	-7.32	58.76	0.0664	0.2778	0.0002
332	SLU 14		9.37	-7.53	60.41	0.0686	0.2851	0.0002
332	SLU 15		9.36	-7.51	60.26	0.068	0.285	0.0002
332	SLU 16		9.27	-7.45	59.75	0.0679	0.282	0.0002
332	SLU 17		9.26	-7.42	59.6	0.0672	0.2818	0.0002
332	SLU 18		9.52	-7.71	61.58	0.0721	0.2888	0.0001
332	SLU 19		9.51	-7.68	61.42	0.0714	0.2886	0.0001
332	SLU 20		9.64	-7.8	62.32	0.0725	0.2927	0.0001
332	SLU 21		9.63	-7.78	62.17	0.0719	0.2925	0.0001
332	SLU 22		8.97	-7.2	57.81	0.0657	0.2726	0.0001
332	SLU 23		8.96	-7.16	57.56	0.0646	0.2724	0.0002
332	SLU 24		9.19	-7.37	59.21	0.0669	0.2797	0.0002
332	SLU 25		9.18	-7.35	59.06	0.0662	0.2795	0.0002
332	SLU 26		9.07	-7.25	58.31	0.065	0.2763	0.0002
332	SLU 27		9.31	-7.46	59.96	0.0673	0.2836	0.0002
332	SLU 28		9.3	-7.44	59.81	0.0666	0.2834	0.0002
332	SLU 29		9.21	-7.38	59.3	0.0665	0.2804	0.0002
332	SLU 30		9.2	-7.36	59.15	0.0659	0.2803	0.0002
332	SLU 31		10.09	-8.19	65.29	0.0764	0.3065	0.0001
332	SLU 32		10.33	-8.41	66.94	0.0787	0.3138	0.0001
332	SLU 33		10.31	-8.38	66.79	0.0781	0.3136	0.0001
332	SLU 34		10.21	-8.28	66.04	0.0769	0.3104	0.0001
332	SLU 35		10.44	-8.5	67.69	0.0791	0.3177	0.0001
332	SLU 36		10.43	-8.47	67.54	0.0785	0.3175	0.0001
332	SLU 37		10.34	-8.42	67.04	0.0784	0.3146	0.0001
332	SLU 38		10.33	-8.39	66.88	0.0777	0.3144	0.0001
332	SLU 39		10.59	-8.68	68.86	0.0826	0.3214	0.0001
332	SLU 40		10.58	-8.65	68.71	0.082	0.3212	0.0001
332	SLU 41		10.71	-8.77	69.6	0.083	0.3253	0.0001
332	SLU 42		10.7	-8.74	69.45	0.0824	0.3251	0.0001
332	SLU 43		9.91	-7.77	63.2	0.0681	0.3009	0.0003
332	SLU 44		9.89	-7.73	62.94	0.0671	0.3006	0.0003
332	SLU 45		10.13	-7.95	64.6	0.0693	0.308	0.0003
332	SLU 46		10.12	-7.92	64.44	0.0687	0.3078	0.0003
332	SLU 47		10.01	-7.82	63.69	0.0675	0.3045	0.0003
332	SLU 48		10.24	-8.04	65.34	0.0697	0.3119	0.0003
332	SLU 49		10.23	-8.01	65.19	0.0691	0.3117	0.0003
332	SLU 50		10.14	-7.96	64.69	0.069	0.3087	0.0003
332	SLU 51		10.13	-7.93	64.54	0.0683	0.3086	0.0003
332	SLU 52		11.02	-8.76	70.67	0.0789	0.3348	0.0002
332	SLU 53		11.26	-8.98	72.33	0.0812	0.3421	0.0002
332	SLU 54		11.25	-8.95	72.17	0.0805	0.3419	0.0002
332	SLU 55		11.14	-8.85	71.42	0.0793	0.3387	0.0002
332	SLU 56		11.38	-9.07	73.07	0.0816	0.346	0.0002
332	SLU 57		11.37	-9.05	72.92	0.0809	0.3458	0.0002
332	SLU 58		11.28	-8.99	72.42	0.0808	0.3428	0.0002
332	SLU 59		11.26	-8.96	72.27	0.0802	0.3427	0.0002
332	SLU 60		11.53	-9.25	74.24	0.0851	0.3496	0.0002
332	SLU 61		11.51	-9.22	74.09	0.0844	0.3495	0.0002
332	SLU 62		11.64	-9.34	74.99	0.0855	0.3536	0.0002
332	SLU 63		11.63	-9.31	74.83	0.0848	0.3534	0.0002
332	SLU 64		10.98	-8.74	70.48	0.0786	0.3335	0.0002
332	SLU 65		10.96	-8.69	70.22	0.0776	0.3332	0.0002
332	SLU 66		11.2	-8.91	71.88	0.0798	0.3405	0.0002
332	SLU 67		11.19	-8.89	71.72	0.0792	0.3404	0.0002
332	SLU 68		11.08	-8.79	70.97	0.078	0.3371	0.0002
332	SLU 69		11.32	-9	72.62	0.0802	0.3444	0.0002
332	SLU 70		11.3	-8.98	72.47	0.0796	0.3443	0.0002
332	SLU 71		11.21	-8.92	71.97	0.0795	0.3413	0.0002
332	SLU 72		11.2	-8.9	71.82	0.0788	0.3411	0.0002
332	SLU 73		12.09	-9.73	77.95	0.0894	0.3673	0.0002
332	SLU 74		12.33	-9.94	79.61	0.0917	0.3746	0.0002
332	SLU 75		12.32	-9.92	79.45	0.091	0.3745	0.0002
332	SLU 76		12.21	-9.82	78.7	0.0898	0.3712	0.0002
332	SLU 77		12.45	-10.04	80.35	0.0921	0.3786	0.0002
332	SLU 78		12.44	-10.01	80.2	0.0914	0.3784	0.0002
332	SLU 79		12.35	-9.96	79.7	0.0913	0.3754	0.0002
332	SLU 80		12.34	-9.93	79.55	0.0907	0.3752	0.0002
332	SLU 81		12.6	-10.21	81.52	0.0956	0.3822	0.0002
332	SLU 82		12.58	-10.19	81.37	0.0949	0.3821	0.0002
332	SLU 83		12.71	-10.31	82.27	0.096	0.3861	0.0002
332	SLU 84		12.7	-10.28	82.11	0.0953	0.386	0.0002
332	SLE RA 1		8.21	-6.51	52.61	0.0582	0.2494	0.0002
332	SLE RA 2		8.2	-6.48	52.44	0.0575	0.2492	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
332	SLE RA 3		8.36	-6.63	53.55	0.059	0.2541	0.0002
332	SLE RA 4		8.35	-6.61	53.44	0.0585	0.254	0.0002
332	SLE RA 5		8.28	-6.54	52.94	0.0577	0.2518	0.0002
332	SLE RA 6		8.43	-6.69	54.04	0.0593	0.2567	0.0002
332	SLE RA 7		8.43	-6.67	53.94	0.0588	0.2566	0.0002
332	SLE RA 8		8.37	-6.63	53.61	0.0587	0.2546	0.0002
332	SLE RA 9		8.36	-6.61	53.51	0.0583	0.2545	0.0002
332	SLE RA 10		8.95	-7.17	57.6	0.0654	0.2719	0.0002
332	SLE RA 11		9.11	-7.31	58.7	0.0669	0.2768	0.0001
332	SLE RA 12		9.1	-7.3	58.6	0.0664	0.2767	0.0002
332	SLE RA 13		9.03	-7.23	58.1	0.0656	0.2745	0.0002
332	SLE RA 14		9.19	-7.38	59.2	0.0671	0.2794	0.0002
332	SLE RA 15		9.18	-7.36	59.09	0.0667	0.2793	0.0002
332	SLE RA 16		9.12	-7.32	58.76	0.0666	0.2773	0.0002
332	SLE RA 17		9.11	-7.3	58.66	0.0662	0.2772	0.0002
332	SLE RA 18		9.29	-7.49	59.98	0.0695	0.2819	0.0001
332	SLE RA 19		9.28	-7.48	59.87	0.069	0.2817	0.0001
332	SLE RA 20		9.37	-7.55	60.47	0.0697	0.2845	0.0001
332	SLE RA 21		9.36	-7.54	60.37	0.0693	0.2844	0.0001
332	SLE FR 1		8.21	-6.51	52.61	0.0582	0.2494	0.0002
332	SLE FR 2		8.21	-6.5	52.58	0.058	0.2493	0.0002
332	SLE FR 3		8.24	-6.53	52.81	0.0583	0.2504	0.0002
332	SLE FR 4		8.53	-6.8	54.79	0.0614	0.2591	0.0002
332	SLE FR 5		8.56	-6.83	55.02	0.0617	0.2602	0.0002
332	SLE FR 6		8.75	-7	56.3	0.0638	0.2656	0.0002
332	SLE QP 1		8.21	-6.51	52.61	0.0582	0.2494	0.0002
332	SLE QP 2		8.53	-6.8	54.82	0.0616	0.2591	0.0002
332	SLD 1		10.99	-4.95	57.34	-0.0222	0.3569	0.0024
332	SLD 2		10.99	-4.95	57.34	-0.0222	0.3569	0.0024
332	SLD 3		11.79	-7.41	68.78	0.0618	0.3788	0.0009
332	SLD 4		11.79	-7.41	68.78	0.0618	0.3788	0.0009
332	SLD 5		8.04	-2.53	38.23	-0.091	0.2552	0.0031
332	SLD 6		8.04	-2.53	38.23	-0.091	0.2552	0.0031
332	SLD 7		10.74	-10.71	76.35	0.189	0.3283	-0.0019
332	SLD 8		10.74	-10.71	76.35	0.189	0.3283	-0.0019
332	SLD 9		6.33	-2.9	33.29	-0.0659	0.19	0.0022
332	SLD 10		6.33	-2.9	33.29	-0.0659	0.19	0.0022
332	SLD 11		9.02	-11.08	71.41	0.2141	0.2631	-0.0028
332	SLD 12		9.02	-11.08	71.41	0.2141	0.2631	-0.0028
332	SLD 13		5.27	-6.2	40.87	0.0613	0.1395	-0.0006
332	SLD 14		5.27	-6.2	40.87	0.0613	0.1395	-0.0006
332	SLD 15		6.08	-8.66	52.31	0.1453	0.1614	-0.0021
332	SLD 16		6.08	-8.66	52.31	0.1453	0.1614	-0.0021
332	SLV 1		14.24	-2.42	60.61	-0.1352	0.4867	0.0055
332	SLV 2		14.24	-2.42	60.61	-0.1352	0.4867	0.0055
332	SLV 3		16.15	-8.21	87.66	0.0626	0.5385	0.0019
332	SLV 4		16.15	-8.21	87.66	0.0626	0.5385	0.0019
332	SLV 5		7.35	3.29	15.53	-0.2974	0.2488	0.0072
332	SLV 6		7.35	3.29	15.53	-0.2974	0.2488	0.0072
332	SLV 7		13.71	-16	105.7	0.3619	0.4216	-0.0048
332	SLV 8		13.71	-16	105.7	0.3619	0.4216	-0.0048
332	SLV 9		3.35	2.39	3.95	-0.2387	0.0967	0.0051
332	SLV 10		3.35	2.39	3.95	-0.2387	0.0967	0.0051
332	SLV 11		9.71	-16.9	94.11	0.4206	0.2694	-0.0069
332	SLV 12		9.71	-16.9	94.11	0.4206	0.2694	-0.0069
332	SLV 13		0.91	-5.4	21.99	0.0605	-0.0203	-0.0015
332	SLV 14		0.91	-5.4	21.99	0.0605	-0.0203	-0.0015
332	SLV 15		2.82	-11.19	49.03	0.2583	0.0315	-0.0051
332	SLV 16		2.82	-11.19	49.03	0.2583	0.0315	-0.0051
333	SLU 1		3.07	-0.05	47.25	-0.0323	0.1158	0.0002
333	SLU 2		3.1	-0.05	47.02	-0.0322	0.1167	0.0002
333	SLU 3		3.14	-0.05	48.55	-0.0337	0.1175	0.0002
333	SLU 4		3.16	-0.05	48.41	-0.0336	0.1181	0.0002
333	SLU 5		3.13	-0.05	47.73	-0.0331	0.1172	0.0002
333	SLU 6		3.18	-0.05	49.25	-0.0346	0.118	0.0002
333	SLU 7		3.19	-0.05	49.12	-0.0346	0.1186	0.0002
333	SLU 8		3.14	-0.05	48.66	-0.0342	0.1167	0.0002
333	SLU 9		3.16	-0.05	48.53	-0.0341	0.1173	0.0002
333	SLU 10		3.41	-0.06	53.97	-0.0371	0.129	0.0002
333	SLU 11		3.46	-0.06	55.5	-0.0386	0.1299	0.0002
333	SLU 12		3.47	-0.06	55.37	-0.0386	0.1304	0.0002
333	SLU 13		3.45	-0.06	54.68	-0.0381	0.1295	0.0002
333	SLU 14		3.49	-0.06	56.21	-0.0396	0.1304	0.0002
333	SLU 15		3.51	-0.06	56.07	-0.0395	0.1309	0.0002
333	SLU 16		3.46	-0.06	55.62	-0.0391	0.1291	0.0002
333	SLU 17		3.47	-0.06	55.48	-0.0391	0.1296	0.0002
333	SLU 18		3.52	-0.06	57.18	-0.0394	0.1334	0.0002
333	SLU 19		3.54	-0.06	57.05	-0.0393	0.1339	0.0002
333	SLU 20		3.56	-0.06	57.89	-0.0403	0.1339	0.0002
333	SLU 21		3.57	-0.06	57.75	-0.0402	0.1344	0.0002
333	SLU 22		3.36	-0.06	53.83	-0.0373	0.1263	0.0002
333	SLU 23		3.39	-0.06	53.61	-0.0372	0.1272	0.0002
333	SLU 24		3.43	-0.06	55.13	-0.0387	0.128	0.0002
333	SLU 25		3.45	-0.06	55	-0.0386	0.1286	0.0002
333	SLU 26		3.42	-0.06	54.31	-0.0382	0.1277	0.0002
333	SLU 27		3.47	-0.06	55.84	-0.0397	0.1285	0.0002
333	SLU 28		3.48	-0.06	55.71	-0.0396	0.1291	0.0002
333	SLU 29		3.43	-0.06	55.25	-0.0392	0.1272	0.0002
333	SLU 30		3.45	-0.06	55.11	-0.0391	0.1278	0.0002
333	SLU 31		3.7	-0.07	60.56	-0.0421	0.1395	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
333	SLU 32		3.75	-0.07	62.09	-0.0436	0.1404	0.0002
333	SLU 33		3.76	-0.07	61.95	-0.0436	0.1409	0.0002
333	SLU 34		3.74	-0.07	61.27	-0.0431	0.14	0.0002
333	SLU 35		3.78	-0.07	62.8	-0.0446	0.1409	0.0002
333	SLU 36		3.8	-0.07	62.66	-0.0445	0.1414	0.0002
333	SLU 37		3.75	-0.07	62.21	-0.0442	0.1396	0.0002
333	SLU 38		3.76	-0.07	62.07	-0.0441	0.1401	0.0002
333	SLU 39		3.81	-0.07	63.77	-0.0444	0.1439	0.0002
333	SLU 40		3.83	-0.07	63.63	-0.0443	0.1444	0.0002
333	SLU 41		3.85	-0.07	64.48	-0.0453	0.1444	0.0002
333	SLU 42		3.86	-0.07	64.34	-0.0453	0.1449	0.0002
333	SLU 43		3.89	-0.06	59.16	-0.0403	0.1469	0.0002
333	SLU 44		3.92	-0.06	58.93	-0.0402	0.1478	0.0002
333	SLU 45		3.96	-0.06	60.46	-0.0417	0.1487	0.0002
333	SLU 46		3.98	-0.06	60.32	-0.0416	0.1492	0.0002
333	SLU 47		3.95	-0.06	59.64	-0.0411	0.1483	0.0002
333	SLU 48		4	-0.06	61.17	-0.0426	0.1492	0.0002
333	SLU 49		4.01	-0.06	61.03	-0.0425	0.1497	0.0002
333	SLU 50		3.96	-0.06	60.58	-0.0422	0.1479	0.0002
333	SLU 51		3.98	-0.06	60.44	-0.0421	0.1484	0.0002
333	SLU 52		4.23	-0.07	65.89	-0.0451	0.1602	0.0002
333	SLU 53		4.28	-0.07	67.42	-0.0466	0.161	0.0003
333	SLU 54		4.29	-0.07	67.28	-0.0465	0.1616	0.0003
333	SLU 55		4.27	-0.07	66.6	-0.046	0.1606	0.0002
333	SLU 56		4.31	-0.07	68.13	-0.0475	0.1615	0.0003
333	SLU 57		4.33	-0.07	67.99	-0.0475	0.162	0.0003
333	SLU 58		4.28	-0.07	67.53	-0.0471	0.1602	0.0002
333	SLU 59		4.29	-0.07	67.4	-0.047	0.1608	0.0002
333	SLU 60		4.34	-0.07	69.1	-0.0473	0.1645	0.0003
333	SLU 61		4.36	-0.07	68.96	-0.0473	0.1651	0.0003
333	SLU 62		4.38	-0.07	69.81	-0.0483	0.165	0.0003
333	SLU 63		4.39	-0.07	69.67	-0.0482	0.1656	0.0003
333	SLU 64		4.18	-0.07	65.75	-0.0453	0.1574	0.0002
333	SLU 65		4.21	-0.07	65.52	-0.0452	0.1583	0.0002
333	SLU 66		4.25	-0.07	67.05	-0.0467	0.1592	0.0002
333	SLU 67		4.27	-0.07	66.91	-0.0466	0.1597	0.0002
333	SLU 68		4.24	-0.07	66.23	-0.0461	0.1588	0.0002
333	SLU 69		4.29	-0.07	67.76	-0.0476	0.1597	0.0002
333	SLU 70		4.3	-0.07	67.62	-0.0476	0.1602	0.0002
333	SLU 71		4.26	-0.07	67.17	-0.0472	0.1584	0.0002
333	SLU 72		4.27	-0.07	67.03	-0.0471	0.1589	0.0002
333	SLU 73		4.52	-0.08	72.48	-0.0501	0.1707	0.0003
333	SLU 74		4.57	-0.08	74.01	-0.0516	0.1715	0.0003
333	SLU 75		4.58	-0.08	73.87	-0.0516	0.1721	0.0003
333	SLU 76		4.56	-0.08	73.18	-0.0511	0.1711	0.0003
333	SLU 77		4.6	-0.08	74.71	-0.0526	0.172	0.0003
333	SLU 78		4.62	-0.08	74.58	-0.0525	0.1725	0.0003
333	SLU 79		4.57	-0.08	74.12	-0.0521	0.1707	0.0003
333	SLU 80		4.59	-0.08	73.98	-0.0521	0.1713	0.0003
333	SLU 81		4.63	-0.08	75.69	-0.0523	0.175	0.0003
333	SLU 82		4.65	-0.08	75.55	-0.0523	0.1756	0.0003
333	SLU 83		4.67	-0.08	76.39	-0.0533	0.1755	0.0003
333	SLU 84		4.68	-0.08	76.26	-0.0532	0.1761	0.0003
333	SLE RA 1		3.15	-0.05	49.13	-0.0337	0.1188	0.0002
333	SLE RA 2		3.17	-0.05	48.98	-0.0337	0.1194	0.0002
333	SLE RA 3		3.2	-0.05	50	-0.0347	0.1199	0.0002
333	SLE RA 4		3.21	-0.05	49.9	-0.0346	0.1203	0.0002
333	SLE RA 5		3.19	-0.05	49.45	-0.0343	0.1197	0.0002
333	SLE RA 6		3.22	-0.05	50.47	-0.0353	0.1203	0.0002
333	SLE RA 7		3.23	-0.05	50.38	-0.0353	0.1206	0.0002
333	SLE RA 8		3.2	-0.05	50.07	-0.035	0.1194	0.0002
333	SLE RA 9		3.21	-0.05	49.98	-0.035	0.1198	0.0002
333	SLE RA 10		3.38	-0.06	53.61	-0.037	0.1276	0.0002
333	SLE RA 11		3.41	-0.06	54.63	-0.038	0.1282	0.0002
333	SLE RA 12		3.42	-0.06	54.54	-0.0379	0.1285	0.0002
333	SLE RA 13		3.4	-0.06	54.09	-0.0376	0.1279	0.0002
333	SLE RA 14		3.43	-0.06	55.1	-0.0386	0.1285	0.0002
333	SLE RA 15		3.44	-0.06	55.01	-0.0385	0.1289	0.0002
333	SLE RA 16		3.41	-0.06	54.71	-0.0383	0.1276	0.0002
333	SLE RA 17		3.42	-0.06	54.62	-0.0382	0.128	0.0002
333	SLE RA 18		3.45	-0.06	55.75	-0.0384	0.1305	0.0002
333	SLE RA 19		3.46	-0.06	55.66	-0.0384	0.1309	0.0002
333	SLE RA 20		3.48	-0.06	56.23	-0.0391	0.1308	0.0002
333	SLE RA 21		3.49	-0.06	56.13	-0.039	0.1312	0.0002
333	SLE FR 1		3.15	-0.05	49.13	-0.0337	0.1188	0.0002
333	SLE FR 2		3.16	-0.05	49.1	-0.0337	0.1189	0.0002
333	SLE FR 3		3.16	-0.05	49.32	-0.034	0.1189	0.0002
333	SLE FR 4		3.25	-0.05	51.09	-0.0351	0.1224	0.0002
333	SLE FR 5		3.25	-0.05	51.3	-0.0354	0.1224	0.0002
333	SLE FR 6		3.3	-0.06	52.44	-0.0361	0.1246	0.0002
333	SLE QP 1		3.15	-0.05	49.13	-0.0337	0.1188	0.0002
333	SLE QP 2		3.24	-0.05	51.12	-0.0351	0.1223	0.0002
333	SLD 1		7.89	-0.02	53.43	-0.0572	0.3252	0.0002
333	SLD 2		7.89	-0.02	53.43	-0.0572	0.3252	0.0002
333	SLD 3		6.51	-0.06	62.62	-0.0336	0.2868	0.0003
333	SLD 4		6.51	-0.06	62.62	-0.0336	0.2868	0.0003
333	SLD 5		6.73	0.03	37.88	-0.0775	0.2413	0.0001
333	SLD 6		6.73	0.03	37.88	-0.0775	0.2413	0.0001
333	SLD 7		2.13	-0.13	68.5	0.0011	0.1135	0.0003
333	SLD 8		2.13	-0.13	68.5	0.0011	0.1135	0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
333	SLD 9		4.35	0.02	33.73	-0.0714	0.1311	0.0001
333	SLD 10		4.35	0.02	33.73	-0.0714	0.1311	0.0001
333	SLD 11		-0.24	-0.13	64.36	0.0072	0.0032	0.0003
333	SLD 12		-0.24	-0.13	64.36	0.0072	0.0032	0.0003
333	SLD 13		-0.02	-0.04	39.61	-0.0367	-0.0422	0.0001
333	SLD 14		-0.02	-0.04	39.61	-0.0367	-0.0422	0.0001
333	SLD 15		-1.4	-0.09	48.8	-0.0131	-0.0806	0.0002
333	SLD 16		-1.4	-0.09	48.8	-0.0131	-0.0806	0.0002
333	SLV 1		14.1	0.03	56.44	-0.0869	0.5961	0.0002
333	SLV 2		14.1	0.03	56.44	-0.0869	0.5961	0.0002
333	SLV 3		10.83	-0.08	78.2	-0.0317	0.5045	0.0004
333	SLV 4		10.83	-0.08	78.2	-0.0317	0.5045	0.0004
333	SLV 5		11.47	0.14	19.71	-0.1344	0.4033	0
333	SLV 6		11.47	0.14	19.71	-0.1344	0.4033	0
333	SLV 7		0.55	-0.23	92.25	0.0496	0.0981	0.0004
333	SLV 8		0.55	-0.23	92.25	0.0496	0.0981	0.0004
333	SLV 9		5.94	0.12	9.99	-0.1199	0.1464	-0.0001
333	SLV 10		5.94	0.12	9.99	-0.1199	0.1464	-0.0001
333	SLV 11		-4.98	-0.25	82.52	0.0641	-0.1587	0.0004
333	SLV 12		-4.98	-0.25	82.52	0.0641	-0.1587	0.0004
333	SLV 13		-4.34	-0.03	24.03	-0.0386	-0.26	0
333	SLV 14		-4.34	-0.03	24.03	-0.0386	-0.26	0
333	SLV 15		-7.61	-0.14	45.79	0.0166	-0.3515	0.0001
333	SLV 16		-7.61	-0.14	45.79	0.0166	-0.3515	0.0001
334	SLU 1		2.92	0.11	39.51	-0.1007	0.2406	0.0003
334	SLU 2		2.95	0.1	39.33	-0.1002	0.241	0.0003
334	SLU 3		3	0.11	40.59	-0.1045	0.248	0.0004
334	SLU 4		3.02	0.11	40.48	-0.1043	0.2482	0.0004
334	SLU 5		2.99	0.11	39.95	-0.1027	0.2451	0.0003
334	SLU 6		3.05	0.11	41.2	-0.107	0.2521	0.0004
334	SLU 7		3.06	0.11	41.1	-0.1067	0.2524	0.0004
334	SLU 8		3.01	0.11	40.73	-0.1056	0.2488	0.0004
334	SLU 9		3.02	0.11	40.63	-0.1053	0.2491	0.0004
334	SLU 10		3.29	0.12	44.86	-0.1164	0.2749	0.0004
334	SLU 11		3.35	0.13	46.11	-0.1207	0.2819	0.0004
334	SLU 12		3.37	0.13	46.01	-0.1204	0.2821	0.0004
334	SLU 13		3.34	0.12	45.47	-0.1189	0.279	0.0004
334	SLU 14		3.4	0.13	46.72	-0.1232	0.286	0.0004
334	SLU 15		3.41	0.13	46.62	-0.1229	0.2863	0.0004
334	SLU 16		3.36	0.13	46.26	-0.1218	0.2827	0.0004
334	SLU 17		3.37	0.13	46.15	-0.1215	0.283	0.0004
334	SLU 18		3.42	0.13	47.4	-0.1238	0.289	0.0004
334	SLU 19		3.43	0.13	47.3	-0.1235	0.2892	0.0004
334	SLU 20		3.46	0.13	48.01	-0.1262	0.2931	0.0004
334	SLU 21		3.48	0.13	47.91	-0.126	0.2934	0.0004
334	SLU 22		3.25	0.12	44.78	-0.1166	0.2729	0.0004
334	SLU 23		3.27	0.12	44.61	-0.1162	0.2733	0.0004
334	SLU 24		3.33	0.13	45.86	-0.1205	0.2803	0.0004
334	SLU 25		3.34	0.13	45.75	-0.1202	0.2806	0.0004
334	SLU 26		3.31	0.12	45.22	-0.1186	0.2774	0.0004
334	SLU 27		3.37	0.13	46.47	-0.1229	0.2845	0.0004
334	SLU 28		3.39	0.13	46.37	-0.1227	0.2847	0.0004
334	SLU 29		3.34	0.13	46	-0.1215	0.2812	0.0004
334	SLU 30		3.35	0.13	45.9	-0.1213	0.2814	0.0004
334	SLU 31		3.62	0.14	50.13	-0.1323	0.3072	0.0004
334	SLU 32		3.68	0.14	51.38	-0.1366	0.3142	0.0005
334	SLU 33		3.69	0.14	51.28	-0.1364	0.3145	0.0005
334	SLU 34		3.66	0.14	50.74	-0.1348	0.3113	0.0005
334	SLU 35		3.72	0.14	52	-0.1391	0.3184	0.0005
334	SLU 36		3.73	0.14	51.89	-0.1388	0.3186	0.0005
334	SLU 37		3.68	0.14	51.53	-0.1377	0.3151	0.0005
334	SLU 38		3.7	0.14	51.43	-0.1374	0.3153	0.0005
334	SLU 39		3.75	0.15	52.67	-0.1397	0.3213	0.0005
334	SLU 40		3.76	0.15	52.57	-0.1394	0.3216	0.0005
334	SLU 41		3.79	0.15	53.28	-0.1422	0.3255	0.0005
334	SLU 42		3.8	0.15	53.18	-0.1419	0.3257	0.0005
334	SLU 43		3.69	0.13	49.55	-0.1254	0.3017	0.0004
334	SLU 44		3.71	0.13	49.38	-0.125	0.3021	0.0004
334	SLU 45		3.77	0.14	50.63	-0.1293	0.3091	0.0004
334	SLU 46		3.78	0.13	50.53	-0.129	0.3093	0.0004
334	SLU 47		3.75	0.13	49.99	-0.1274	0.3062	0.0004
334	SLU 48		3.81	0.14	51.24	-0.1318	0.3132	0.0004
334	SLU 49		3.83	0.14	51.14	-0.1315	0.3134	0.0004
334	SLU 50		3.78	0.14	50.78	-0.1304	0.3099	0.0004
334	SLU 51		3.79	0.14	50.67	-0.1301	0.3102	0.0004
334	SLU 52		4.06	0.15	54.91	-0.1412	0.336	0.0005
334	SLU 53		4.12	0.15	56.16	-0.1455	0.343	0.0005
334	SLU 54		4.13	0.15	56.05	-0.1452	0.3432	0.0005
334	SLU 55		4.1	0.15	55.52	-0.1436	0.3401	0.0005
334	SLU 56		4.16	0.15	56.77	-0.1479	0.3471	0.0005
334	SLU 57		4.17	0.15	56.67	-0.1477	0.3474	0.0005
334	SLU 58		4.12	0.15	56.3	-0.1465	0.3438	0.0005
334	SLU 59		4.14	0.15	56.2	-0.1463	0.3441	0.0005
334	SLU 60		4.19	0.16	57.44	-0.1485	0.3501	0.0005
334	SLU 61		4.2	0.15	57.34	-0.1483	0.3503	0.0005
334	SLU 62		4.23	0.16	58.06	-0.151	0.3542	0.0005
334	SLU 63		4.24	0.16	57.95	-0.1507	0.3545	0.0005
334	SLU 64		4.02	0.15	54.82	-0.1414	0.334	0.0005
334	SLU 65		4.04	0.15	54.65	-0.1409	0.3344	0.0005
334	SLU 66		4.1	0.15	55.9	-0.1452	0.3414	0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
334	SLU 67		4.11	0.15	55.8	-0.1449	0.3416	0.0005
334	SLU 68		4.08	0.15	55.26	-0.1434	0.3385	0.0005
334	SLU 69		4.14	0.15	56.51	-0.1477	0.3455	0.0005
334	SLU 70		4.15	0.15	56.41	-0.1474	0.3458	0.0005
334	SLU 71		4.1	0.15	56.05	-0.1463	0.3423	0.0005
334	SLU 72		4.11	0.15	55.94	-0.146	0.3425	0.0005
334	SLU 73		4.38	0.16	60.18	-0.1571	0.3683	0.0005
334	SLU 74		4.44	0.17	61.43	-0.1614	0.3753	0.0005
334	SLU 75		4.46	0.17	61.32	-0.1611	0.3756	0.0005
334	SLU 76		4.43	0.17	60.79	-0.1595	0.3724	0.0005
334	SLU 77		4.49	0.17	62.04	-0.1638	0.3795	0.0006
334	SLU 78		4.5	0.17	61.94	-0.1636	0.3797	0.0005
334	SLU 79		4.45	0.17	61.57	-0.1625	0.3762	0.0005
334	SLU 80		4.46	0.17	61.47	-0.1622	0.3764	0.0005
334	SLU 81		4.51	0.17	62.72	-0.1645	0.3824	0.0006
334	SLU 82		4.53	0.17	62.61	-0.1642	0.3827	0.0006
334	SLU 83		4.56	0.17	63.33	-0.1669	0.3866	0.0006
334	SLU 84		4.57	0.17	63.23	-0.1667	0.3868	0.0006
334	SLE RA 1		3.02	0.11	41.01	-0.1052	0.2498	0.0004
334	SLE RA 2		3.03	0.11	40.9	-0.1049	0.2501	0.0004
334	SLE RA 3		3.07	0.11	41.73	-0.1078	0.2548	0.0004
334	SLE RA 4		3.08	0.11	41.66	-0.1076	0.2549	0.0004
334	SLE RA 5		3.06	0.11	41.31	-0.1066	0.2528	0.0004
334	SLE RA 6		3.1	0.11	42.14	-0.1094	0.2575	0.0004
334	SLE RA 7		3.11	0.11	42.07	-0.1093	0.2577	0.0004
334	SLE RA 8		3.07	0.11	41.83	-0.1085	0.2553	0.0004
334	SLE RA 9		3.08	0.11	41.76	-0.1083	0.2555	0.0004
334	SLE RA 10		3.26	0.12	44.58	-0.1157	0.2727	0.0004
334	SLE RA 11		3.3	0.12	45.42	-0.1186	0.2774	0.0004
334	SLE RA 12		3.31	0.12	45.35	-0.1184	0.2775	0.0004
334	SLE RA 13		3.29	0.12	44.99	-0.1174	0.2754	0.0004
334	SLE RA 14		3.33	0.13	45.82	-0.1202	0.2801	0.0004
334	SLE RA 15		3.34	0.13	45.76	-0.1201	0.2803	0.0004
334	SLE RA 16		3.31	0.12	45.51	-0.1193	0.2779	0.0004
334	SLE RA 17		3.32	0.12	45.44	-0.1191	0.2781	0.0004
334	SLE RA 18		3.35	0.13	46.27	-0.1206	0.2821	0.0004
334	SLE RA 19		3.36	0.13	46.21	-0.1205	0.2823	0.0004
334	SLE RA 20		3.38	0.13	46.68	-0.1223	0.2849	0.0004
334	SLE RA 21		3.39	0.13	46.61	-0.1221	0.285	0.0004
334	SLE FR 1		3.02	0.11	41.01	-0.1052	0.2498	0.0004
334	SLE FR 2		3.02	0.11	40.99	-0.1052	0.2499	0.0004
334	SLE FR 3		3.03	0.11	41.17	-0.1059	0.2509	0.0004
334	SLE FR 4		3.12	0.11	42.57	-0.1098	0.2596	0.0004
334	SLE FR 5		3.13	0.12	42.75	-0.1105	0.2606	0.0004
334	SLE FR 6		3.18	0.12	43.64	-0.1129	0.266	0.0004
334	SLE QP 1		3.02	0.11	41.01	-0.1052	0.2498	0.0004
334	SLE QP 2		3.12	0.11	42.59	-0.1099	0.2595	0.0004
334	SLD 1		7.68	0.12	34.78	-0.0715	0.4681	0.0004
334	SLD 2		7.68	0.12	34.78	-0.0715	0.4681	0.0004
334	SLD 3		6.67	0.16	40.99	-0.1044	0.4317	0.0006
334	SLD 4		6.67	0.16	40.99	-0.1044	0.4317	0.0006
334	SLD 5		6.02	0.05	30.82	-0.0484	0.3774	0.0001
334	SLD 6		6.02	0.05	30.82	-0.0484	0.3774	0.0001
334	SLD 7		2.64	0.2	51.53	-0.1581	0.2559	0.0007
334	SLD 8		2.64	0.2	51.53	-0.1581	0.2559	0.0007
334	SLD 9		3.59	0.03	33.65	-0.0616	0.2631	0
334	SLD 10		3.59	0.03	33.65	-0.0616	0.2631	0
334	SLD 11		0.21	0.18	54.36	-0.1713	0.1416	0.0006
334	SLD 12		0.21	0.18	54.36	-0.1713	0.1416	0.0006
334	SLD 13		-0.43	0.07	44.19	-0.1153	0.0873	0.0002
334	SLD 14		-0.43	0.07	44.19	-0.1153	0.0873	0.0002
334	SLD 15		-1.45	0.11	50.4	-0.1482	0.0509	0.0003
334	SLD 16		-1.45	0.11	50.4	-0.1482	0.0509	0.0003
334	SLV 1		13.78	0.12	24.19	-0.0198	0.7468	0.0004
334	SLV 2		13.78	0.12	24.19	-0.0198	0.7468	0.0004
334	SLV 3		11.35	0.23	38.9	-0.0964	0.6597	0.0008
334	SLV 4		11.35	0.23	38.9	-0.0964	0.6597	0.0008
334	SLV 5		10	-0.04	14.76	0.0333	0.5378	-0.0002
334	SLV 6		10	-0.04	14.76	0.0333	0.5378	-0.0002
334	SLV 7		1.91	0.31	63.79	-0.222	0.2475	0.0011
334	SLV 8		1.91	0.31	63.79	-0.222	0.2475	0.0011
334	SLV 9		4.33	-0.08	21.39	0.0023	0.2716	-0.0004
334	SLV 10		4.33	-0.08	21.39	0.0023	0.2716	-0.0004
334	SLV 11		-3.77	0.27	70.42	-0.253	-0.0188	0.001
334	SLV 12		-3.77	0.27	70.42	-0.253	-0.0188	0.001
334	SLV 13		-5.12	0	46.28	-0.1233	-0.1406	-0.0001
334	SLV 14		-5.12	0	46.28	-0.1233	-0.1406	-0.0001
334	SLV 15		-7.55	0.11	60.99	-0.1999	-0.2277	0.0003
334	SLV 16		-7.55	0.11	60.99	-0.1999	-0.2277	0.0003
335	SLU 1		0.77	0.23	34.16	-0.1641	-0.0145	0.0008
335	SLU 2		0.79	0.23	34.03	-0.1635	-0.0132	0.0008
335	SLU 3		0.78	0.24	35.09	-0.1703	-0.016	0.0008
335	SLU 4		0.79	0.24	35.01	-0.1699	-0.0153	0.0008
335	SLU 5		0.79	0.23	34.58	-0.1674	-0.0146	0.0008
335	SLU 6		0.78	0.24	35.64	-0.1743	-0.0175	0.0008
335	SLU 7		0.79	0.24	35.56	-0.1739	-0.0167	0.0008
335	SLU 8		0.77	0.24	35.26	-0.172	-0.0173	0.0008
335	SLU 9		0.78	0.24	35.18	-0.1716	-0.0165	0.0008
335	SLU 10		0.86	0.26	38.57	-0.1901	-0.0172	0.0009
335	SLU 11		0.84	0.27	39.63	-0.1969	-0.0201	0.0009



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
335	SLU 12		0.86	0.27	39.55	-0.1965	-0.0193	0.0009
335	SLU 13		0.86	0.27	39.12	-0.194	-0.0186	0.0009
335	SLU 14		0.84	0.28	40.18	-0.2009	-0.0215	0.0009
335	SLU 15		0.86	0.28	40.1	-0.2005	-0.0207	0.0009
335	SLU 16		0.83	0.28	39.8	-0.1986	-0.0213	0.0009
335	SLU 17		0.85	0.28	39.72	-0.1982	-0.0206	0.0009
335	SLU 18		0.86	0.28	40.65	-0.2021	-0.0203	0.0009
335	SLU 19		0.88	0.28	40.57	-0.2017	-0.0195	0.0009
335	SLU 20		0.86	0.29	41.2	-0.2061	-0.0217	0.001
335	SLU 21		0.88	0.29	41.12	-0.2057	-0.0209	0.001
335	SLU 22		0.81	0.26	38.52	-0.1902	-0.0199	0.0009
335	SLU 23		0.83	0.26	38.39	-0.1895	-0.0186	0.0009
335	SLU 24		0.82	0.27	39.45	-0.1964	-0.0214	0.0009
335	SLU 25		0.83	0.27	39.37	-0.196	-0.0207	0.0009
335	SLU 26		0.83	0.27	38.94	-0.1935	-0.02	0.0009
335	SLU 27		0.82	0.28	40	-0.2004	-0.0228	0.0009
335	SLU 28		0.83	0.28	39.92	-0.2	-0.0221	0.0009
335	SLU 29		0.81	0.28	39.62	-0.1981	-0.0227	0.0009
335	SLU 30		0.82	0.27	39.54	-0.1977	-0.0219	0.0009
335	SLU 31		0.9	0.3	42.93	-0.2161	-0.0226	0.001
335	SLU 32		0.88	0.31	43.99	-0.223	-0.0255	0.001
335	SLU 33		0.9	0.31	43.91	-0.2226	-0.0247	0.001
335	SLU 34		0.9	0.31	43.48	-0.2201	-0.024	0.001
335	SLU 35		0.88	0.32	44.54	-0.2269	-0.0269	0.0011
335	SLU 36		0.9	0.31	44.46	-0.2265	-0.0261	0.0011
335	SLU 37		0.87	0.31	44.16	-0.2247	-0.0267	0.001
335	SLU 38		0.89	0.31	44.08	-0.2243	-0.026	0.001
335	SLU 39		0.9	0.32	45.01	-0.2282	-0.0256	0.0011
335	SLU 40		0.92	0.32	44.93	-0.2278	-0.0249	0.0011
335	SLU 41		0.9	0.32	45.56	-0.2321	-0.0271	0.0011
335	SLU 42		0.92	0.32	45.48	-0.2317	-0.0263	0.0011
335	SLU 43		0.98	0.28	42.92	-0.2044	-0.017	0.001
335	SLU 44		1.01	0.28	42.78	-0.2038	-0.0157	0.001
335	SLU 45		0.99	0.29	43.85	-0.2107	-0.0185	0.001
335	SLU 46		1.01	0.29	43.76	-0.2102	-0.0178	0.001
335	SLU 47		1.01	0.29	43.33	-0.2077	-0.0171	0.001
335	SLU 48		0.99	0.3	44.39	-0.2146	-0.0199	0.001
335	SLU 49		1.01	0.3	44.31	-0.2142	-0.0192	0.001
335	SLU 50		0.98	0.3	44.01	-0.2123	-0.0198	0.001
335	SLU 51		1	0.29	43.93	-0.2119	-0.019	0.001
335	SLU 52		1.08	0.32	47.32	-0.2304	-0.0197	0.0011
335	SLU 53		1.06	0.33	48.39	-0.2372	-0.0226	0.0011
335	SLU 54		1.08	0.33	48.31	-0.2368	-0.0218	0.0011
335	SLU 55		1.08	0.33	47.87	-0.2343	-0.0211	0.0011
335	SLU 56		1.06	0.34	48.93	-0.2412	-0.024	0.0011
335	SLU 57		1.08	0.33	48.85	-0.2408	-0.0232	0.0011
335	SLU 58		1.05	0.33	48.55	-0.2389	-0.0238	0.0011
335	SLU 59		1.07	0.33	48.47	-0.2385	-0.0231	0.0011
335	SLU 60		1.08	0.34	49.4	-0.2424	-0.0227	0.0011
335	SLU 61		1.09	0.34	49.32	-0.242	-0.022	0.0011
335	SLU 62		1.08	0.34	49.95	-0.2464	-0.0242	0.0012
335	SLU 63		1.09	0.34	49.87	-0.246	-0.0234	0.0011
335	SLU 64		1.02	0.32	47.28	-0.2305	-0.0224	0.0011
335	SLU 65		1.05	0.32	47.14	-0.2298	-0.0211	0.0011
335	SLU 66		1.04	0.33	48.21	-0.2367	-0.0239	0.0011
335	SLU 67		1.05	0.33	48.13	-0.2363	-0.0232	0.0011
335	SLU 68		1.05	0.32	47.69	-0.2338	-0.0225	0.0011
335	SLU 69		1.04	0.33	48.76	-0.2407	-0.0253	0.0011
335	SLU 70		1.05	0.33	48.67	-0.2403	-0.0246	0.0011
335	SLU 71		1.02	0.33	48.37	-0.2384	-0.0252	0.0011
335	SLU 72		1.04	0.33	48.29	-0.238	-0.0244	0.0011
335	SLU 73		1.12	0.36	51.68	-0.2564	-0.0251	0.0012
335	SLU 74		1.1	0.37	52.75	-0.2633	-0.028	0.0012
335	SLU 75		1.12	0.37	52.67	-0.2629	-0.0272	0.0012
335	SLU 76		1.12	0.36	52.23	-0.2604	-0.0265	0.0012
335	SLU 77		1.1	0.37	53.3	-0.2672	-0.0294	0.0012
335	SLU 78		1.12	0.37	53.21	-0.2668	-0.0286	0.0012
335	SLU 79		1.09	0.37	52.92	-0.265	-0.0292	0.0012
335	SLU 80		1.11	0.37	52.83	-0.2646	-0.0285	0.0012
335	SLU 81		1.12	0.37	53.76	-0.2685	-0.0281	0.0013
335	SLU 82		1.13	0.37	53.68	-0.2681	-0.0274	0.0013
335	SLU 83		1.12	0.38	54.31	-0.2724	-0.0295	0.0013
335	SLU 84		1.13	0.38	54.23	-0.272	-0.0288	0.0013
335	SLE RA 1		0.78	0.24	35.41	-0.1716	-0.016	0.0008
335	SLE RA 2		0.8	0.24	35.32	-0.1711	-0.0152	0.0008
335	SLE RA 3		0.79	0.24	36.03	-0.1757	-0.0171	0.0008
335	SLE RA 4		0.8	0.24	35.97	-0.1755	-0.0166	0.0008
335	SLE RA 5		0.8	0.24	35.68	-0.1738	-0.0161	0.0008
335	SLE RA 6		0.79	0.25	36.39	-0.1784	-0.018	0.0008
335	SLE RA 7		0.8	0.25	36.34	-0.1781	-0.0175	0.0008
335	SLE RA 8		0.78	0.25	36.14	-0.1768	-0.0179	0.0008
335	SLE RA 9		0.79	0.25	36.09	-0.1766	-0.0174	0.0008
335	SLE RA 10		0.84	0.26	38.35	-0.1889	-0.0179	0.0009
335	SLE RA 11		0.83	0.27	39.06	-0.1935	-0.0198	0.0009
335	SLE RA 12		0.84	0.27	39	-0.1932	-0.0192	0.0009
335	SLE RA 13		0.84	0.27	38.71	-0.1915	-0.0188	0.0009
335	SLE RA 14		0.83	0.27	39.42	-0.1961	-0.0207	0.0009
335	SLE RA 15		0.84	0.27	39.37	-0.1958	-0.0202	0.0009
335	SLE RA 16		0.82	0.27	39.17	-0.1946	-0.0206	0.0009
335	SLE RA 17		0.83	0.27	39.11	-0.1943	-0.0201	0.0009



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
335	SLE RA 18		0.84	0.27	39.73	-0.1969	-0.0199	0.0009
335	SLE RA 19		0.85	0.27	39.68	-0.1966	-0.0194	0.0009
335	SLE RA 20		0.84	0.28	40.1	-0.1995	-0.0208	0.0009
335	SLE RA 21		0.85	0.28	40.05	-0.1993	-0.0203	0.0009
335	SLE FR 1		0.78	0.24	35.41	-0.1716	-0.016	0.0008
335	SLE FR 2		0.78	0.24	35.39	-0.1715	-0.0159	0.0008
335	SLE FR 3		0.78	0.24	35.56	-0.1726	-0.0164	0.0008
335	SLE FR 4		0.8	0.25	36.69	-0.1791	-0.017	0.0008
335	SLE FR 5		0.8	0.25	36.85	-0.1802	-0.0176	0.0008
335	SLE FR 6		0.81	0.26	37.57	-0.1842	-0.0179	0.0009
335	SLE QP 1		0.78	0.24	35.41	-0.1716	-0.016	0.0008
335	SLE QP 2		0.8	0.25	36.71	-0.1792	-0.0172	0.0008
335	SLD 1		5.42	0.17	31.13	-0.1202	0.187	0.0009
335	SLD 2		5.42	0.17	31.13	-0.1202	0.187	0.0009
335	SLD 3		4.56	0.23	35.89	-0.1688	0.1523	0.0012
335	SLD 4		4.56	0.23	35.89	-0.1688	0.1523	0.0012
335	SLD 5		3.48	0.13	27.8	-0.0877	0.0967	0.0005
335	SLD 6		3.48	0.13	27.8	-0.0877	0.0967	0.0005
335	SLD 7		0.63	0.34	43.69	-0.2499	-0.019	0.0013
335	SLD 8		0.63	0.34	43.69	-0.2499	-0.019	0.0013
335	SLD 9		0.97	0.16	29.72	-0.1085	-0.0154	0.0004
335	SLD 10		0.97	0.16	29.72	-0.1085	-0.0154	0.0004
335	SLD 11		-1.89	0.36	45.61	-0.2707	-0.1311	0.0012
335	SLD 12		-1.89	0.36	45.61	-0.2707	-0.1311	0.0012
335	SLD 13		-2.96	0.27	37.52	-0.1895	-0.1867	0.0005
335	SLD 14		-2.96	0.27	37.52	-0.1895	-0.1867	0.0005
335	SLD 15		-3.82	0.33	42.29	-0.2382	-0.2214	0.0008
335	SLD 16		-3.82	0.33	42.29	-0.2382	-0.2214	0.0008
335	SLV 1		11.59	0.07	23.56	-0.0405	0.4598	0.001
335	SLV 2		11.59	0.07	23.56	-0.0405	0.4598	0.001
335	SLV 3		9.53	0.21	34.82	-0.154	0.3764	0.0016
335	SLV 4		9.53	0.21	34.82	-0.154	0.3764	0.0016
335	SLV 5		7.16	-0.02	15.68	0.0346	0.2525	0
335	SLV 6		7.16	-0.02	15.68	0.0346	0.2525	0
335	SLV 7		0.3	0.45	53.22	-0.3438	-0.0257	0.0019
335	SLV 8		0.3	0.45	53.22	-0.3438	-0.0257	0.0019
335	SLV 9		1.3	0.05	20.19	-0.0145	-0.0087	-0.0002
335	SLV 10		1.3	0.05	20.19	-0.0145	-0.0087	-0.0002
335	SLV 11		-5.56	0.52	57.73	-0.393	-0.2868	0.0016
335	SLV 12		-5.56	0.52	57.73	-0.393	-0.2868	0.0016
335	SLV 13		-7.93	0.29	38.59	-0.2044	-0.4107	0.0001
335	SLV 14		-7.93	0.29	38.59	-0.2044	-0.4107	0.0001
335	SLV 15		-9.99	0.43	49.85	-0.3179	-0.4942	0.0007
335	SLV 16		-9.99	0.43	49.85	-0.3179	-0.4942	0.0007
336	SLU 1		2.63	0.3	29.55	-0.2094	0.2102	0.0011
336	SLU 2		2.64	0.3	29.44	-0.2086	0.2105	0.0011
336	SLU 3		2.71	0.31	30.35	-0.2174	0.2172	0.0012
336	SLU 4		2.72	0.31	30.28	-0.2169	0.2174	0.0012
336	SLU 5		2.69	0.3	29.93	-0.2137	0.2144	0.0012
336	SLU 6		2.75	0.32	30.84	-0.2224	0.221	0.0012
336	SLU 7		2.76	0.32	30.78	-0.2219	0.2213	0.0012
336	SLU 8		2.71	0.31	30.53	-0.2195	0.2179	0.0012
336	SLU 9		2.72	0.31	30.47	-0.219	0.2181	0.0012
336	SLU 10		3.06	0.35	33.16	-0.2427	0.244	0.0013
336	SLU 11		3.12	0.36	34.07	-0.2514	0.2507	0.0014
336	SLU 12		3.13	0.36	34.01	-0.2509	0.2509	0.0014
336	SLU 13		3.1	0.35	33.65	-0.2477	0.2479	0.0014
336	SLU 14		3.17	0.36	34.56	-0.2565	0.2545	0.0014
336	SLU 15		3.18	0.36	34.5	-0.256	0.2548	0.0014
336	SLU 16		3.13	0.36	34.25	-0.2536	0.2514	0.0014
336	SLU 17		3.14	0.36	34.19	-0.2531	0.2516	0.0014
336	SLU 18		3.22	0.37	34.86	-0.2581	0.258	0.0014
336	SLU 19		3.23	0.37	34.8	-0.2576	0.2582	0.0014
336	SLU 20		3.26	0.37	35.36	-0.2631	0.2619	0.0014
336	SLU 21		3.27	0.37	35.29	-0.2627	0.2621	0.0014
336	SLU 22		3	0.35	33.15	-0.2428	0.2415	0.0013
336	SLU 23		3.02	0.34	33.04	-0.242	0.2419	0.0013
336	SLU 24		3.08	0.36	33.95	-0.2507	0.2486	0.0014
336	SLU 25		3.09	0.36	33.88	-0.2502	0.2488	0.0014
336	SLU 26		3.06	0.35	33.53	-0.247	0.2458	0.0014
336	SLU 27		3.13	0.36	34.44	-0.2558	0.2524	0.0014
336	SLU 28		3.14	0.36	34.37	-0.2553	0.2527	0.0014
336	SLU 29		3.09	0.36	34.13	-0.2529	0.2493	0.0014
336	SLU 30		3.1	0.36	34.07	-0.2524	0.2495	0.0014
336	SLU 31		3.43	0.39	36.76	-0.276	0.2754	0.0015
336	SLU 32		3.5	0.41	37.67	-0.2848	0.2821	0.0016
336	SLU 33		3.51	0.4	37.6	-0.2843	0.2823	0.0016
336	SLU 34		3.48	0.4	37.25	-0.2811	0.2793	0.0015
336	SLU 35		3.54	0.41	38.16	-0.2898	0.2859	0.0016
336	SLU 36		3.55	0.41	38.09	-0.2894	0.2861	0.0016
336	SLU 37		3.5	0.41	37.85	-0.287	0.2828	0.0016
336	SLU 38		3.51	0.41	37.79	-0.2865	0.283	0.0016
336	SLU 39		3.59	0.42	38.46	-0.2915	0.2894	0.0016
336	SLU 40		3.6	0.41	38.4	-0.291	0.2896	0.0016
336	SLU 41		3.63	0.42	38.95	-0.2965	0.2933	0.0016
336	SLU 42		3.65	0.42	38.89	-0.296	0.2935	0.0016
336	SLU 43		3.28	0.37	37.18	-0.2608	0.2624	0.0014
336	SLU 44		3.3	0.37	37.07	-0.26	0.2628	0.0014
336	SLU 45		3.37	0.38	37.98	-0.2687	0.2695	0.0015
336	SLU 46		3.38	0.38	37.92	-0.2683	0.2697	0.0015



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
336	SLU 47		3.35	0.38	37.57	-0.265	0.2667	0.0015
336	SLU 48		3.41	0.39	38.47	-0.2738	0.2733	0.0015
336	SLU 49		3.42	0.39	38.41	-0.2733	0.2735	0.0015
336	SLU 50		3.37	0.39	38.16	-0.2709	0.2702	0.0015
336	SLU 51		3.38	0.39	38.1	-0.2704	0.2704	0.0015
336	SLU 52		3.72	0.42	40.79	-0.2941	0.2963	0.0016
336	SLU 53		3.78	0.43	41.7	-0.3028	0.3029	0.0017
336	SLU 54		3.79	0.43	41.64	-0.3023	0.3032	0.0017
336	SLU 55		3.76	0.43	41.29	-0.2991	0.3002	0.0016
336	SLU 56		3.83	0.44	42.19	-0.3079	0.3068	0.0017
336	SLU 57		3.84	0.44	42.13	-0.3074	0.307	0.0017
336	SLU 58		3.79	0.43	41.88	-0.305	0.3037	0.0017
336	SLU 59		3.8	0.43	41.82	-0.3045	0.3039	0.0017
336	SLU 60		3.87	0.44	42.5	-0.3095	0.3103	0.0017
336	SLU 61		3.89	0.44	42.43	-0.309	0.3105	0.0017
336	SLU 62		3.92	0.45	42.99	-0.3145	0.3142	0.0017
336	SLU 63		3.93	0.45	42.92	-0.314	0.3144	0.0017
336	SLU 64		3.66	0.42	40.78	-0.2942	0.2938	0.0016
336	SLU 65		3.68	0.42	40.67	-0.2933	0.2942	0.0016
336	SLU 66		3.74	0.43	41.58	-0.3021	0.3008	0.0017
336	SLU 67		3.75	0.43	41.51	-0.3016	0.3011	0.0017
336	SLU 68		3.72	0.42	41.16	-0.2984	0.2981	0.0016
336	SLU 69		3.79	0.44	42.07	-0.3072	0.3047	0.0017
336	SLU 70		3.8	0.44	42.01	-0.3067	0.3049	0.0017
336	SLU 71		3.75	0.43	41.76	-0.3043	0.3016	0.0017
336	SLU 72		3.76	0.43	41.7	-0.3038	0.3018	0.0017
336	SLU 73		4.09	0.47	44.39	-0.3274	0.3277	0.0018
336	SLU 74		4.16	0.48	45.3	-0.3362	0.3343	0.0018
336	SLU 75		4.17	0.48	45.23	-0.3357	0.3346	0.0018
336	SLU 76		4.13	0.47	44.88	-0.3325	0.3316	0.0018
336	SLU 77		4.2	0.49	45.79	-0.3412	0.3382	0.0019
336	SLU 78		4.21	0.48	45.73	-0.3407	0.3384	0.0019
336	SLU 79		4.16	0.48	45.48	-0.3383	0.3351	0.0019
336	SLU 80		4.17	0.48	45.42	-0.3379	0.3353	0.0018
336	SLU 81		4.25	0.49	46.09	-0.3428	0.3417	0.0019
336	SLU 82		4.26	0.49	46.03	-0.3424	0.3419	0.0019
336	SLU 83		4.29	0.5	46.59	-0.3479	0.3456	0.0019
336	SLU 84		4.3	0.49	46.52	-0.3474	0.3458	0.0019
336	SLE RA 1		2.73	0.31	30.58	-0.2189	0.2191	0.0012
336	SLE RA 2		2.74	0.31	30.51	-0.2184	0.2194	0.0012
336	SLE RA 3		2.79	0.32	31.11	-0.2242	0.2238	0.0012
336	SLE RA 4		2.8	0.32	31.07	-0.2239	0.2239	0.0012
336	SLE RA 5		2.77	0.32	30.83	-0.2218	0.2219	0.0012
336	SLE RA 6		2.82	0.32	31.44	-0.2276	0.2264	0.0012
336	SLE RA 7		2.83	0.32	31.4	-0.2273	0.2265	0.0012
336	SLE RA 8		2.79	0.32	31.23	-0.2257	0.2243	0.0012
336	SLE RA 9		2.8	0.32	31.19	-0.2254	0.2244	0.0012
336	SLE RA 10		3.02	0.34	32.99	-0.2411	0.2417	0.0013
336	SLE RA 11		3.06	0.35	33.59	-0.247	0.2461	0.0014
336	SLE RA 12		3.07	0.35	33.55	-0.2466	0.2463	0.0014
336	SLE RA 13		3.05	0.35	33.31	-0.2445	0.2443	0.0013
336	SLE RA 14		3.09	0.36	33.92	-0.2503	0.2487	0.0014
336	SLE RA 15		3.1	0.36	33.88	-0.25	0.2489	0.0014
336	SLE RA 16		3.07	0.35	33.71	-0.2484	0.2466	0.0014
336	SLE RA 17		3.07	0.35	33.67	-0.2481	0.2468	0.0014
336	SLE RA 18		3.13	0.36	34.12	-0.2514	0.251	0.0014
336	SLE RA 19		3.13	0.36	34.08	-0.2511	0.2512	0.0014
336	SLE RA 20		3.16	0.36	34.45	-0.2548	0.2536	0.0014
336	SLE RA 21		3.16	0.36	34.41	-0.2544	0.2537	0.0014
336	SLE FR 1		2.73	0.31	30.58	-0.2189	0.2191	0.0012
336	SLE FR 2		2.73	0.31	30.56	-0.2188	0.2192	0.0012
336	SLE FR 3		2.74	0.31	30.71	-0.2203	0.2202	0.0012
336	SLE FR 4		2.85	0.33	31.63	-0.2286	0.2287	0.0013
336	SLE FR 5		2.86	0.33	31.77	-0.23	0.2297	0.0013
336	SLE FR 6		2.93	0.34	32.35	-0.2352	0.2351	0.0013
336	SLE QP 1		2.73	0.31	30.58	-0.2189	0.2191	0.0012
336	SLE QP 2		2.85	0.33	31.64	-0.2287	0.2287	0.0013
336	SLD 1		7.87	0.22	27.58	-0.1501	0.4272	0.0013
336	SLD 2		7.87	0.22	27.58	-0.1501	0.4272	0.0013
336	SLD 3		7.14	0.3	31.42	-0.2165	0.4596	0.0017
336	SLD 4		7.14	0.3	31.42	-0.2165	0.4596	0.0017
336	SLD 5		5.47	0.16	24.59	-0.1044	0.2391	0.0007
336	SLD 6		5.47	0.16	24.59	-0.1044	0.2391	0.0007
336	SLD 7		3.03	0.45	37.4	-0.3257	0.3471	0.002
336	SLD 8		3.03	0.45	37.4	-0.3257	0.3471	0.002
336	SLD 9		2.67	0.2	25.88	-0.1316	0.1103	0.0005
336	SLD 10		2.67	0.2	25.88	-0.1316	0.1103	0.0005
336	SLD 11		0.23	0.49	38.69	-0.353	0.2183	0.0018
336	SLD 12		0.23	0.49	38.69	-0.353	0.2183	0.0018
336	SLD 13		-1.44	0.35	31.86	-0.2409	-0.0022	0.0008
336	SLD 14		-1.44	0.35	31.86	-0.2409	-0.0022	0.0008
336	SLD 15		-2.17	0.43	35.7	-0.3073	0.0302	0.0012
336	SLD 16		-2.17	0.43	35.7	-0.3073	0.0302	0.0012
336	SLV 1		14.58	0.07	22.07	-0.0435	0.6903	0.0015
336	SLV 2		14.58	0.07	22.07	-0.0435	0.6903	0.0015
336	SLV 3		12.82	0.27	31.13	-0.1991	0.7678	0.0023
336	SLV 4		12.82	0.27	31.13	-0.1991	0.7678	0.0023
336	SLV 5		9.04	-0.05	15.03	0.0628	0.2496	0
336	SLV 6		9.04	-0.05	15.03	0.0628	0.2496	0
336	SLV 7		3.17	0.61	45.22	-0.4558	0.508	0.0029



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
336	SLV 8		3.17	0.61	45.22	-0.4558	0.508	0.0029
336	SLV 9		2.53	0.04	18.06	-0.0016	-0.0506	-0.0004
336	SLV 10		2.53	0.04	18.06	-0.0016	-0.0506	-0.0004
336	SLV 11		-3.34	0.71	48.25	-0.5202	0.2077	0.0025
336	SLV 12		-3.34	0.71	48.25	-0.5202	0.2077	0.0025
336	SLV 13		-7.12	0.38	32.15	-0.2583	-0.3104	0.0002
336	SLV 14		-7.12	0.38	32.15	-0.2583	-0.3104	0.0002
336	SLV 15		-8.88	0.58	41.21	-0.4139	-0.2329	0.001
336	SLV 16		-8.88	0.58	41.21	-0.4139	-0.2329	0.001
337	SLU 1		2.71	0.32	26.65	-0.2337	0.0671	0.0013
337	SLU 2		2.72	0.32	26.56	-0.2329	0.068	0.0013
337	SLU 3		2.8	0.33	27.38	-0.2427	0.0689	0.0014
337	SLU 4		2.81	0.33	27.32	-0.2421	0.0695	0.0014
337	SLU 5		2.77	0.33	27.03	-0.2386	0.0686	0.0014
337	SLU 6		2.84	0.34	27.84	-0.2484	0.0696	0.0014
337	SLU 7		2.85	0.34	27.79	-0.2479	0.0701	0.0014
337	SLU 8		2.8	0.34	27.58	-0.2452	0.0684	0.0014
337	SLU 9		2.81	0.34	27.53	-0.2446	0.0689	0.0014
337	SLU 10		3.2	0.37	29.78	-0.2711	0.081	0.0015
337	SLU 11		3.27	0.39	30.59	-0.2808	0.0819	0.0016
337	SLU 12		3.28	0.39	30.54	-0.2803	0.0825	0.0016
337	SLU 13		3.25	0.38	30.24	-0.2768	0.0816	0.0016
337	SLU 14		3.32	0.39	31.06	-0.2866	0.0826	0.0016
337	SLU 15		3.33	0.39	31	-0.286	0.0831	0.0016
337	SLU 16		3.28	0.39	30.79	-0.2833	0.0814	0.0016
337	SLU 17		3.29	0.39	30.74	-0.2828	0.0819	0.0016
337	SLU 18		3.39	0.4	31.24	-0.2883	0.0857	0.0016
337	SLU 19		3.4	0.4	31.19	-0.2878	0.0862	0.0016
337	SLU 20		3.44	0.4	31.7	-0.294	0.0863	0.0017
337	SLU 21		3.45	0.4	31.65	-0.2935	0.0869	0.0017
337	SLU 22		3.13	0.37	29.78	-0.2711	0.0777	0.0015
337	SLU 23		3.15	0.37	29.69	-0.2702	0.0786	0.0015
337	SLU 24		3.22	0.39	30.51	-0.28	0.0795	0.0016
337	SLU 25		3.23	0.38	30.45	-0.2795	0.0801	0.0016
337	SLU 26		3.2	0.38	30.16	-0.2759	0.0792	0.0016
337	SLU 27		3.27	0.39	30.97	-0.2857	0.0802	0.0016
337	SLU 28		3.28	0.39	30.92	-0.2852	0.0807	0.0016
337	SLU 29		3.23	0.39	30.71	-0.2825	0.079	0.0016
337	SLU 30		3.24	0.39	30.66	-0.282	0.0795	0.0016
337	SLU 31		3.63	0.42	32.9	-0.3084	0.0916	0.0018
337	SLU 32		3.7	0.44	33.72	-0.3182	0.0925	0.0018
337	SLU 33		3.71	0.44	33.67	-0.3177	0.0931	0.0018
337	SLU 34		3.67	0.43	33.37	-0.3141	0.0923	0.0018
337	SLU 35		3.75	0.45	34.18	-0.3239	0.0932	0.0018
337	SLU 36		3.76	0.44	34.13	-0.3234	0.0937	0.0018
337	SLU 37		3.7	0.44	33.92	-0.3207	0.092	0.0018
337	SLU 38		3.71	0.44	33.87	-0.3202	0.0925	0.0018
337	SLU 39		3.81	0.45	34.37	-0.3256	0.0963	0.0019
337	SLU 40		3.82	0.45	34.32	-0.3251	0.0968	0.0018
337	SLU 41		3.86	0.46	34.83	-0.3313	0.0969	0.0019
337	SLU 42		3.87	0.45	34.78	-0.3308	0.0975	0.0019
337	SLU 43		3.37	0.4	33.57	-0.2911	0.0836	0.0017
337	SLU 44		3.39	0.4	33.48	-0.2902	0.0845	0.0017
337	SLU 45		3.46	0.41	34.3	-0.3	0.0854	0.0017
337	SLU 46		3.47	0.41	34.25	-0.2995	0.0859	0.0017
337	SLU 47		3.44	0.41	33.95	-0.2959	0.0851	0.0017
337	SLU 48		3.51	0.42	34.77	-0.3057	0.0861	0.0017
337	SLU 49		3.52	0.42	34.71	-0.3052	0.0866	0.0017
337	SLU 50		3.47	0.42	34.5	-0.3025	0.0849	0.0017
337	SLU 51		3.48	0.42	34.45	-0.302	0.0854	0.0017
337	SLU 52		3.87	0.45	36.7	-0.3284	0.0975	0.0019
337	SLU 53		3.94	0.47	37.51	-0.3382	0.0984	0.0019
337	SLU 54		3.95	0.46	37.46	-0.3376	0.099	0.0019
337	SLU 55		3.91	0.46	37.16	-0.3341	0.0981	0.0019
337	SLU 56		3.99	0.47	37.98	-0.3439	0.0991	0.002
337	SLU 57		4	0.47	37.93	-0.3434	0.0996	0.002
337	SLU 58		3.95	0.47	37.72	-0.3407	0.0979	0.0019
337	SLU 59		3.96	0.47	37.66	-0.3401	0.0984	0.0019
337	SLU 60		4.06	0.48	38.16	-0.3456	0.1022	0.002
337	SLU 61		4.07	0.48	38.11	-0.3451	0.1027	0.002
337	SLU 62		4.1	0.48	38.63	-0.3513	0.1028	0.002
337	SLU 63		4.11	0.48	38.57	-0.3508	0.1034	0.002
337	SLU 64		3.8	0.45	36.7	-0.3284	0.0942	0.0019
337	SLU 65		3.81	0.45	36.61	-0.3275	0.0951	0.0019
337	SLU 66		3.89	0.46	37.43	-0.3373	0.096	0.0019
337	SLU 67		3.9	0.46	37.38	-0.3368	0.0966	0.0019
337	SLU 68		3.86	0.46	37.08	-0.3333	0.0957	0.0019
337	SLU 69		3.94	0.47	37.89	-0.343	0.0967	0.0019
337	SLU 70		3.95	0.47	37.84	-0.3425	0.0972	0.0019
337	SLU 71		3.89	0.47	37.63	-0.3398	0.0955	0.0019
337	SLU 72		3.9	0.47	37.58	-0.3393	0.096	0.0019
337	SLU 73		4.29	0.5	39.83	-0.3657	0.1081	0.0021
337	SLU 74		4.37	0.52	40.64	-0.3755	0.109	0.0021
337	SLU 75		4.38	0.52	40.59	-0.375	0.1096	0.0021
337	SLU 76		4.34	0.51	40.29	-0.3714	0.1087	0.0021
337	SLU 77		4.41	0.52	41.11	-0.3812	0.1097	0.0022
337	SLU 78		4.42	0.52	41.05	-0.3807	0.1102	0.0022
337	SLU 79		4.37	0.52	40.85	-0.378	0.1085	0.0021
337	SLU 80		4.38	0.52	40.79	-0.3775	0.109	0.0021
337	SLU 81		4.48	0.53	41.29	-0.3829	0.1128	0.0022



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
337	SLU 82			4.49	0.53	41.24	-0.3824	0.1133	0.0022
337	SLU 83			4.53	0.53	41.76	-0.3887	0.1134	0.0022
337	SLU 84			4.54	0.53	41.7	-0.3881	0.114	0.0022
337	SLE RA 1			2.83	0.34	27.54	-0.2444	0.0701	0.0014
337	SLE RA 2			2.84	0.34	27.49	-0.2438	0.0707	0.0014
337	SLE RA 3			2.89	0.34	28.03	-0.2504	0.0714	0.0014
337	SLE RA 4			2.89	0.34	27.99	-0.25	0.0717	0.0014
337	SLE RA 5			2.87	0.34	27.8	-0.2476	0.0712	0.0014
337	SLE RA 6			2.92	0.35	28.34	-0.2542	0.0718	0.0014
337	SLE RA 7			2.93	0.35	28.3	-0.2538	0.0721	0.0014
337	SLE RA 8			2.89	0.35	28.16	-0.252	0.071	0.0014
337	SLE RA 9			2.9	0.35	28.13	-0.2517	0.0714	0.0014
337	SLE RA 10			3.16	0.37	29.63	-0.2693	0.0794	0.0015
337	SLE RA 11			3.21	0.38	30.17	-0.2758	0.08	0.0016
337	SLE RA 12			3.21	0.38	30.14	-0.2755	0.0804	0.0016
337	SLE RA 13			3.19	0.38	29.94	-0.2731	0.0798	0.0016
337	SLE RA 14			3.24	0.38	30.48	-0.2796	0.0805	0.0016
337	SLE RA 15			3.24	0.38	30.45	-0.2793	0.0808	0.0016
337	SLE RA 16			3.21	0.38	30.31	-0.2775	0.0797	0.0016
337	SLE RA 17			3.22	0.38	30.27	-0.2771	0.08	0.0016
337	SLE RA 18			3.28	0.39	30.6	-0.2808	0.0825	0.0016
337	SLE RA 19			3.29	0.39	30.57	-0.2804	0.0829	0.0016
337	SLE RA 20			3.31	0.39	30.91	-0.2846	0.083	0.0016
337	SLE RA 21			3.32	0.39	30.88	-0.2842	0.0833	0.0016
337	SLE FR 1			2.83	0.34	27.54	-0.2444	0.0701	0.0014
337	SLE FR 2			2.83	0.34	27.53	-0.2443	0.0703	0.0014
337	SLE FR 3			2.84	0.34	27.67	-0.2459	0.0703	0.0014
337	SLE FR 4			2.97	0.35	28.45	-0.2552	0.074	0.0015
337	SLE FR 5			2.98	0.35	28.59	-0.2568	0.074	0.0015
337	SLE FR 6			3.06	0.36	29.07	-0.2626	0.0763	0.0015
337	SLE QP 1			2.83	0.34	27.54	-0.2444	0.0701	0.0014
337	SLE QP 2			2.96	0.35	28.46	-0.2553	0.0739	0.0015
337	SLD 1			8.38	0.22	25.18	-0.162	0.3105	0.0008
337	SLD 2			8.38	0.22	25.18	-0.162	0.3105	0.0008
337	SLD 3			7.64	0.33	28.5	-0.2436	0.2797	0.0014
337	SLD 4			7.64	0.33	28.5	-0.2436	0.2797	0.0014
337	SLD 5			5.72	0.14	22.44	-0.1035	0.1915	0.0005
337	SLD 6			5.72	0.14	22.44	-0.1035	0.1915	0.0005
337	SLD 7			3.24	0.52	33.51	-0.3757	0.0889	0.0022
337	SLD 8			3.24	0.52	33.51	-0.3757	0.0889	0.0022
337	SLD 9			2.69	0.19	23.41	-0.135	0.0588	0.0007
337	SLD 10			2.69	0.19	23.41	-0.135	0.0588	0.0007
337	SLD 11			0.21	0.56	34.48	-0.4072	-0.0438	0.0024
337	SLD 12			0.21	0.56	34.48	-0.4072	-0.0438	0.0024
337	SLD 13			-1.71	0.37	28.42	-0.267	-0.132	0.0015
337	SLD 14			-1.71	0.37	28.42	-0.267	-0.132	0.0015
337	SLD 15			-2.45	0.48	31.74	-0.3487	-0.1628	0.0021
337	SLD 16			-2.45	0.48	31.74	-0.3487	-0.1628	0.0021
337	SLV 1			15.62	0.04	20.74	-0.0348	0.6264	0
337	SLV 2			15.62	0.04	20.74	-0.0348	0.6264	0
337	SLV 3			13.84	0.3	28.55	-0.2268	0.5526	0.0013
337	SLV 4			13.84	0.3	28.55	-0.2268	0.5526	0.0013
337	SLV 5			9.47	-0.14	14.3	0.1019	0.3515	-0.0008
337	SLV 6			9.47	-0.14	14.3	0.1019	0.3515	-0.0008
337	SLV 7			3.52	0.73	40.34	-0.5378	0.1056	0.0033
337	SLV 8			3.52	0.73	40.34	-0.5378	0.1056	0.0033
337	SLV 9			2.41	-0.03	16.59	0.0272	0.0421	-0.0004
337	SLV 10			2.41	-0.03	16.59	0.0272	0.0421	-0.0004
337	SLV 11			-3.54	0.84	42.63	-0.6126	-0.2038	0.0037
337	SLV 12			-3.54	0.84	42.63	-0.6126	-0.2038	0.0037
337	SLV 13			-7.91	0.4	28.37	-0.2839	-0.4049	0.0016
337	SLV 14			-7.91	0.4	28.37	-0.2839	-0.4049	0.0016
337	SLV 15			-9.69	0.66	36.18	-0.4758	-0.4787	0.0029
337	SLV 16			-9.69	0.66	36.18	-0.4758	-0.4787	0.0029
338	SLU 1			5.48	0.32	25.24	-0.2405	0.3055	0.0015
338	SLU 2			5.49	0.32	25.16	-0.2397	0.3055	0.0015
338	SLU 3			5.68	0.33	25.94	-0.2498	0.3164	0.0015
338	SLU 4			5.68	0.33	25.9	-0.2492	0.3164	0.0015
338	SLU 5			5.6	0.32	25.63	-0.2456	0.3118	0.0015
338	SLU 6			5.79	0.34	26.41	-0.2557	0.3227	0.0016
338	SLU 7			5.79	0.34	26.37	-0.2552	0.3227	0.0016
338	SLU 8			5.71	0.33	26.18	-0.2524	0.3182	0.0015
338	SLU 9			5.71	0.33	26.13	-0.2519	0.3182	0.0015
338	SLU 10			6.45	0.37	28.14	-0.2791	0.358	0.0017
338	SLU 11			6.64	0.38	28.92	-0.2892	0.3689	0.0018
338	SLU 12			6.64	0.38	28.88	-0.2887	0.3689	0.0018
338	SLU 13			6.56	0.38	28.61	-0.285	0.3644	0.0017
338	SLU 14			6.75	0.39	29.39	-0.2951	0.3752	0.0018
338	SLU 15			6.75	0.39	29.35	-0.2946	0.3752	0.0018
338	SLU 16			6.67	0.39	29.15	-0.2919	0.3707	0.0018
338	SLU 17			6.67	0.39	29.11	-0.2913	0.3707	0.0018
338	SLU 18			6.85	0.39	29.49	-0.2968	0.3806	0.0018
338	SLU 19			6.86	0.39	29.45	-0.2963	0.3806	0.0018
338	SLU 20			6.97	0.4	29.96	-0.3028	0.3869	0.0018
338	SLU 21			6.97	0.4	29.92	-0.3023	0.3869	0.0018
338	SLU 22			6.37	0.37	28.15	-0.279	0.3547	0.0017
338	SLU 23			6.38	0.37	28.08	-0.2782	0.3547	0.0017
338	SLU 24			6.57	0.38	28.86	-0.2883	0.3656	0.0018
338	SLU 25			6.57	0.38	28.81	-0.2878	0.3656	0.0018
338	SLU 26			6.49	0.38	28.55	-0.2842	0.361	0.0017



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
338	SLU 27		6.68	0.39	29.33	-0.2943	0.3719	0.0018
338	SLU 28		6.68	0.39	29.28	-0.2937	0.3719	0.0018
338	SLU 29		6.6	0.38	29.09	-0.291	0.3674	0.0018
338	SLU 30		6.6	0.38	29.05	-0.2905	0.3674	0.0018
338	SLU 31		7.34	0.42	31.05	-0.3176	0.4072	0.0019
338	SLU 32		7.53	0.43	31.83	-0.3277	0.4181	0.002
338	SLU 33		7.53	0.43	31.79	-0.3272	0.4181	0.002
338	SLU 34		7.45	0.43	31.52	-0.3236	0.4136	0.002
338	SLU 35		7.64	0.44	32.3	-0.3337	0.4244	0.002
338	SLU 36		7.64	0.44	32.26	-0.3332	0.4244	0.002
338	SLU 37		7.56	0.44	32.07	-0.3304	0.4199	0.002
338	SLU 38		7.56	0.44	32.02	-0.3299	0.4199	0.002
338	SLU 39		7.74	0.44	32.4	-0.3354	0.4298	0.002
338	SLU 40		7.75	0.44	32.36	-0.3349	0.4298	0.002
338	SLU 41		7.86	0.45	32.87	-0.3413	0.4361	0.0021
338	SLU 42		7.86	0.45	32.83	-0.3408	0.4361	0.0021
338	SLU 43		6.82	0.4	31.81	-0.2994	0.3803	0.0018
338	SLU 44		6.82	0.4	31.74	-0.2986	0.3803	0.0018
338	SLU 45		7.01	0.41	32.52	-0.3087	0.3912	0.0019
338	SLU 46		7.02	0.41	32.47	-0.3082	0.3911	0.0019
338	SLU 47		6.94	0.4	32.21	-0.3045	0.3866	0.0019
338	SLU 48		7.13	0.42	32.99	-0.3147	0.3975	0.0019
338	SLU 49		7.13	0.42	32.94	-0.3141	0.3975	0.0019
338	SLU 50		7.05	0.41	32.75	-0.3114	0.393	0.0019
338	SLU 51		7.05	0.41	32.71	-0.3109	0.393	0.0019
338	SLU 52		7.79	0.45	34.71	-0.338	0.4328	0.0021
338	SLU 53		7.98	0.46	35.49	-0.3481	0.4437	0.0021
338	SLU 54		7.98	0.46	35.45	-0.3476	0.4437	0.0021
338	SLU 55		7.9	0.45	35.18	-0.344	0.4392	0.0021
338	SLU 56		8.09	0.47	35.96	-0.3541	0.45	0.0022
338	SLU 57		8.09	0.47	35.92	-0.3536	0.45	0.0022
338	SLU 58		8.01	0.46	35.73	-0.3508	0.4455	0.0021
338	SLU 59		8.01	0.46	35.68	-0.3503	0.4455	0.0021
338	SLU 60		8.19	0.47	36.06	-0.3558	0.4554	0.0022
338	SLU 61		8.2	0.47	36.02	-0.3553	0.4554	0.0022
338	SLU 62		8.31	0.48	36.53	-0.3617	0.4617	0.0022
338	SLU 63		8.31	0.48	36.49	-0.3612	0.4617	0.0022
338	SLU 64		7.71	0.45	34.72	-0.338	0.4295	0.0021
338	SLU 65		7.71	0.45	34.65	-0.3371	0.4295	0.0021
338	SLU 66		7.9	0.46	35.43	-0.3472	0.4404	0.0021
338	SLU 67		7.91	0.46	35.39	-0.3467	0.4403	0.0021
338	SLU 68		7.83	0.45	35.12	-0.3431	0.4358	0.0021
338	SLU 69		8.02	0.47	35.9	-0.3532	0.4467	0.0022
338	SLU 70		8.02	0.47	35.86	-0.3527	0.4467	0.0022
338	SLU 71		7.94	0.46	35.66	-0.3499	0.4422	0.0021
338	SLU 72		7.94	0.46	35.62	-0.3494	0.4422	0.0021
338	SLU 73		8.68	0.5	37.63	-0.3766	0.482	0.0023
338	SLU 74		8.87	0.51	38.41	-0.3867	0.4929	0.0024
338	SLU 75		8.87	0.51	38.36	-0.3861	0.4929	0.0024
338	SLU 76		8.79	0.51	38.1	-0.3825	0.4884	0.0023
338	SLU 77		8.98	0.52	38.88	-0.3926	0.4992	0.0024
338	SLU 78		8.98	0.52	38.83	-0.3921	0.4992	0.0024
338	SLU 79		8.9	0.51	38.64	-0.3893	0.4947	0.0024
338	SLU 80		8.9	0.51	38.6	-0.3888	0.4947	0.0024
338	SLU 81		9.08	0.52	38.97	-0.3943	0.5046	0.0024
338	SLU 82		9.09	0.52	38.93	-0.3938	0.5046	0.0024
338	SLU 83		9.2	0.53	39.44	-0.4003	0.5109	0.0024
338	SLU 84		9.2	0.53	39.4	-0.3998	0.5109	0.0024
338	SLE RA 1		5.73	0.33	26.07	-0.2515	0.3196	0.0015
338	SLE RA 2		5.74	0.33	26.02	-0.2509	0.3196	0.0015
338	SLE RA 3		5.86	0.34	26.54	-0.2577	0.3268	0.0016
338	SLE RA 4		5.87	0.34	26.51	-0.2573	0.3268	0.0016
338	SLE RA 5		5.81	0.34	26.33	-0.2549	0.3238	0.0016
338	SLE RA 6		5.94	0.35	26.85	-0.2617	0.331	0.0016
338	SLE RA 7		5.94	0.35	26.82	-0.2613	0.331	0.0016
338	SLE RA 8		5.89	0.34	26.7	-0.2595	0.328	0.0016
338	SLE RA 9		5.89	0.34	26.67	-0.2591	0.328	0.0016
338	SLE RA 10		6.38	0.37	28.01	-0.2772	0.3546	0.0017
338	SLE RA 11		6.51	0.38	28.53	-0.284	0.3618	0.0017
338	SLE RA 12		6.51	0.38	28.5	-0.2836	0.3618	0.0017
338	SLE RA 13		6.45	0.37	28.32	-0.2812	0.3588	0.0017
338	SLE RA 14		6.58	0.38	28.84	-0.2879	0.3661	0.0018
338	SLE RA 15		6.58	0.38	28.81	-0.2876	0.366	0.0018
338	SLE RA 16		6.53	0.38	28.68	-0.2858	0.363	0.0017
338	SLE RA 17		6.53	0.38	28.65	-0.2854	0.363	0.0017
338	SLE RA 18		6.65	0.38	28.9	-0.2891	0.3696	0.0018
338	SLE RA 19		6.65	0.38	28.87	-0.2887	0.3696	0.0018
338	SLE RA 20		6.73	0.39	29.22	-0.293	0.3738	0.0018
338	SLE RA 21		6.73	0.39	29.19	-0.2927	0.3738	0.0018
338	SLE FR 1		5.73	0.33	26.07	-0.2515	0.3196	0.0015
338	SLE FR 2		5.73	0.33	26.06	-0.2514	0.3196	0.0015
338	SLE FR 3		5.76	0.33	26.19	-0.2531	0.3213	0.0015
338	SLE FR 4		6.01	0.35	26.91	-0.2627	0.3346	0.0016
338	SLE FR 5		6.04	0.35	27.04	-0.2644	0.3363	0.0016
338	SLE FR 6		6.19	0.36	27.49	-0.2703	0.3446	0.0016
338	SLE QP 1		5.73	0.33	26.07	-0.2515	0.3196	0.0015
338	SLE QP 2		6.01	0.35	26.92	-0.2628	0.3346	0.0016
338	SLD 1		11.11	0.21	23.89	-0.1617	0.5633	0.0009
338	SLD 2		11.11	0.21	23.89	-0.1617	0.5633	0.0009
338	SLD 3		11.99	0.33	26.94	-0.2525	0.6051	0.0015



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
338	SLD 4		11.99	0.33	26.94	-0.2525	0.6051	0.0015
338	SLD 5		6.2	0.11	21.38	-0.0946	0.3398	0.0005
338	SLD 6		6.2	0.11	21.38	-0.0946	0.3398	0.0005
338	SLD 7		9.15	0.54	31.56	-0.3975	0.4792	0.0025
338	SLD 8		9.15	0.54	31.56	-0.3975	0.4792	0.0025
338	SLD 9		2.87	0.16	22.28	-0.128	0.19	0.0007
338	SLD 10		2.87	0.16	22.28	-0.128	0.19	0.0007
338	SLD 11		5.82	0.58	32.46	-0.4309	0.3294	0.0027
338	SLD 12		5.82	0.58	32.46	-0.4309	0.3294	0.0027
338	SLD 13		0.02	0.36	26.9	-0.273	0.0641	0.0017
338	SLD 14		0.02	0.36	26.9	-0.273	0.0641	0.0017
338	SLD 15		0.91	0.49	29.95	-0.3639	0.1059	0.0023
338	SLD 16		0.91	0.49	29.95	-0.3639	0.1059	0.0023
338	SLV 1		17.88	0.01	19.77	-0.0233	0.8669	0
338	SLV 2		17.88	0.01	19.77	-0.0233	0.8669	0
338	SLV 3		19.99	0.31	26.95	-0.2374	0.9665	0.0014
338	SLV 4		19.99	0.31	26.95	-0.2374	0.9665	0.0014
338	SLV 5		6.37	-0.21	13.88	0.1338	0.3433	-0.001
338	SLV 6		6.37	-0.21	13.88	0.1338	0.3433	-0.001
338	SLV 7		13.41	0.79	37.82	-0.5799	0.6751	0.0037
338	SLV 8		13.41	0.79	37.82	-0.5799	0.6751	0.0037
338	SLV 9		-1.39	-0.1	16.02	0.0543	-0.0059	-0.0005
338	SLV 10		-1.39	-0.1	16.02	0.0543	-0.0059	-0.0005
338	SLV 11		5.65	0.9	39.96	-0.6593	0.3259	0.0042
338	SLV 12		5.65	0.9	39.96	-0.6593	0.3259	0.0042
338	SLV 13		-7.97	0.38	26.89	-0.2882	-0.2972	0.0018
338	SLV 14		-7.97	0.38	26.89	-0.2882	-0.2972	0.0018
338	SLV 15		-5.86	0.68	34.07	-0.5023	-0.1977	0.0032
338	SLV 16		-5.86	0.68	34.07	-0.5023	-0.1977	0.0032
339	SLU 1		6.34	0.31	25.94	-0.234	0.2227	0.0014
339	SLU 2		6.34	0.3	25.87	-0.2332	0.223	0.0014
339	SLU 3		6.57	0.32	26.7	-0.2431	0.2306	0.0015
339	SLU 4		6.57	0.32	26.66	-0.2426	0.2307	0.0015
339	SLU 5		6.48	0.31	26.39	-0.2391	0.2275	0.0014
339	SLU 6		6.71	0.33	27.22	-0.2489	0.2351	0.0015
339	SLU 7		6.71	0.32	27.18	-0.2485	0.2352	0.0015
339	SLU 8		6.61	0.32	26.98	-0.2458	0.2318	0.0015
339	SLU 9		6.61	0.32	26.94	-0.2453	0.2319	0.0015
339	SLU 10		7.47	0.35	28.98	-0.2718	0.2638	0.0016
339	SLU 11		7.7	0.37	29.81	-0.2816	0.2714	0.0017
339	SLU 12		7.7	0.37	29.77	-0.2811	0.2715	0.0017
339	SLU 13		7.61	0.36	29.5	-0.2776	0.2683	0.0017
339	SLU 14		7.84	0.38	30.33	-0.2875	0.2759	0.0017
339	SLU 15		7.84	0.37	30.29	-0.287	0.276	0.0017
339	SLU 16		7.75	0.37	30.08	-0.2843	0.2726	0.0017
339	SLU 17		7.75	0.37	30.04	-0.2838	0.2727	0.0017
339	SLU 18		7.96	0.38	30.37	-0.2891	0.281	0.0018
339	SLU 19		7.96	0.38	30.33	-0.2886	0.2812	0.0017
339	SLU 20		8.09	0.38	30.89	-0.2949	0.2856	0.0018
339	SLU 21		8.09	0.38	30.85	-0.2944	0.2857	0.0018
339	SLU 22		7.39	0.35	28.98	-0.2716	0.26	0.0016
339	SLU 23		7.39	0.35	28.92	-0.2709	0.2602	0.0016
339	SLU 24		7.62	0.37	29.75	-0.2807	0.2678	0.0017
339	SLU 25		7.62	0.37	29.71	-0.2802	0.2679	0.0017
339	SLU 26		7.53	0.36	29.44	-0.2767	0.2647	0.0017
339	SLU 27		7.76	0.37	30.27	-0.2866	0.2723	0.0017
339	SLU 28		7.76	0.37	30.23	-0.2861	0.2725	0.0017
339	SLU 29		7.66	0.37	30.03	-0.2834	0.269	0.0017
339	SLU 30		7.66	0.37	29.99	-0.2829	0.2692	0.0017
339	SLU 31		8.52	0.4	32.02	-0.3094	0.301	0.0019
339	SLU 32		8.75	0.42	32.85	-0.3192	0.3086	0.0019
339	SLU 33		8.75	0.42	32.81	-0.3187	0.3087	0.0019
339	SLU 34		8.66	0.41	32.54	-0.3152	0.3056	0.0019
339	SLU 35		8.89	0.42	33.37	-0.3251	0.3131	0.002
339	SLU 36		8.89	0.42	33.33	-0.3246	0.3133	0.002
339	SLU 37		8.8	0.42	33.13	-0.3219	0.3098	0.002
339	SLU 38		8.8	0.42	33.09	-0.3214	0.31	0.0019
339	SLU 39		9.01	0.43	33.42	-0.3267	0.3183	0.002
339	SLU 40		9.01	0.43	33.38	-0.3262	0.3184	0.002
339	SLU 41		9.14	0.43	33.94	-0.3325	0.3228	0.002
339	SLU 42		9.14	0.43	33.9	-0.3321	0.323	0.002
339	SLU 43		7.88	0.38	32.68	-0.2914	0.2768	0.0018
339	SLU 44		7.88	0.38	32.61	-0.2906	0.277	0.0018
339	SLU 45		8.11	0.39	33.44	-0.3004	0.2846	0.0018
339	SLU 46		8.11	0.39	33.4	-0.2999	0.2847	0.0018
339	SLU 47		8.02	0.39	33.13	-0.2964	0.2816	0.0018
339	SLU 48		8.25	0.4	33.96	-0.3063	0.2891	0.0019
339	SLU 49		8.25	0.4	33.92	-0.3058	0.2893	0.0019
339	SLU 50		8.16	0.4	33.72	-0.3031	0.2859	0.0018
339	SLU 51		8.16	0.4	33.68	-0.3026	0.286	0.0018
339	SLU 52		9.01	0.43	35.72	-0.3291	0.3178	0.002
339	SLU 53		9.24	0.44	36.54	-0.3389	0.3254	0.0021
339	SLU 54		9.24	0.44	36.5	-0.3384	0.3256	0.0021
339	SLU 55		9.15	0.44	36.24	-0.3349	0.3224	0.002
339	SLU 56		9.38	0.45	37.07	-0.3448	0.3299	0.0021
339	SLU 57		9.38	0.45	37.03	-0.3443	0.3301	0.0021
339	SLU 58		9.29	0.45	36.82	-0.3416	0.3267	0.0021
339	SLU 59		9.29	0.45	36.78	-0.3411	0.3268	0.0021
339	SLU 60		9.5	0.45	37.11	-0.3464	0.3351	0.0021
339	SLU 61		9.5	0.45	37.07	-0.3459	0.3352	0.0021



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
339	SLU 62		9.64	0.46	37.63	-0.3522	0.3396	0.0021
339	SLU 63		9.64	0.46	37.59	-0.3518	0.3398	0.0021
339	SLU 64		8.93	0.43	35.72	-0.329	0.314	0.002
339	SLU 65		8.93	0.43	35.66	-0.3282	0.3143	0.002
339	SLU 66		9.16	0.44	36.48	-0.338	0.3218	0.002
339	SLU 67		9.16	0.44	36.45	-0.3375	0.322	0.002
339	SLU 68		9.07	0.44	36.18	-0.334	0.3188	0.002
339	SLU 69		9.3	0.45	37.01	-0.3439	0.3264	0.0021
339	SLU 70		9.3	0.45	36.97	-0.3434	0.3265	0.0021
339	SLU 71		9.21	0.44	36.76	-0.3407	0.3231	0.0021
339	SLU 72		9.21	0.44	36.72	-0.3402	0.3232	0.0021
339	SLU 73		10.06	0.48	38.76	-0.3667	0.3551	0.0022
339	SLU 74		10.29	0.49	39.59	-0.3765	0.3627	0.0023
339	SLU 75		10.29	0.49	39.55	-0.3761	0.3628	0.0023
339	SLU 76		10.2	0.49	39.28	-0.3725	0.3596	0.0023
339	SLU 77		10.43	0.5	40.11	-0.3824	0.3672	0.0023
339	SLU 78		10.43	0.5	40.07	-0.3819	0.3673	0.0023
339	SLU 79		10.34	0.5	39.87	-0.3792	0.3639	0.0023
339	SLU 80		10.34	0.49	39.83	-0.3787	0.364	0.0023
339	SLU 81		10.55	0.5	40.16	-0.384	0.3723	0.0023
339	SLU 82		10.55	0.5	40.12	-0.3835	0.3725	0.0023
339	SLU 83		10.69	0.51	40.68	-0.3899	0.3769	0.0024
339	SLU 84		10.69	0.51	40.64	-0.3894	0.377	0.0024
339	SLE RA 1		6.64	0.32	26.81	-0.2448	0.2334	0.0015
339	SLE RA 2		6.64	0.32	26.77	-0.2443	0.2335	0.0015
339	SLE RA 3		6.79	0.33	27.32	-0.2508	0.2386	0.0015
339	SLE RA 4		6.79	0.33	27.29	-0.2505	0.2387	0.0015
339	SLE RA 5		6.73	0.32	27.11	-0.2482	0.2366	0.0015
339	SLE RA 6		6.88	0.33	27.67	-0.2547	0.2416	0.0015
339	SLE RA 7		6.88	0.33	27.64	-0.2544	0.2417	0.0015
339	SLE RA 8		6.82	0.33	27.5	-0.2526	0.2394	0.0015
339	SLE RA 9		6.82	0.33	27.48	-0.2523	0.2395	0.0015
339	SLE RA 10		7.39	0.35	28.83	-0.2699	0.2607	0.0016
339	SLE RA 11		7.55	0.36	29.39	-0.2765	0.2658	0.0017
339	SLE RA 12		7.55	0.36	29.36	-0.2762	0.2659	0.0017
339	SLE RA 13		7.49	0.36	29.18	-0.2738	0.2638	0.0017
339	SLE RA 14		7.64	0.37	29.73	-0.2804	0.2688	0.0017
339	SLE RA 15		7.64	0.37	29.71	-0.2801	0.2689	0.0017
339	SLE RA 16		7.58	0.36	29.57	-0.2783	0.2666	0.0017
339	SLE RA 17		7.58	0.36	29.55	-0.278	0.2667	0.0017
339	SLE RA 18		7.72	0.37	29.76	-0.2815	0.2723	0.0017
339	SLE RA 19		7.72	0.37	29.74	-0.2812	0.2723	0.0017
339	SLE RA 20		7.81	0.37	30.11	-0.2854	0.2753	0.0017
339	SLE RA 21		7.81	0.37	30.09	-0.2851	0.2754	0.0017
339	SLE FR 1		6.64	0.32	26.81	-0.2448	0.2334	0.0015
339	SLE FR 2		6.64	0.32	26.8	-0.2447	0.2334	0.0015
339	SLE FR 3		6.67	0.32	26.95	-0.2463	0.2346	0.0015
339	SLE FR 4		6.96	0.33	27.69	-0.2557	0.2451	0.0015
339	SLE FR 5		7	0.34	27.84	-0.2574	0.2463	0.0016
339	SLE FR 6		7.18	0.34	28.29	-0.2631	0.2528	0.0016
339	SLE QP 1		6.64	0.32	26.81	-0.2448	0.2334	0.0015
339	SLE QP 2		6.96	0.33	27.7	-0.2558	0.245	0.0015
339	SLD 1		12.18	0.19	27.97	-0.1545	0.4728	0.0009
339	SLD 2		12.18	0.19	27.97	-0.1545	0.4728	0.0009
339	SLD 3		13.16	0.32	31.01	-0.2468	0.5123	0.0015
339	SLD 4		13.16	0.32	31.01	-0.2468	0.5123	0.0015
339	SLD 5		7.05	0.1	23.17	-0.0855	0.2534	0.0005
339	SLD 6		7.05	0.1	23.17	-0.0855	0.2534	0.0005
339	SLD 7		10.3	0.52	33.3	-0.393	0.3852	0.0024
339	SLD 8		10.3	0.52	33.3	-0.393	0.3852	0.0024
339	SLD 9		3.62	0.14	22.09	-0.1186	0.1049	0.0007
339	SLD 10		3.62	0.14	22.09	-0.1186	0.1049	0.0007
339	SLD 11		6.88	0.57	32.22	-0.4261	0.2366	0.0026
339	SLD 12		6.88	0.57	32.22	-0.4261	0.2366	0.0026
339	SLD 13		0.76	0.35	24.38	-0.2648	-0.0223	0.0016
339	SLD 14		0.76	0.35	24.38	-0.2648	-0.0223	0.0016
339	SLD 15		1.74	0.47	27.42	-0.357	0.0173	0.0022
339	SLD 16		1.74	0.47	27.42	-0.357	0.0173	0.0022
339	SLV 1		19.11	0	28.35	-0.015	0.7751	0.0001
339	SLV 2		19.11	0	28.35	-0.015	0.7751	0.0001
339	SLV 3		21.44	0.3	35.5	-0.2329	0.8693	0.0014
339	SLV 4		21.44	0.3	35.5	-0.2329	0.8693	0.0014
339	SLV 5		7.08	-0.22	17.04	0.1469	0.2613	-0.0009
339	SLV 6		7.08	-0.22	17.04	0.1469	0.2613	-0.0009
339	SLV 7		14.84	0.78	40.89	-0.5794	0.5751	0.0035
339	SLV 8		14.84	0.78	40.89	-0.5794	0.5751	0.0035
339	SLV 9		-0.91	-0.12	14.51	0.0678	-0.085	-0.0004
339	SLV 10		-0.91	-0.12	14.51	0.0678	-0.085	-0.0004
339	SLV 11		6.85	0.89	38.35	-0.6585	0.2288	0.004
339	SLV 12		6.85	0.89	38.35	-0.6585	0.2288	0.004
339	SLV 13		-7.52	0.36	19.89	-0.2787	-0.3792	0.0017
339	SLV 14		-7.52	0.36	19.89	-0.2787	-0.3792	0.0017
339	SLV 15		-5.19	0.67	27.04	-0.4966	-0.285	0.003
339	SLV 16		-5.19	0.67	27.04	-0.4966	-0.285	0.003
340	SLU 1		8.51	0.29	28.11	-0.2149	0.4049	0.0013
340	SLU 2		8.5	0.28	28.04	-0.2142	0.4045	0.0013
340	SLU 3		8.82	0.3	28.98	-0.2232	0.4198	0.0013
340	SLU 4		8.82	0.3	28.94	-0.2228	0.4196	0.0013
340	SLU 5		8.69	0.29	28.65	-0.2196	0.4137	0.0013
340	SLU 6		9.02	0.3	29.59	-0.2286	0.429	0.0014



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
340	SLU 7		9.01	0.3	29.55	-0.2281	0.4288	0.0014
340	SLU 8		8.9	0.3	29.32	-0.2256	0.4233	0.0014
340	SLU 9		8.89	0.3	29.28	-0.2252	0.423	0.0014
340	SLU 10		10	0.33	31.52	-0.2497	0.4755	0.0015
340	SLU 11		10.33	0.34	32.46	-0.2587	0.4908	0.0016
340	SLU 12		10.32	0.34	32.42	-0.2583	0.4906	0.0016
340	SLU 13		10.2	0.34	32.13	-0.2551	0.4847	0.0015
340	SLU 14		10.52	0.35	33.07	-0.2641	0.5	0.0016
340	SLU 15		10.52	0.35	33.03	-0.2636	0.4998	0.0016
340	SLU 16		10.4	0.35	32.8	-0.2611	0.4943	0.0016
340	SLU 17		10.4	0.35	32.76	-0.2607	0.494	0.0016
340	SLU 18		10.66	0.35	33.08	-0.2656	0.5064	0.0016
340	SLU 19		10.65	0.35	33.04	-0.2652	0.5061	0.0016
340	SLU 20		10.85	0.36	33.69	-0.271	0.5156	0.0016
340	SLU 21		10.85	0.36	33.65	-0.2706	0.5153	0.0016
340	SLU 22		9.92	0.33	31.52	-0.2495	0.4717	0.0015
340	SLU 23		9.91	0.33	31.46	-0.2488	0.4712	0.0015
340	SLU 24		10.23	0.34	32.4	-0.2578	0.4866	0.0016
340	SLU 25		10.23	0.34	32.36	-0.2574	0.4863	0.0016
340	SLU 26		10.11	0.34	32.06	-0.2542	0.4804	0.0015
340	SLU 27		10.43	0.35	33	-0.2632	0.4958	0.0016
340	SLU 28		10.42	0.35	32.96	-0.2627	0.4956	0.0016
340	SLU 29		10.31	0.35	32.74	-0.2602	0.4901	0.0016
340	SLU 30		10.31	0.35	32.7	-0.2598	0.4898	0.0016
340	SLU 31		11.42	0.38	34.94	-0.2843	0.5422	0.0017
340	SLU 32		11.74	0.39	35.88	-0.2933	0.5576	0.0018
340	SLU 33		11.73	0.39	35.84	-0.2929	0.5573	0.0018
340	SLU 34		11.61	0.38	35.55	-0.2897	0.5514	0.0017
340	SLU 35		11.93	0.4	36.48	-0.2987	0.5668	0.0018
340	SLU 36		11.93	0.4	36.44	-0.2982	0.5666	0.0018
340	SLU 37		11.82	0.39	36.22	-0.2957	0.5611	0.0018
340	SLU 38		11.81	0.39	36.18	-0.2953	0.5608	0.0018
340	SLU 39		12.07	0.4	36.5	-0.3002	0.5731	0.0018
340	SLU 40		12.06	0.4	36.46	-0.2998	0.5729	0.0018
340	SLU 41		12.26	0.41	37.1	-0.3056	0.5823	0.0018
340	SLU 42		12.26	0.41	37.06	-0.3052	0.5821	0.0018
340	SLU 43		10.57	0.36	35.37	-0.2675	0.5035	0.0016
340	SLU 44		10.57	0.35	35.3	-0.2668	0.503	0.0016
340	SLU 45		10.89	0.37	36.24	-0.2758	0.5184	0.0017
340	SLU 46		10.88	0.37	36.2	-0.2754	0.5181	0.0017
340	SLU 47		10.76	0.36	35.91	-0.2722	0.5122	0.0016
340	SLU 48		11.09	0.37	36.85	-0.2812	0.5276	0.0017
340	SLU 49		11.08	0.37	36.81	-0.2807	0.5273	0.0017
340	SLU 50		10.97	0.37	36.58	-0.2782	0.5219	0.0017
340	SLU 51		10.96	0.37	36.54	-0.2778	0.5216	0.0017
340	SLU 52		12.07	0.4	38.78	-0.3023	0.574	0.0018
340	SLU 53		12.39	0.41	39.72	-0.3113	0.5894	0.0019
340	SLU 54		12.39	0.41	39.68	-0.3109	0.5891	0.0019
340	SLU 55		12.27	0.41	39.39	-0.3077	0.5832	0.0019
340	SLU 56		12.59	0.42	40.33	-0.3167	0.5986	0.0019
340	SLU 57		12.59	0.42	40.29	-0.3162	0.5983	0.0019
340	SLU 58		12.47	0.42	40.06	-0.3137	0.5929	0.0019
340	SLU 59		12.47	0.42	40.02	-0.3133	0.5926	0.0019
340	SLU 60		12.72	0.42	40.34	-0.3182	0.6049	0.0019
340	SLU 61		12.72	0.42	40.3	-0.3178	0.6046	0.0019
340	SLU 62		12.92	0.43	40.95	-0.3236	0.6141	0.002
340	SLU 63		12.92	0.43	40.91	-0.3232	0.6139	0.002
340	SLU 64		11.99	0.4	38.78	-0.3021	0.5703	0.0018
340	SLU 65		11.98	0.4	38.72	-0.3014	0.5698	0.0018
340	SLU 66		12.3	0.41	39.66	-0.3104	0.5852	0.0019
340	SLU 67		12.3	0.41	39.62	-0.31	0.5849	0.0019
340	SLU 68		12.17	0.41	39.32	-0.3068	0.579	0.0019
340	SLU 69		12.5	0.42	40.26	-0.3158	0.5944	0.0019
340	SLU 70		12.49	0.42	40.22	-0.3153	0.5941	0.0019
340	SLU 71		12.38	0.42	40	-0.3128	0.5887	0.0019
340	SLU 72		12.37	0.42	39.96	-0.3124	0.5884	0.0019
340	SLU 73		13.48	0.45	42.2	-0.3369	0.6408	0.002
340	SLU 74		13.81	0.46	43.14	-0.3459	0.6562	0.0021
340	SLU 75		13.8	0.46	43.1	-0.3455	0.6559	0.0021
340	SLU 76		13.68	0.45	42.81	-0.3423	0.65	0.0021
340	SLU 77		14	0.47	43.75	-0.3513	0.6654	0.0021
340	SLU 78		14	0.47	43.71	-0.3509	0.6651	0.0021
340	SLU 79		13.88	0.46	43.48	-0.3483	0.6597	0.0021
340	SLU 80		13.88	0.46	43.44	-0.3479	0.6594	0.0021
340	SLU 81		14.14	0.47	43.76	-0.3528	0.6717	0.0021
340	SLU 82		14.13	0.47	43.72	-0.3524	0.6714	0.0021
340	SLU 83		14.33	0.48	44.36	-0.3582	0.6809	0.0022
340	SLU 84		14.33	0.48	44.32	-0.3578	0.6806	0.0022
340	SLE RA 1		8.91	0.3	29.08	-0.2248	0.424	0.0014
340	SLE RA 2		8.9	0.3	29.04	-0.2243	0.4237	0.0014
340	SLE RA 3		9.12	0.31	29.66	-0.2303	0.434	0.0014
340	SLE RA 4		9.12	0.31	29.64	-0.23	0.4338	0.0014
340	SLE RA 5		9.03	0.3	29.44	-0.2279	0.4298	0.0014
340	SLE RA 6		9.25	0.31	30.07	-0.2339	0.4401	0.0014
340	SLE RA 7		9.25	0.31	30.04	-0.2336	0.4399	0.0014
340	SLE RA 8		9.17	0.31	29.89	-0.2319	0.4363	0.0014
340	SLE RA 9		9.17	0.31	29.87	-0.2317	0.4361	0.0014
340	SLE RA 10		9.91	0.33	31.36	-0.248	0.471	0.0015
340	SLE RA 11		10.12	0.34	31.99	-0.254	0.4813	0.0015
340	SLE RA 12		10.12	0.34	31.96	-0.2537	0.4811	0.0015



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
340	SLE RA 13		10.04	0.33	31.76	-0.2516	0.4772	0.0015
340	SLE RA 14		10.25	0.34	32.39	-0.2576	0.4874	0.0016
340	SLE RA 15		10.25	0.34	32.36	-0.2573	0.4872	0.0016
340	SLE RA 16		10.17	0.34	32.21	-0.2556	0.4836	0.0015
340	SLE RA 17		10.17	0.34	32.19	-0.2553	0.4834	0.0015
340	SLE RA 18		10.34	0.34	32.4	-0.2586	0.4916	0.0016
340	SLE RA 19		10.34	0.34	32.37	-0.2583	0.4914	0.0016
340	SLE RA 20		10.47	0.35	32.8	-0.2622	0.4978	0.0016
340	SLE RA 21		10.47	0.35	32.78	-0.2619	0.4976	0.0016
340	SLE FR 1		8.91	0.3	29.08	-0.2248	0.424	0.0014
340	SLE FR 2		8.91	0.3	29.07	-0.2247	0.4239	0.0014
340	SLE FR 3		8.96	0.3	29.24	-0.2262	0.4265	0.0014
340	SLE FR 4		9.34	0.31	30.07	-0.2348	0.4442	0.0014
340	SLE FR 5		9.39	0.31	30.24	-0.2363	0.4467	0.0014
340	SLE FR 6		9.63	0.32	30.74	-0.2417	0.4578	0.0015
340	SLE QP 1		8.91	0.3	29.08	-0.2248	0.424	0.0014
340	SLE QP 2		9.34	0.31	30.08	-0.2349	0.4443	0.0014
340	SLD 1		14.54	0.18	30.73	-0.1401	0.6746	0.0009
340	SLD 2		14.54	0.18	30.73	-0.1401	0.6746	0.0009
340	SLD 3		15.66	0.3	33.9	-0.2265	0.7259	0.0014
340	SLD 4		15.66	0.3	33.9	-0.2265	0.7259	0.0014
340	SLD 5		9.19	0.1	25.46	-0.0754	0.4355	0.0005
340	SLD 6		9.19	0.1	25.46	-0.0754	0.4355	0.0005
340	SLD 7		12.94	0.48	36.03	-0.3635	0.6066	0.0021
340	SLD 8		12.94	0.48	36.03	-0.3635	0.6066	0.0021
340	SLD 9		5.73	0.14	24.12	-0.1064	0.282	0.0007
340	SLD 10		5.73	0.14	24.12	-0.1064	0.282	0.0007
340	SLD 11		9.49	0.53	34.69	-0.3944	0.453	0.0023
340	SLD 12		9.49	0.53	34.69	-0.3944	0.453	0.0023
340	SLD 13		3.01	0.32	26.25	-0.2433	0.1627	0.0015
340	SLD 14		3.01	0.32	26.25	-0.2433	0.1627	0.0015
340	SLD 15		4.14	0.44	29.43	-0.3297	0.214	0.002
340	SLD 16		4.14	0.44	29.43	-0.3297	0.214	0.002
340	SLV 1		21.43	0.01	31.6	-0.008	0.9801	0.0001
340	SLV 2		21.43	0.01	31.6	-0.008	0.9801	0.0001
340	SLV 3		24.11	0.28	39.08	-0.2129	1.1022	0.0013
340	SLV 4		24.11	0.28	39.08	-0.2129	1.1022	0.0013
340	SLV 5		8.9	-0.2	19.2	0.1439	0.4199	-0.0007
340	SLV 6		8.9	-0.2	19.2	0.1439	0.4199	-0.0007
340	SLV 7		17.84	0.72	44.11	-0.5391	0.8268	0.0031
340	SLV 8		17.84	0.72	44.11	-0.5391	0.8268	0.0031
340	SLV 9		0.84	-0.1	16.04	0.0692	0.0618	-0.0003
340	SLV 10		0.84	-0.1	16.04	0.0692	0.0618	-0.0003
340	SLV 11		9.78	0.82	40.96	-0.6137	0.4687	0.0036
340	SLV 12		9.78	0.82	40.96	-0.6137	0.4687	0.0036
340	SLV 13		-5.44	0.34	21.08	-0.2569	-0.2136	0.0016
340	SLV 14		-5.44	0.34	21.08	-0.2569	-0.2136	0.0016
340	SLV 15		-2.76	0.62	28.55	-0.4618	-0.0915	0.0027
340	SLV 16		-2.76	0.62	28.55	-0.4618	-0.0915	0.0027
341	SLU 1		8.49	0.24	31.65	-0.1795	0.3161	0.0009
341	SLU 2		8.48	0.24	31.58	-0.1789	0.3158	0.0009
341	SLU 3		8.81	0.25	32.68	-0.1864	0.3277	0.0009
341	SLU 4		8.8	0.25	32.64	-0.186	0.3275	0.0009
341	SLU 5		8.68	0.25	32.31	-0.1833	0.323	0.0009
341	SLU 6		9.01	0.26	33.41	-0.1908	0.3349	0.0009
341	SLU 7		9	0.25	33.37	-0.1904	0.3347	0.0009
341	SLU 8		8.89	0.25	33.11	-0.1883	0.3305	0.0009
341	SLU 9		8.89	0.25	33.06	-0.188	0.3304	0.0009
341	SLU 10		10	0.28	35.67	-0.2087	0.3734	0.001
341	SLU 11		10.33	0.29	36.78	-0.2162	0.3853	0.001
341	SLU 12		10.33	0.29	36.73	-0.2158	0.3851	0.001
341	SLU 13		10.21	0.28	36.4	-0.2131	0.3806	0.001
341	SLU 14		10.53	0.29	37.51	-0.2205	0.3925	0.0011
341	SLU 15		10.53	0.29	37.46	-0.2202	0.3923	0.0011
341	SLU 16		10.42	0.29	37.2	-0.2181	0.3881	0.001
341	SLU 17		10.41	0.29	37.16	-0.2177	0.3879	0.001
341	SLU 18		10.67	0.3	37.49	-0.2221	0.3984	0.0011
341	SLU 19		10.66	0.3	37.45	-0.2217	0.3982	0.0011
341	SLU 20		10.87	0.3	38.22	-0.2265	0.4056	0.0011
341	SLU 21		10.86	0.3	38.18	-0.2261	0.4054	0.0011
341	SLU 22		9.92	0.28	35.66	-0.2084	0.3695	0.001
341	SLU 23		9.91	0.28	35.59	-0.2079	0.3692	0.001
341	SLU 24		10.23	0.29	36.7	-0.2153	0.3811	0.001
341	SLU 25		10.23	0.29	36.65	-0.215	0.3809	0.001
341	SLU 26		10.11	0.28	36.32	-0.2123	0.3764	0.001
341	SLU 27		10.44	0.29	37.43	-0.2197	0.3883	0.0011
341	SLU 28		10.43	0.29	37.38	-0.2194	0.3881	0.0011
341	SLU 29		10.32	0.29	37.12	-0.2172	0.3839	0.001
341	SLU 30		10.31	0.29	37.08	-0.2169	0.3838	0.001
341	SLU 31		11.43	0.32	39.68	-0.2377	0.4268	0.0011
341	SLU 32		11.76	0.33	40.79	-0.2451	0.4387	0.0012
341	SLU 33		11.75	0.33	40.75	-0.2448	0.4385	0.0012
341	SLU 34		11.63	0.32	40.41	-0.2421	0.434	0.0012
341	SLU 35		11.96	0.33	41.52	-0.2495	0.4459	0.0012
341	SLU 36		11.95	0.33	41.48	-0.2491	0.4457	0.0012
341	SLU 37		11.84	0.33	41.21	-0.247	0.4415	0.0012
341	SLU 38		11.84	0.33	41.17	-0.2467	0.4413	0.0012
341	SLU 39		12.09	0.34	41.51	-0.251	0.4517	0.0012
341	SLU 40		12.09	0.33	41.46	-0.2507	0.4516	0.0012
341	SLU 41		12.29	0.34	42.24	-0.2554	0.459	0.0012



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
341	SLU 42		12.29	0.34	42.19	-0.2551	0.4588	0.0012
341	SLU 43		10.55	0.3	39.76	-0.2234	0.3926	0.0011
341	SLU 44		10.54	0.3	39.69	-0.2229	0.3923	0.0011
341	SLU 45		10.87	0.31	40.8	-0.2303	0.4042	0.0011
341	SLU 46		10.86	0.31	40.76	-0.2299	0.404	0.0011
341	SLU 47		10.74	0.3	40.42	-0.2273	0.3996	0.0011
341	SLU 48		11.07	0.31	41.53	-0.2347	0.4114	0.0011
341	SLU 49		11.06	0.31	41.49	-0.2343	0.4112	0.0011
341	SLU 50		10.95	0.31	41.23	-0.2322	0.4071	0.0011
341	SLU 51		10.95	0.31	41.18	-0.2319	0.4069	0.0011
341	SLU 52		12.06	0.34	43.79	-0.2527	0.4499	0.0012
341	SLU 53		12.39	0.35	44.89	-0.2601	0.4618	0.0012
341	SLU 54		12.38	0.35	44.85	-0.2597	0.4616	0.0012
341	SLU 55		12.26	0.34	44.52	-0.2571	0.4571	0.0012
341	SLU 56		12.59	0.35	45.62	-0.2645	0.469	0.0013
341	SLU 57		12.59	0.35	45.58	-0.2641	0.4688	0.0013
341	SLU 58		12.48	0.35	45.32	-0.262	0.4646	0.0013
341	SLU 59		12.47	0.35	45.28	-0.2617	0.4645	0.0013
341	SLU 60		12.73	0.36	45.61	-0.266	0.4749	0.0013
341	SLU 61		12.72	0.35	45.57	-0.2657	0.4747	0.0013
341	SLU 62		12.93	0.36	46.34	-0.2704	0.4821	0.0013
341	SLU 63		12.92	0.36	46.3	-0.27	0.4819	0.0013
341	SLU 64		11.97	0.34	43.78	-0.2524	0.446	0.0012
341	SLU 65		11.96	0.34	43.71	-0.2518	0.4457	0.0012
341	SLU 66		12.29	0.35	44.81	-0.2592	0.4576	0.0012
341	SLU 67		12.29	0.35	44.77	-0.2589	0.4574	0.0012
341	SLU 68		12.17	0.34	44.44	-0.2562	0.453	0.0012
341	SLU 69		12.49	0.35	45.54	-0.2636	0.4648	0.0013
341	SLU 70		12.49	0.35	45.5	-0.2633	0.4646	0.0013
341	SLU 71		12.38	0.35	45.24	-0.2612	0.4604	0.0013
341	SLU 72		12.37	0.35	45.2	-0.2608	0.4603	0.0013
341	SLU 73		13.49	0.38	47.8	-0.2816	0.5033	0.0014
341	SLU 74		13.82	0.39	48.91	-0.289	0.5152	0.0014
341	SLU 75		13.81	0.39	48.86	-0.2887	0.515	0.0014
341	SLU 76		13.69	0.38	48.53	-0.286	0.5105	0.0014
341	SLU 77		14.02	0.39	49.64	-0.2934	0.5224	0.0014
341	SLU 78		14.01	0.39	49.6	-0.2931	0.5222	0.0014
341	SLU 79		13.9	0.39	49.33	-0.291	0.518	0.0014
341	SLU 80		13.9	0.39	49.29	-0.2906	0.5179	0.0014
341	SLU 81		14.15	0.39	49.62	-0.2949	0.5283	0.0014
341	SLU 82		14.15	0.39	49.58	-0.2946	0.5281	0.0014
341	SLU 83		14.35	0.4	50.36	-0.2993	0.5355	0.0014
341	SLU 84		14.35	0.4	50.31	-0.299	0.5353	0.0014
341	SLE RA 1		8.9	0.25	32.79	-0.1878	0.3314	0.0009
341	SLE RA 2		8.89	0.25	32.75	-0.1874	0.3312	0.0009
341	SLE RA 3		9.11	0.26	33.48	-0.1923	0.3391	0.0009
341	SLE RA 4		9.11	0.26	33.46	-0.1921	0.339	0.0009
341	SLE RA 5		9.03	0.25	33.23	-0.1903	0.336	0.0009
341	SLE RA 6		9.24	0.26	33.97	-0.1953	0.3439	0.0009
341	SLE RA 7		9.24	0.26	33.94	-0.195	0.3438	0.0009
341	SLE RA 8		9.17	0.26	33.77	-0.1936	0.341	0.0009
341	SLE RA 9		9.16	0.26	33.74	-0.1934	0.3409	0.0009
341	SLE RA 10		9.91	0.28	35.47	-0.2073	0.3696	0.001
341	SLE RA 11		10.13	0.28	36.21	-0.2122	0.3775	0.001
341	SLE RA 12		10.12	0.28	36.18	-0.212	0.3773	0.001
341	SLE RA 13		10.04	0.28	35.96	-0.2102	0.3744	0.001
341	SLE RA 14		10.26	0.29	36.7	-0.2151	0.3823	0.001
341	SLE RA 15		10.26	0.29	36.67	-0.2149	0.3822	0.001
341	SLE RA 16		10.18	0.29	36.5	-0.2135	0.3794	0.001
341	SLE RA 17		10.18	0.28	36.47	-0.2133	0.3792	0.001
341	SLE RA 18		10.35	0.29	36.69	-0.2161	0.3862	0.001
341	SLE RA 19		10.34	0.29	36.66	-0.2159	0.3861	0.001
341	SLE RA 20		10.48	0.29	37.18	-0.2191	0.3911	0.0011
341	SLE RA 21		10.48	0.29	37.15	-0.2188	0.3909	0.0011
341	SLE FR 1		8.9	0.25	32.79	-0.1878	0.3314	0.0009
341	SLE FR 2		8.9	0.25	32.78	-0.1877	0.3313	0.0009
341	SLE FR 3		8.95	0.25	32.99	-0.1889	0.3333	0.0009
341	SLE FR 4		9.33	0.26	33.95	-0.1962	0.3478	0.0009
341	SLE FR 5		9.39	0.26	34.16	-0.1975	0.3497	0.0009
341	SLE FR 6		9.62	0.27	34.74	-0.202	0.3588	0.001
341	SLE QP 1		8.9	0.25	32.79	-0.1878	0.3314	0.0009
341	SLE QP 2		9.33	0.26	33.96	-0.1963	0.3478	0.0009
341	SLD 1		14.27	0.15	34.87	-0.1123	0.5647	0.001
341	SLD 2		14.27	0.15	34.87	-0.1123	0.5647	0.001
341	SLD 3		15.41	0.25	38.3	-0.1884	0.6106	0.0013
341	SLD 4		15.41	0.25	38.3	-0.1884	0.6106	0.0013
341	SLD 5		9.09	0.07	29.03	-0.0557	0.3432	0.0004
341	SLD 6		9.09	0.07	29.03	-0.0557	0.3432	0.0004
341	SLD 7		12.88	0.41	40.46	-0.3093	0.4963	0.0016
341	SLD 8		12.88	0.41	40.46	-0.3093	0.4963	0.0016
341	SLD 9		5.79	0.11	27.46	-0.0833	0.1993	0.0003
341	SLD 10		5.79	0.11	27.46	-0.0833	0.1993	0.0003
341	SLD 11		9.57	0.45	38.89	-0.3369	0.3524	0.0015
341	SLD 12		9.57	0.45	38.89	-0.3369	0.3524	0.0015
341	SLD 13		3.26	0.27	29.63	-0.2042	0.085	0.0005
341	SLD 14		3.26	0.27	29.63	-0.2042	0.085	0.0005
341	SLD 15		4.39	0.38	33.06	-0.2803	0.1309	0.0009
341	SLD 16		4.39	0.38	33.06	-0.2803	0.1309	0.0009
341	SLV 1		20.83	-0.01	36.07	0.0066	0.8524	0.0011
341	SLV 2		20.83	-0.01	36.07	0.0066	0.8524	0.0011



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
341	SLV 3		23.53	0.23	44.16	-0.1746	0.9617	0.0019
341	SLV 4		23.53	0.23	44.16	-0.1746	0.9617	0.0019
341	SLV 5		8.68	-0.19	22.32	0.1394	0.3335	-0.0003
341	SLV 6		8.68	-0.19	22.32	0.1394	0.3335	-0.0003
341	SLV 7		17.69	0.62	49.3	-0.4646	0.6976	0.0025
341	SLV 8		17.69	0.62	49.3	-0.4646	0.6976	0.0025
341	SLV 9		0.97	-0.1	18.63	0.072	-0.002	-0.0006
341	SLV 10		0.97	-0.1	18.63	0.072	-0.002	-0.0006
341	SLV 11		9.98	0.71	45.6	-0.5319	0.3621	0.0022
341	SLV 12		9.98	0.71	45.6	-0.5319	0.3621	0.0022
341	SLV 13		-4.87	0.29	23.76	-0.218	-0.2661	0
341	SLV 14		-4.87	0.29	23.76	-0.218	-0.2661	0
341	SLV 15		-2.16	0.54	31.85	-0.3991	-0.1568	0.0008
341	SLV 16		-2.16	0.54	31.85	-0.3991	-0.1568	0.0008
342	SLU 1		8.87	0.14	35.57	-0.125	0.4001	0.0003
342	SLU 2		8.86	0.14	35.5	-0.1246	0.3995	0.0003
342	SLU 3		9.21	0.15	36.8	-0.1296	0.4152	0.0003
342	SLU 4		9.2	0.15	36.75	-0.1293	0.4148	0.0003
342	SLU 5		9.08	0.15	36.37	-0.1274	0.4091	0.0003
342	SLU 6		9.43	0.15	37.67	-0.1324	0.4248	0.0003
342	SLU 7		9.42	0.15	37.62	-0.1322	0.4244	0.0003
342	SLU 8		9.31	0.15	37.32	-0.1307	0.4194	0.0003
342	SLU 9		9.3	0.15	37.27	-0.1304	0.419	0.0003
342	SLU 10		10.46	0.17	40.28	-0.1455	0.4713	0.0004
342	SLU 11		10.81	0.17	41.58	-0.1505	0.487	0.0004
342	SLU 12		10.81	0.17	41.53	-0.1503	0.4866	0.0004
342	SLU 13		10.68	0.17	41.15	-0.1484	0.481	0.0004
342	SLU 14		11.03	0.18	42.45	-0.1533	0.4967	0.0004
342	SLU 15		11.02	0.18	42.4	-0.1531	0.4963	0.0004
342	SLU 16		10.91	0.18	42.1	-0.1516	0.4913	0.0004
342	SLU 17		10.91	0.18	42.05	-0.1513	0.4909	0.0004
342	SLU 18		11.17	0.18	42.4	-0.1549	0.5028	0.0004
342	SLU 19		11.16	0.18	42.36	-0.1546	0.5024	0.0004
342	SLU 20		11.38	0.18	43.27	-0.1577	0.5124	0.0004
342	SLU 21		11.38	0.18	43.23	-0.1575	0.512	0.0004
342	SLU 22		10.38	0.17	40.26	-0.1452	0.4676	0.0004
342	SLU 23		10.36	0.17	40.18	-0.1448	0.4669	0.0004
342	SLU 24		10.71	0.17	41.48	-0.1497	0.4826	0.0004
342	SLU 25		10.7	0.17	41.43	-0.1495	0.4822	0.0004
342	SLU 26		10.58	0.17	41.05	-0.1476	0.4765	0.0004
342	SLU 27		10.93	0.18	42.35	-0.1526	0.4922	0.0004
342	SLU 28		10.92	0.18	42.3	-0.1524	0.4918	0.0004
342	SLU 29		10.81	0.17	42	-0.1508	0.4868	0.0004
342	SLU 30		10.8	0.17	41.95	-0.1506	0.4864	0.0004
342	SLU 31		11.97	0.19	44.96	-0.1657	0.5388	0.0004
342	SLU 32		12.32	0.2	46.26	-0.1706	0.5545	0.0004
342	SLU 33		12.31	0.2	46.21	-0.1704	0.5541	0.0004
342	SLU 34		12.19	0.2	45.83	-0.1685	0.5484	0.0004
342	SLU 35		12.54	0.2	47.13	-0.1735	0.5641	0.0004
342	SLU 36		12.53	0.2	47.08	-0.1733	0.5637	0.0004
342	SLU 37		12.42	0.2	46.78	-0.1717	0.5587	0.0004
342	SLU 38		12.41	0.2	46.73	-0.1715	0.5583	0.0004
342	SLU 39		12.67	0.2	47.09	-0.175	0.5702	0.0005
342	SLU 40		12.66	0.2	47.04	-0.1748	0.5698	0.0005
342	SLU 41		12.89	0.21	47.96	-0.1779	0.5799	0.0005
342	SLU 42		12.88	0.21	47.91	-0.1776	0.5795	0.0005
342	SLU 43		11.02	0.18	44.64	-0.1556	0.497	0.0004
342	SLU 44		11.01	0.18	44.56	-0.1552	0.4964	0.0004
342	SLU 45		11.36	0.19	45.86	-0.1602	0.5121	0.0004
342	SLU 46		11.35	0.19	45.81	-0.1599	0.5117	0.0004
342	SLU 47		11.22	0.18	45.43	-0.158	0.506	0.0004
342	SLU 48		11.57	0.19	46.73	-0.163	0.5217	0.0004
342	SLU 49		11.57	0.19	46.69	-0.1628	0.5213	0.0004
342	SLU 50		11.46	0.19	46.38	-0.1613	0.5163	0.0004
342	SLU 51		11.45	0.19	46.34	-0.161	0.5159	0.0004
342	SLU 52		12.61	0.2	49.34	-0.1761	0.5683	0.0005
342	SLU 53		12.96	0.21	50.64	-0.1811	0.584	0.0005
342	SLU 54		12.95	0.21	50.59	-0.1808	0.5836	0.0005
342	SLU 55		12.83	0.21	50.21	-0.1789	0.5779	0.0005
342	SLU 56		13.18	0.21	51.51	-0.1839	0.5936	0.0005
342	SLU 57		13.17	0.21	51.47	-0.1837	0.5932	0.0005
342	SLU 58		13.06	0.21	51.16	-0.1822	0.5882	0.0005
342	SLU 59		13.05	0.21	51.12	-0.1819	0.5878	0.0005
342	SLU 60		13.31	0.22	51.47	-0.1854	0.5997	0.0005
342	SLU 61		13.3	0.21	51.42	-0.1852	0.5993	0.0005
342	SLU 62		13.53	0.22	52.34	-0.1883	0.6093	0.0005
342	SLU 63		13.52	0.22	52.29	-0.188	0.6089	0.0005
342	SLU 64		12.52	0.2	49.33	-0.1757	0.5645	0.0005
342	SLU 65		12.51	0.2	49.25	-0.1754	0.5638	0.0005
342	SLU 66		12.86	0.21	50.55	-0.1803	0.5795	0.0005
342	SLU 67		12.85	0.21	50.5	-0.1801	0.5791	0.0005
342	SLU 68		12.73	0.21	50.12	-0.1782	0.5735	0.0005
342	SLU 69		13.08	0.21	51.42	-0.1832	0.5892	0.0005
342	SLU 70		13.07	0.21	51.37	-0.1829	0.5888	0.0005
342	SLU 71		12.96	0.21	51.07	-0.1814	0.5837	0.0005
342	SLU 72		12.95	0.21	51.02	-0.1812	0.5833	0.0005
342	SLU 73		14.11	0.23	54.03	-0.1963	0.6357	0.0005
342	SLU 74		14.46	0.23	55.33	-0.2012	0.6514	0.0005
342	SLU 75		14.46	0.23	55.28	-0.201	0.651	0.0005
342	SLU 76		14.33	0.23	54.9	-0.1991	0.6453	0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
342	SLU 77		14.68	0.24	56.2	-0.2041	0.661	0.0005
342	SLU 78		14.67	0.24	56.15	-0.2038	0.6606	0.0005
342	SLU 79		14.56	0.23	55.85	-0.2023	0.6556	0.0005
342	SLU 80		14.56	0.23	55.8	-0.2021	0.6552	0.0005
342	SLU 81		14.82	0.24	56.15	-0.2056	0.6672	0.0005
342	SLU 82		14.81	0.24	56.11	-0.2054	0.6668	0.0005
342	SLU 83		15.03	0.24	57.02	-0.2084	0.6768	0.0005
342	SLU 84		15.03	0.24	56.98	-0.2082	0.6764	0.0005
342	SLE RA 1		9.3	0.15	36.91	-0.1307	0.4194	0.0003
342	SLE RA 2		9.29	0.15	36.86	-0.1305	0.419	0.0003
342	SLE RA 3		9.53	0.16	37.73	-0.1338	0.4294	0.0003
342	SLE RA 4		9.52	0.16	37.7	-0.1337	0.4292	0.0003
342	SLE RA 5		9.44	0.15	37.44	-0.1324	0.4254	0.0003
342	SLE RA 6		9.67	0.16	38.31	-0.1357	0.4358	0.0003
342	SLE RA 7		9.67	0.16	38.28	-0.1356	0.4356	0.0003
342	SLE RA 8		9.59	0.16	38.07	-0.1345	0.4322	0.0003
342	SLE RA 9		9.59	0.16	38.04	-0.1344	0.432	0.0003
342	SLE RA 10		10.36	0.17	40.05	-0.1444	0.4669	0.0004
342	SLE RA 11		10.6	0.17	40.91	-0.1477	0.4773	0.0004
342	SLE RA 12		10.59	0.17	40.88	-0.1476	0.4771	0.0004
342	SLE RA 13		10.51	0.17	40.63	-0.1463	0.4733	0.0004
342	SLE RA 14		10.74	0.17	41.49	-0.1496	0.4838	0.0004
342	SLE RA 15		10.74	0.17	41.46	-0.1495	0.4835	0.0004
342	SLE RA 16		10.66	0.17	41.26	-0.1485	0.4801	0.0004
342	SLE RA 17		10.66	0.17	41.23	-0.1483	0.4799	0.0004
342	SLE RA 18		10.83	0.17	41.46	-0.1507	0.4878	0.0004
342	SLE RA 19		10.83	0.17	41.43	-0.1505	0.4876	0.0004
342	SLE RA 20		10.98	0.18	42.05	-0.1526	0.4943	0.0004
342	SLE RA 21		10.97	0.18	42.01	-0.1524	0.494	0.0004
342	SLE FR 1		9.3	0.15	36.91	-0.1307	0.4194	0.0003
342	SLE FR 2		9.3	0.15	36.9	-0.1307	0.4193	0.0003
342	SLE FR 3		9.36	0.15	37.15	-0.1315	0.422	0.0003
342	SLE FR 4		9.76	0.16	38.27	-0.1367	0.4398	0.0004
342	SLE FR 5		9.82	0.16	38.51	-0.1375	0.4425	0.0004
342	SLE FR 6		10.07	0.16	39.19	-0.1407	0.4536	0.0004
342	SLE QP 1		9.3	0.15	36.91	-0.1307	0.4194	0.0003
342	SLE QP 2		9.76	0.16	38.28	-0.1367	0.4399	0.0004
342	SLD 1		14.43	0.05	39.14	-0.066	0.6465	0.0004
342	SLD 2		14.43	0.05	39.14	-0.066	0.6465	0.0004
342	SLD 3		15.59	0.15	42.88	-0.1297	0.6982	0.0006
342	SLD 4		15.59	0.15	42.88	-0.1297	0.6982	0.0006
342	SLD 5		9.39	-0.01	32.86	-0.0189	0.4235	0
342	SLD 6		9.39	-0.01	32.86	-0.0189	0.4235	0
342	SLD 7		13.28	0.3	45.34	-0.2312	0.5958	0.0008
342	SLD 8		13.28	0.3	45.34	-0.2312	0.5958	0.0008
342	SLD 9		6.24	0.02	31.22	-0.0422	0.2841	-0.0001
342	SLD 10		6.24	0.02	31.22	-0.0422	0.2841	-0.0001
342	SLD 11		10.13	0.33	43.7	-0.2545	0.4563	0.0007
342	SLD 12		10.13	0.33	43.7	-0.2545	0.4563	0.0007
342	SLD 13		3.93	0.17	33.68	-0.1437	0.1817	0.0001
342	SLD 14		3.93	0.17	33.68	-0.1437	0.1817	0.0001
342	SLD 15		5.1	0.26	37.42	-0.2074	0.2334	0.0003
342	SLD 16		5.1	0.26	37.42	-0.2074	0.2334	0.0003
342	SLV 1		20.61	-0.1	40.26	0.0357	0.9205	0.0004
342	SLV 2		20.61	-0.1	40.26	0.0357	0.9205	0.0004
342	SLV 3		23.38	0.12	49.11	-0.1166	1.0432	0.0011
342	SLV 4		23.38	0.12	49.11	-0.1166	1.0432	0.0011
342	SLV 5		8.81	-0.26	25.45	0.1459	0.3979	-0.0006
342	SLV 6		8.81	-0.26	25.45	0.1459	0.3979	-0.0006
342	SLV 7		18.05	0.49	54.95	-0.3616	0.8071	0.0015
342	SLV 8		18.05	0.49	54.95	-0.3616	0.8071	0.0015
342	SLV 9		1.47	-0.17	21.61	0.0881	0.0728	-0.0008
342	SLV 10		1.47	-0.17	21.61	0.0881	0.0728	-0.0008
342	SLV 11		10.71	0.57	51.11	-0.4193	0.4819	0.0013
342	SLV 12		10.71	0.57	51.11	-0.4193	0.4819	0.0013
342	SLV 13		-3.86	0.19	27.45	-0.1569	-0.1633	-0.0004
342	SLV 14		-3.86	0.19	27.45	-0.1569	-0.1633	-0.0004
342	SLV 15		-1.09	0.42	36.3	-0.3091	-0.0406	0.0003
342	SLV 16		-1.09	0.42	36.3	-0.3091	-0.0406	0.0003
343	SLU 1		7.27	0	39.5	-0.0573	0.2681	-0.0001
343	SLU 2		7.26	0	39.42	-0.0571	0.2677	-0.0001
343	SLU 3		7.55	0	40.91	-0.059	0.2779	-0.0001
343	SLU 4		7.54	0	40.86	-0.0589	0.2776	-0.0001
343	SLU 5		7.44	0	40.44	-0.058	0.274	-0.0001
343	SLU 6		7.73	0	41.93	-0.0599	0.2841	-0.0001
343	SLU 7		7.72	0	41.88	-0.0598	0.2839	-0.0001
343	SLU 8		7.63	0	41.54	-0.0591	0.2805	-0.0001
343	SLU 9		7.62	0	41.49	-0.059	0.2803	-0.0001
343	SLU 10		8.62	0	44.89	-0.0669	0.3188	-0.0001
343	SLU 11		8.91	0	46.39	-0.0689	0.329	-0.0001
343	SLU 12		8.9	0	46.34	-0.0688	0.3288	-0.0001
343	SLU 13		8.8	0	45.91	-0.0678	0.3251	-0.0001
343	SLU 14		9.09	0	47.41	-0.0698	0.3352	-0.0001
343	SLU 15		9.08	0	47.36	-0.0697	0.335	-0.0001
343	SLU 16		8.99	0	47.02	-0.0689	0.3317	-0.0001
343	SLU 17		8.99	0	46.97	-0.0688	0.3314	-0.0001
343	SLU 18		9.22	0	47.33	-0.0713	0.3411	-0.0001
343	SLU 19		9.21	0	47.28	-0.0712	0.3409	-0.0001
343	SLU 20		9.4	0	48.35	-0.0722	0.3473	-0.0001
343	SLU 21		9.39	0	48.3	-0.0721	0.3471	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
343	SLU 22		8.53	0	44.87	-0.0665	0.315	-0.0001
343	SLU 23		8.52	0	44.78	-0.0663	0.3146	-0.0001
343	SLU 24		8.81	0	46.28	-0.0683	0.3248	-0.0001
343	SLU 25		8.8	0	46.23	-0.0682	0.3245	-0.0001
343	SLU 26		8.7	0	45.8	-0.0672	0.3208	-0.0001
343	SLU 27		8.99	0	47.3	-0.0692	0.331	-0.0001
343	SLU 28		8.98	0	47.25	-0.0691	0.3308	-0.0001
343	SLU 29		8.89	0	46.91	-0.0683	0.3274	-0.0001
343	SLU 30		8.89	0	46.86	-0.0682	0.3272	-0.0001
343	SLU 31		9.89	0	50.26	-0.0762	0.3657	-0.0001
343	SLU 32		10.17	0	51.76	-0.0781	0.3759	-0.0001
343	SLU 33		10.16	0	51.71	-0.078	0.3757	-0.0001
343	SLU 34		10.06	0	51.28	-0.0771	0.372	-0.0001
343	SLU 35		10.35	0	52.78	-0.079	0.3821	-0.0001
343	SLU 36		10.34	0	52.73	-0.0789	0.3819	-0.0001
343	SLU 37		10.26	0	52.39	-0.0782	0.3786	-0.0001
343	SLU 38		10.25	0	52.34	-0.078	0.3783	-0.0001
343	SLU 39		10.48	0	52.7	-0.0806	0.388	-0.0001
343	SLU 40		10.47	0	52.65	-0.0805	0.3878	-0.0001
343	SLU 41		10.66	0	53.72	-0.0815	0.3942	-0.0001
343	SLU 42		10.65	0	53.67	-0.0814	0.394	-0.0001
343	SLU 43		9.02	0	49.52	-0.0713	0.3324	-0.0001
343	SLU 44		9.01	0	49.43	-0.0711	0.3321	-0.0001
343	SLU 45		9.29	0	50.93	-0.0731	0.3422	-0.0001
343	SLU 46		9.29	0	50.87	-0.073	0.342	-0.0001
343	SLU 47		9.19	0	50.45	-0.072	0.3383	-0.0001
343	SLU 48		9.47	0	51.95	-0.074	0.3485	-0.0001
343	SLU 49		9.47	0	51.89	-0.0739	0.3482	-0.0001
343	SLU 50		9.38	0	51.56	-0.0731	0.3449	-0.0001
343	SLU 51		9.37	0	51.5	-0.073	0.3447	-0.0001
343	SLU 52		10.37	0	54.91	-0.0809	0.3832	-0.0001
343	SLU 53		10.66	0	56.4	-0.0829	0.3933	-0.0001
343	SLU 54		10.65	0	56.35	-0.0828	0.3931	-0.0001
343	SLU 55		10.55	0	55.93	-0.0818	0.3894	-0.0001
343	SLU 56		10.84	0	57.42	-0.0838	0.3996	-0.0001
343	SLU 57		10.83	0	57.37	-0.0837	0.3994	-0.0001
343	SLU 58		10.74	0	57.03	-0.0829	0.396	-0.0001
343	SLU 59		10.73	0	56.98	-0.0828	0.3958	-0.0001
343	SLU 60		10.97	0	57.34	-0.0853	0.4055	-0.0001
343	SLU 61		10.96	0	57.29	-0.0852	0.4053	-0.0001
343	SLU 62		11.15	0	58.36	-0.0862	0.4117	-0.0001
343	SLU 63		11.14	0	58.31	-0.0861	0.4115	-0.0001
343	SLU 64		10.28	0	54.88	-0.0805	0.3793	-0.0001
343	SLU 65		10.27	0	54.8	-0.0804	0.379	-0.0001
343	SLU 66		10.56	0	56.29	-0.0823	0.3891	-0.0001
343	SLU 67		10.55	0	56.24	-0.0822	0.3889	-0.0001
343	SLU 68		10.45	0	55.81	-0.0813	0.3852	-0.0001
343	SLU 69		10.74	0	57.31	-0.0832	0.3953	-0.0001
343	SLU 70		10.73	0	57.26	-0.0831	0.3951	-0.0001
343	SLU 71		10.64	0	56.92	-0.0823	0.3918	-0.0001
343	SLU 72		10.63	0	56.87	-0.0822	0.3916	-0.0001
343	SLU 73		11.63	0	60.27	-0.0902	0.4301	-0.0001
343	SLU 74		11.92	0	61.77	-0.0921	0.4402	-0.0001
343	SLU 75		11.91	0	61.72	-0.092	0.44	-0.0001
343	SLU 76		11.81	0	61.29	-0.0911	0.4363	-0.0001
343	SLU 77		12.1	0	62.79	-0.093	0.4465	-0.0001
343	SLU 78		12.09	0	62.74	-0.0929	0.4462	-0.0001
343	SLU 79		12	0	62.4	-0.0922	0.4429	-0.0001
343	SLU 80		12	0	62.35	-0.0921	0.4427	-0.0001
343	SLU 81		12.23	0	62.71	-0.0946	0.4524	-0.0001
343	SLU 82		12.22	0	62.66	-0.0945	0.4521	-0.0001
343	SLU 83		12.41	0	63.73	-0.0955	0.4586	-0.0001
343	SLU 84		12.4	0	63.68	-0.0954	0.4584	-0.0001
343	SLE RA 1		7.63	0	41.04	-0.0599	0.2815	-0.0001
343	SLE RA 2		7.62	0	40.98	-0.0598	0.2812	-0.0001
343	SLE RA 3		7.81	0	41.98	-0.0611	0.288	-0.0001
343	SLE RA 4		7.81	0	41.94	-0.061	0.2879	-0.0001
343	SLE RA 5		7.74	0	41.66	-0.0604	0.2854	-0.0001
343	SLE RA 6		7.93	0	42.66	-0.0617	0.2922	-0.0001
343	SLE RA 7		7.93	0	42.62	-0.0616	0.292	-0.0001
343	SLE RA 8		7.87	0	42.4	-0.0611	0.2898	-0.0001
343	SLE RA 9		7.87	0	42.36	-0.061	0.2896	-0.0001
343	SLE RA 10		8.53	0	44.63	-0.0664	0.3153	-0.0001
343	SLE RA 11		8.72	0	45.63	-0.0677	0.3221	-0.0001
343	SLE RA 12		8.72	0	45.6	-0.0676	0.3219	-0.0001
343	SLE RA 13		8.65	0	45.31	-0.067	0.3195	-0.0001
343	SLE RA 14		8.84	0	46.31	-0.0683	0.3262	-0.0001
343	SLE RA 15		8.84	0	46.28	-0.0682	0.3261	-0.0001
343	SLE RA 16		8.78	0	46.05	-0.0677	0.3239	-0.0001
343	SLE RA 17		8.78	0	46.01	-0.0676	0.3237	-0.0001
343	SLE RA 18		8.93	0	46.26	-0.0693	0.3302	-0.0001
343	SLE RA 19		8.93	0	46.22	-0.0692	0.33	-0.0001
343	SLE RA 20		9.05	0	46.94	-0.0699	0.3343	-0.0001
343	SLE RA 21		9.04	0	46.9	-0.0698	0.3342	-0.0001
343	SLE FR 1		7.63	0	41.04	-0.0599	0.2815	-0.0001
343	SLE FR 2		7.63	0	41.03	-0.0599	0.2814	-0.0001
343	SLE FR 3		7.68	0	41.31	-0.0602	0.2831	-0.0001
343	SLE FR 4		8.02	0	42.59	-0.0627	0.296	-0.0001
343	SLE FR 5		8.07	0	42.88	-0.063	0.2978	-0.0001
343	SLE FR 6		8.28	0	43.65	-0.0646	0.3058	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
343	SLE QP 1		7.63	0	41.04	-0.0599	0.2815	-0.0001
343	SLE QP 2		8.02	0	42.6	-0.0627	0.2961	-0.0001
343	SLD 1		12.43	0.01	43.11	-0.0083	0.4906	-0.0001
343	SLD 2		12.43	0.01	43.11	-0.0083	0.4906	-0.0001
343	SLD 3		13.5	0.1	47.26	-0.0574	0.5324	0.0001
343	SLD 4		13.5	0.1	47.26	-0.0574	0.5324	0.0001
343	SLD 5		7.73	-0.12	36.46	0.028	0.291	-0.0003
343	SLD 6		7.73	-0.12	36.46	0.028	0.291	-0.0003
343	SLD 7		11.28	0.16	50.29	-0.1356	0.4304	0.0003
343	SLD 8		11.28	0.16	50.29	-0.1356	0.4304	0.0003
343	SLD 9		4.76	-0.16	34.91	0.0101	0.1618	-0.0004
343	SLD 10		4.76	-0.16	34.91	0.0101	0.1618	-0.0004
343	SLD 11		8.32	0.12	48.74	-0.1535	0.3012	0.0002
343	SLD 12		8.32	0.12	48.74	-0.1535	0.3012	0.0002
343	SLD 13		2.55	-0.1	37.94	-0.068	0.0598	-0.0003
343	SLD 14		2.55	-0.1	37.94	-0.068	0.0598	-0.0003
343	SLD 15		3.61	-0.02	42.09	-0.1171	0.1016	-0.0001
343	SLD 16		3.61	-0.02	42.09	-0.1171	0.1016	-0.0001
343	SLV 1		18.28	0.04	43.75	0.0708	0.7485	0
343	SLV 2		18.28	0.04	43.75	0.0708	0.7485	0
343	SLV 3		20.81	0.24	53.56	-0.0467	0.8478	0.0004
343	SLV 4		20.81	0.24	53.56	-0.0467	0.8478	0.0004
343	SLV 5		7.26	-0.29	28.06	0.1556	0.2812	-0.0007
343	SLV 6		7.26	-0.29	28.06	0.1556	0.2812	-0.0007
343	SLV 7		15.69	0.38	60.78	-0.2362	0.6122	0.0008
343	SLV 8		15.69	0.38	60.78	-0.2362	0.6122	0.0008
343	SLV 9		0.35	-0.38	24.43	0.1107	-0.02	-0.0009
343	SLV 10		0.35	-0.38	24.43	0.1107	-0.02	-0.0009
343	SLV 11		8.78	0.29	57.15	-0.281	0.311	0.0006
343	SLV 12		8.78	0.29	57.15	-0.281	0.311	0.0006
343	SLV 13		-4.76	-0.24	31.64	-0.0787	-0.2556	-0.0006
343	SLV 14		-4.76	-0.24	31.64	-0.0787	-0.2556	-0.0006
343	SLV 15		-2.24	-0.04	41.46	-0.1963	-0.1563	-0.0001
343	SLV 16		-2.24	-0.04	41.46	-0.1963	-0.1563	-0.0001
344	SLU 1		6.09	-0.19	43.08	0.009	0.269	-0.0004
344	SLU 2		6.08	-0.19	42.99	0.009	0.2685	-0.0004
344	SLU 3		6.31	-0.2	44.68	0.01	0.2787	-0.0004
344	SLU 4		6.31	-0.2	44.63	0.01	0.2784	-0.0004
344	SLU 5		6.22	-0.19	44.16	0.0101	0.2747	-0.0004
344	SLU 6		6.46	-0.2	45.86	0.0111	0.2849	-0.0005
344	SLU 7		6.45	-0.2	45.8	0.0111	0.2846	-0.0005
344	SLU 8		6.38	-0.2	45.44	0.0112	0.2813	-0.0005
344	SLU 9		6.37	-0.2	45.38	0.0112	0.2811	-0.0005
344	SLU 10		7.26	-0.22	49.12	0.0099	0.3203	-0.0005
344	SLU 11		7.49	-0.23	50.81	0.011	0.3304	-0.0005
344	SLU 12		7.49	-0.23	50.76	0.011	0.3302	-0.0005
344	SLU 13		7.41	-0.22	50.29	0.011	0.3264	-0.0005
344	SLU 14		7.64	-0.23	51.99	0.0121	0.3366	-0.0005
344	SLU 15		7.63	-0.23	51.93	0.0121	0.3363	-0.0005
344	SLU 16		7.56	-0.23	51.57	0.0121	0.333	-0.0005
344	SLU 17		7.56	-0.23	51.51	0.0121	0.3328	-0.0005
344	SLU 18		7.78	-0.23	51.84	0.0103	0.3429	-0.0005
344	SLU 19		7.77	-0.23	51.78	0.0103	0.3426	-0.0005
344	SLU 20		7.92	-0.24	53.02	0.0114	0.349	-0.0005
344	SLU 21		7.92	-0.24	52.96	0.0114	0.3488	-0.0005
344	SLU 22		7.17	-0.22	49.09	0.0104	0.3164	-0.0005
344	SLU 23		7.16	-0.22	49	0.0104	0.3159	-0.0005
344	SLU 24		7.39	-0.23	50.69	0.0114	0.3261	-0.0005
344	SLU 25		7.39	-0.23	50.64	0.0114	0.3258	-0.0005
344	SLU 26		7.31	-0.22	50.18	0.0115	0.3221	-0.0005
344	SLU 27		7.54	-0.23	51.87	0.0125	0.3322	-0.0005
344	SLU 28		7.53	-0.23	51.81	0.0125	0.332	-0.0005
344	SLU 29		7.46	-0.23	51.45	0.0126	0.3287	-0.0005
344	SLU 30		7.46	-0.23	51.39	0.0126	0.3284	-0.0005
344	SLU 31		8.34	-0.25	55.13	0.0113	0.3676	-0.0006
344	SLU 32		8.58	-0.26	56.82	0.0124	0.3778	-0.0006
344	SLU 33		8.57	-0.26	56.77	0.0124	0.3775	-0.0006
344	SLU 34		8.49	-0.25	56.31	0.0124	0.3738	-0.0006
344	SLU 35		8.72	-0.26	58	0.0135	0.384	-0.0006
344	SLU 36		8.72	-0.26	57.94	0.0135	0.3837	-0.0006
344	SLU 37		8.65	-0.26	57.58	0.0135	0.3804	-0.0006
344	SLU 38		8.64	-0.26	57.52	0.0135	0.3801	-0.0006
344	SLU 39		8.86	-0.26	57.85	0.0118	0.3902	-0.0006
344	SLU 40		8.85	-0.26	57.79	0.0118	0.39	-0.0006
344	SLU 41		9	-0.27	59.03	0.0128	0.3964	-0.0006
344	SLU 42		9	-0.27	58.97	0.0128	0.3961	-0.0006
344	SLU 43		7.54	-0.23	53.95	0.0112	0.3334	-0.0005
344	SLU 44		7.53	-0.23	53.85	0.0112	0.333	-0.0005
344	SLU 45		7.77	-0.24	55.55	0.0122	0.3432	-0.0006
344	SLU 46		7.76	-0.24	55.49	0.0122	0.3429	-0.0006
344	SLU 47		7.68	-0.24	55.03	0.0123	0.3392	-0.0006
344	SLU 48		7.91	-0.25	56.72	0.0133	0.3493	-0.0006
344	SLU 49		7.91	-0.25	56.67	0.0133	0.3491	-0.0006
344	SLU 50		7.83	-0.25	56.3	0.0134	0.3458	-0.0006
344	SLU 51		7.83	-0.25	56.24	0.0134	0.3455	-0.0006
344	SLU 52		8.71	-0.26	59.98	0.0121	0.3847	-0.0006
344	SLU 53		8.95	-0.27	61.68	0.0132	0.3949	-0.0006
344	SLU 54		8.94	-0.27	61.62	0.0132	0.3946	-0.0006
344	SLU 55		8.86	-0.27	61.16	0.0132	0.3909	-0.0006
344	SLU 56		9.1	-0.28	62.85	0.0143	0.401	-0.0006



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
344	SLU 57		9.09	-0.28	62.8	0.0143	0.4008	-0.0006
344	SLU 58		9.02	-0.28	62.43	0.0143	0.3975	-0.0006
344	SLU 59		9.01	-0.28	62.37	0.0143	0.3972	-0.0006
344	SLU 60		9.23	-0.28	62.71	0.0125	0.4073	-0.0006
344	SLU 61		9.22	-0.28	62.65	0.0125	0.4071	-0.0006
344	SLU 62		9.38	-0.28	63.88	0.0136	0.4135	-0.0006
344	SLU 63		9.37	-0.28	63.82	0.0136	0.4132	-0.0006
344	SLU 64		8.62	-0.26	59.96	0.0126	0.3808	-0.0006
344	SLU 65		8.61	-0.26	59.86	0.0126	0.3804	-0.0006
344	SLU 66		8.85	-0.27	61.56	0.0136	0.3905	-0.0006
344	SLU 67		8.84	-0.27	61.5	0.0136	0.3903	-0.0006
344	SLU 68		8.76	-0.27	61.04	0.0137	0.3865	-0.0006
344	SLU 69		9	-0.28	62.74	0.0147	0.3967	-0.0006
344	SLU 70		8.99	-0.28	62.68	0.0147	0.3964	-0.0006
344	SLU 71		8.92	-0.28	62.31	0.0148	0.3931	-0.0006
344	SLU 72		8.91	-0.28	62.26	0.0148	0.3929	-0.0006
344	SLU 73		9.8	-0.29	65.99	0.0135	0.4321	-0.0007
344	SLU 74		10.03	-0.3	67.69	0.0146	0.4422	-0.0007
344	SLU 75		10.02	-0.3	67.63	0.0146	0.442	-0.0007
344	SLU 76		9.94	-0.3	67.17	0.0146	0.4382	-0.0007
344	SLU 77		10.18	-0.31	68.87	0.0157	0.4484	-0.0007
344	SLU 78		10.17	-0.31	68.81	0.0157	0.4481	-0.0007
344	SLU 79		10.1	-0.31	68.44	0.0157	0.4449	-0.0007
344	SLU 80		10.09	-0.31	68.39	0.0157	0.4446	-0.0007
344	SLU 81		10.31	-0.31	68.72	0.014	0.4547	-0.0007
344	SLU 82		10.31	-0.31	68.66	0.014	0.4544	-0.0007
344	SLU 83		10.46	-0.31	69.89	0.0151	0.4609	-0.0007
344	SLU 84		10.45	-0.31	69.84	0.0151	0.4606	-0.0007
344	SLE RA 1		6.4	-0.2	44.8	0.0094	0.2825	-0.0004
344	SLE RA 2		6.39	-0.2	44.74	0.0094	0.2822	-0.0004
344	SLE RA 3		6.55	-0.2	45.87	0.0101	0.289	-0.0005
344	SLE RA 4		6.54	-0.2	45.83	0.0101	0.2888	-0.0005
344	SLE RA 5		6.49	-0.2	45.52	0.0101	0.2863	-0.0005
344	SLE RA 6		6.64	-0.21	46.65	0.0108	0.2931	-0.0005
344	SLE RA 7		6.64	-0.21	46.61	0.0108	0.2929	-0.0005
344	SLE RA 8		6.59	-0.21	46.37	0.0108	0.2907	-0.0005
344	SLE RA 9		6.59	-0.21	46.33	0.0108	0.2906	-0.0005
344	SLE RA 10		7.18	-0.22	48.82	0.01	0.3167	-0.0005
344	SLE RA 11		7.33	-0.22	49.95	0.0107	0.3235	-0.0005
344	SLE RA 12		7.33	-0.22	49.92	0.0107	0.3233	-0.0005
344	SLE RA 13		7.28	-0.22	49.61	0.0107	0.3208	-0.0005
344	SLE RA 14		7.43	-0.23	50.74	0.0114	0.3276	-0.0005
344	SLE RA 15		7.43	-0.23	50.7	0.0114	0.3274	-0.0005
344	SLE RA 16		7.38	-0.22	50.46	0.0115	0.3252	-0.0005
344	SLE RA 17		7.38	-0.22	50.42	0.0115	0.325	-0.0005
344	SLE RA 18		7.52	-0.22	50.64	0.0103	0.3318	-0.0005
344	SLE RA 19		7.52	-0.22	50.6	0.0103	0.3316	-0.0005
344	SLE RA 20		7.62	-0.23	51.42	0.011	0.3359	-0.0005
344	SLE RA 21		7.62	-0.23	51.39	0.011	0.3357	-0.0005
344	SLE FR 1		6.4	-0.2	44.8	0.0094	0.2825	-0.0004
344	SLE FR 2		6.39	-0.2	44.79	0.0094	0.2825	-0.0004
344	SLE FR 3		6.43	-0.2	45.12	0.0097	0.2842	-0.0004
344	SLE FR 4		6.73	-0.2	46.54	0.0096	0.2972	-0.0005
344	SLE FR 5		6.77	-0.21	46.87	0.0099	0.2989	-0.0005
344	SLE FR 6		6.96	-0.21	47.72	0.0098	0.3071	-0.0005
344	SLE QP 1		6.4	-0.2	44.8	0.0094	0.2825	-0.0004
344	SLE QP 2		6.73	-0.2	46.55	0.0096	0.2973	-0.0005
344	SLD 1		11	-0.13	46.44	0.0106	0.487	-0.0003
344	SLD 2		11	-0.13	46.44	0.0106	0.487	-0.0003
344	SLD 3		12	-0.2	51.27	0.0431	0.5287	-0.0004
344	SLD 4		12	-0.2	51.27	0.0431	0.5287	-0.0004
344	SLD 5		6.49	-0.07	39.19	-0.0394	0.291	-0.0002
344	SLD 6		6.49	-0.07	39.19	-0.0394	0.291	-0.0002
344	SLD 7		9.84	-0.31	55.3	0.0691	0.4299	-0.0007
344	SLD 8		9.84	-0.31	55.3	0.0691	0.4299	-0.0007
344	SLD 9		3.63	-0.1	37.81	-0.0498	0.1647	-0.0002
344	SLD 10		3.63	-0.1	37.81	-0.0498	0.1647	-0.0002
344	SLD 11		6.98	-0.34	53.92	0.0587	0.3036	-0.0007
344	SLD 12		6.98	-0.34	53.92	0.0587	0.3036	-0.0007
344	SLD 13		1.46	-0.21	41.83	-0.0238	0.0659	-0.0005
344	SLD 14		1.46	-0.21	41.83	-0.0238	0.0659	-0.0005
344	SLD 15		2.47	-0.28	46.67	0.0087	0.1076	-0.0006
344	SLD 16		2.47	-0.28	46.67	0.0087	0.1076	-0.0006
344	SLV 1		16.66	-0.01	46.22	0.0141	0.7387	0
344	SLV 2		16.66	-0.01	46.22	0.0141	0.7387	0
344	SLV 3		19.03	-0.18	57.66	0.0912	0.8374	-0.0004
344	SLV 4		19.03	-0.18	57.66	0.0912	0.8374	-0.0004
344	SLV 5		6.11	0.11	29.1	-0.106	0.2801	0.0002
344	SLV 6		6.11	0.11	29.1	-0.106	0.2801	0.0002
344	SLV 7		14.02	-0.45	67.24	0.151	0.609	-0.001
344	SLV 8		14.02	-0.45	67.24	0.151	0.609	-0.001
344	SLV 9		-0.56	0.04	25.87	-0.1318	-0.0144	0.0001
344	SLV 10		-0.56	0.04	25.87	-0.1318	-0.0144	0.0001
344	SLV 11		7.35	-0.52	64	0.1253	0.3145	-0.0011
344	SLV 12		7.35	-0.52	64	0.1253	0.3145	-0.0011
344	SLV 13		-5.57	-0.23	35.44	-0.0719	-0.2428	-0.0005
344	SLV 14		-5.57	-0.23	35.44	-0.0719	-0.2428	-0.0005
344	SLV 15		-3.2	-0.4	46.88	0.0052	-0.1441	-0.0009
344	SLV 16		-3.2	-0.4	46.88	0.0052	-0.1441	-0.0009
345	SLU 1		2.71	-8.88	69.18	-4.6533	0.0945	0.0012



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
345	SLU 2		2.71	-8.87	69.04	-4.6448	0.0944	0.0012
345	SLU 3		2.77	-9.31	71.84	-4.8306	0.0961	0.0012
345	SLU 4		2.76	-9.31	71.75	-4.8255	0.0961	0.0012
345	SLU 5		2.72	-9.22	71.01	-4.7725	0.0947	0.0012
345	SLU 6		2.78	-9.66	73.81	-4.9583	0.0964	0.0013
345	SLU 7		2.78	-9.65	73.73	-4.9532	0.0964	0.0013
345	SLU 8		2.75	-9.58	73.13	-4.9087	0.095	0.0012
345	SLU 9		2.74	-9.57	73.04	-4.9036	0.095	0.0012
345	SLU 10		3.35	-10.23	79.21	-5.3464	0.1182	0.0015
345	SLU 11		3.41	-10.68	82.01	-5.5322	0.1199	0.0015
345	SLU 12		3.41	-10.67	81.93	-5.5271	0.1199	0.0015
345	SLU 13		3.37	-10.58	81.18	-5.4741	0.1185	0.0015
345	SLU 14		3.43	-11.03	83.98	-5.6599	0.1202	0.0015
345	SLU 15		3.43	-11.02	83.9	-5.6548	0.1202	0.0015
345	SLU 16		3.4	-10.94	83.3	-5.6104	0.1188	0.0015
345	SLU 17		3.39	-10.93	83.21	-5.6053	0.1188	0.0015
345	SLU 18		3.64	-10.83	83.71	-5.6556	0.1285	0.0016
345	SLU 19		3.63	-10.82	83.63	-5.6505	0.1285	0.0016
345	SLU 20		3.65	-11.18	85.68	-5.7833	0.1287	0.0016
345	SLU 21		3.65	-11.17	85.6	-5.7782	0.1287	0.0016
345	SLU 22		3.24	-10.28	79.17	-5.3426	0.1137	0.0014
345	SLU 23		3.24	-10.27	79.03	-5.3341	0.1136	0.0014
345	SLU 24		3.3	-10.71	81.83	-5.5199	0.1153	0.0015
345	SLU 25		3.3	-10.7	81.74	-5.5148	0.1153	0.0015
345	SLU 26		3.26	-10.61	81	-5.4619	0.1139	0.0015
345	SLU 27		3.32	-11.06	83.8	-5.6477	0.1156	0.0015
345	SLU 28		3.32	-11.05	83.72	-5.6426	0.1156	0.0015
345	SLU 29		3.28	-10.97	83.12	-5.5981	0.1142	0.0015
345	SLU 30		3.28	-10.97	83.03	-5.593	0.1142	0.0015
345	SLU 31		3.89	-11.63	89.2	-6.0357	0.1374	0.0017
345	SLU 32		3.95	-12.08	92	-6.2215	0.1391	0.0018
345	SLU 33		3.95	-12.07	91.92	-6.2164	0.1391	0.0018
345	SLU 34		3.91	-11.98	91.17	-6.1635	0.1377	0.0017
345	SLU 35		3.97	-12.42	93.97	-6.3493	0.1394	0.0018
345	SLU 36		3.97	-12.41	93.89	-6.3442	0.1394	0.0018
345	SLU 37		3.93	-12.34	93.29	-6.2997	0.138	0.0018
345	SLU 38		3.93	-12.33	93.2	-6.2946	0.138	0.0018
345	SLU 39		4.17	-12.23	93.7	-6.3449	0.1477	0.0018
345	SLU 40		4.17	-12.22	93.62	-6.3398	0.1477	0.0018
345	SLU 41		4.19	-12.58	95.67	-6.4727	0.1479	0.0019
345	SLU 42		4.19	-12.57	95.59	-6.4676	0.1479	0.0019
345	SLU 43		3.34	-11.07	86.51	-5.8129	0.1163	0.0015
345	SLU 44		3.33	-11.05	86.37	-5.8044	0.1162	0.0015
345	SLU 45		3.39	-11.5	89.17	-5.9902	0.1179	0.0015
345	SLU 46		3.39	-11.49	89.08	-5.9851	0.1179	0.0015
345	SLU 47		3.35	-11.4	88.34	-5.9321	0.1165	0.0015
345	SLU 48		3.41	-11.85	91.14	-6.1179	0.1182	0.0015
345	SLU 49		3.41	-11.84	91.06	-6.1128	0.1181	0.0015
345	SLU 50		3.37	-11.76	90.46	-6.0684	0.1168	0.0015
345	SLU 51		3.37	-11.75	90.37	-6.0633	0.1168	0.0015
345	SLU 52		3.98	-12.42	96.54	-6.506	0.14	0.0018
345	SLU 53		4.04	-12.86	99.34	-6.6918	0.1417	0.0018
345	SLU 54		4.04	-12.86	99.26	-6.6867	0.1417	0.0018
345	SLU 55		4	-12.77	98.51	-6.6337	0.1403	0.0018
345	SLU 56		4.06	-13.21	101.31	-6.8195	0.142	0.0018
345	SLU 57		4.06	-13.2	101.23	-6.8144	0.1419	0.0018
345	SLU 58		4.02	-13.13	100.63	-6.77	0.1406	0.0018
345	SLU 59		4.02	-13.12	100.54	-6.7649	0.1405	0.0018
345	SLU 60		4.26	-13.02	101.04	-6.8152	0.1502	0.0019
345	SLU 61		4.26	-13.01	100.95	-6.8101	0.1502	0.0019
345	SLU 62		4.28	-13.37	103.01	-6.9429	0.1505	0.0019
345	SLU 63		4.28	-13.36	102.93	-6.9378	0.1505	0.0019
345	SLU 64		3.87	-12.47	96.5	-6.5022	0.1355	0.0017
345	SLU 65		3.87	-12.45	96.36	-6.4938	0.1354	0.0017
345	SLU 66		3.93	-12.9	99.16	-6.6795	0.1371	0.0018
345	SLU 67		3.93	-12.89	99.07	-6.6744	0.1371	0.0018
345	SLU 68		3.89	-12.8	98.33	-6.6215	0.1357	0.0017
345	SLU 69		3.95	-13.24	101.13	-6.8073	0.1374	0.0018
345	SLU 70		3.95	-13.24	101.05	-6.8022	0.1373	0.0018
345	SLU 71		3.91	-13.16	100.45	-6.7577	0.136	0.0018
345	SLU 72		3.91	-13.15	100.36	-6.7526	0.136	0.0018
345	SLU 73		4.52	-13.82	106.53	-7.1954	0.1592	0.002
345	SLU 74		4.58	-14.26	109.33	-7.3812	0.1609	0.002
345	SLU 75		4.58	-14.25	109.25	-7.3761	0.1609	0.002
345	SLU 76		4.54	-14.16	108.5	-7.3231	0.1595	0.002
345	SLU 77		4.6	-14.61	111.3	-7.5089	0.1612	0.0021
345	SLU 78		4.6	-14.6	111.22	-7.5038	0.1611	0.0021
345	SLU 79		4.56	-14.53	110.62	-7.4593	0.1598	0.002
345	SLU 80		4.56	-14.52	110.53	-7.4542	0.1597	0.002
345	SLU 81		4.8	-14.42	111.03	-7.5045	0.1694	0.0021
345	SLU 82		4.8	-14.41	110.94	-7.4994	0.1694	0.0021
345	SLU 83		4.82	-14.76	113	-7.6323	0.1697	0.0021
345	SLU 84		4.82	-14.75	112.92	-7.6272	0.1697	0.0021
345	SLE RA 1		2.86	-9.28	72.04	-4.8502	0.1	0.0013
345	SLE RA 2		2.86	-9.27	71.94	-4.8446	0.0999	0.0013
345	SLE RA 3		2.9	-9.57	73.81	-4.9684	0.1011	0.0013
345	SLE RA 4		2.9	-9.56	73.75	-4.965	0.1011	0.0013
345	SLE RA 5		2.87	-9.5	73.26	-4.9297	0.1001	0.0013
345	SLE RA 6		2.91	-9.8	75.12	-5.0536	0.1013	0.0013
345	SLE RA 7		2.91	-9.8	75.07	-5.0502	0.1012	0.0013



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
345	SLE RA 8		2.89	2.89	-9.75	74.67	-5.0205	0.1003	0.0013
345	SLE RA 9		2.89	2.89	-9.74	74.61	-5.0171	0.1003	0.0013
345	SLE RA 10		3.29	3.29	-10.18	78.72	-5.3123	0.1158	0.0015
345	SLE RA 11		3.33	3.33	-10.48	80.59	-5.4362	0.1169	0.0015
345	SLE RA 12		3.33	3.33	-10.47	80.53	-5.4328	0.1169	0.0015
345	SLE RA 13		3.31	3.31	-10.41	80.04	-5.3975	0.116	0.0015
345	SLE RA 14		3.35	3.35	-10.71	81.91	-5.5213	0.1171	0.0015
345	SLE RA 15		3.34	3.34	-10.71	81.85	-5.5179	0.1171	0.0015
345	SLE RA 16		3.32	3.32	-10.66	81.45	-5.4883	0.1162	0.0015
345	SLE RA 17		3.32	3.32	-10.65	81.39	-5.4849	0.1162	0.0015
345	SLE RA 18		3.48	3.48	-10.58	81.72	-5.5184	0.1226	0.0015
345	SLE RA 19		3.48	3.48	-10.58	81.67	-5.515	0.1226	0.0015
345	SLE RA 20		3.49	3.49	-10.81	83.04	-5.6036	0.1228	0.0016
345	SLE RA 21		3.49	3.49	-10.81	82.98	-5.6002	0.1228	0.0016
345	SLE FR 1		2.86	2.86	-9.28	72.04	-4.8502	0.1	0.0013
345	SLE FR 2		2.86	2.86	-9.28	72.02	-4.8491	0.1	0.0013
345	SLE FR 3		2.87	2.87	-9.37	72.56	-4.8843	0.1	0.0013
345	SLE FR 4		3.05	3.05	-9.67	74.92	-5.0495	0.1068	0.0014
345	SLE FR 5		3.05	3.05	-9.76	75.47	-5.0847	0.1068	0.0014
345	SLE FR 6		3.17	3.17	-9.93	76.88	-5.1843	0.1113	0.0014
345	SLE QP 1		2.86	2.86	-9.28	72.04	-4.8502	0.1	0.0013
345	SLE QP 2		3.05	3.05	-9.67	74.94	-5.0507	0.1068	0.0014
345	SLD 1		7.55	7.55	-8.86	73.14	-4.8612	0.3027	0.0045
345	SLD 2		7.55	7.55	-8.86	73.14	-4.8612	0.3027	0.0045
345	SLD 3		8.09	8.09	-12.36	83.21	-5.7158	0.3293	0.0019
345	SLD 4		8.09	8.09	-12.36	83.21	-5.7158	0.3293	0.0019
345	SLD 5		3.57	3.57	-4.12	59.13	-3.6978	0.1252	0.0063
345	SLD 6		3.57	3.57	-4.12	59.13	-3.6978	0.1252	0.0063
345	SLD 7		5.39	5.39	-15.79	92.69	-6.5463	0.2139	-0.0025
345	SLD 8		5.39	5.39	-15.79	92.69	-6.5463	0.2139	-0.0025
345	SLD 9		0.71	0.71	-3.56	57.19	-3.5551	-0.0003	0.0052
345	SLD 10		0.71	0.71	-3.56	57.19	-3.5551	-0.0003	0.0052
345	SLD 11		2.52	2.52	-15.23	90.75	-6.4036	0.0884	-0.0036
345	SLD 12		2.52	2.52	-15.23	90.75	-6.4036	0.0884	-0.0036
345	SLD 13		-2	-2	-6.99	66.68	-4.3856	-0.1157	0.0008
345	SLD 14		-2	-2	-6.99	66.68	-4.3856	-0.1157	0.0008
345	SLD 15		-1.45	-1.45	-10.49	76.74	-5.2401	-0.0891	-0.0018
345	SLD 16		-1.45	-1.45	-10.49	76.74	-5.2401	-0.0891	-0.0018
345	SLV 1		13.51	13.51	-7.74	70.62	-4.5989	0.562	0.0089
345	SLV 2		13.51	13.51	-7.74	70.62	-4.5989	0.562	0.0089
345	SLV 3		14.82	14.82	-16	94.45	-6.6204	0.6266	0.0026
345	SLV 4		14.82	14.82	-16	94.45	-6.6204	0.6266	0.0026
345	SLV 5		4.19	4.19	3.44	37.51	-1.8491	0.1453	0.0133
345	SLV 6		4.19	4.19	3.44	37.51	-1.8491	0.1453	0.0133
345	SLV 7		8.58	8.58	-24.11	116.94	-8.5876	0.3607	-0.0079
345	SLV 8		8.58	8.58	-24.11	116.94	-8.5876	0.3607	-0.0079
345	SLV 9		-2.48	-2.48	4.76	32.95	-1.5138	-0.1472	0.0106
345	SLV 10		-2.48	-2.48	4.76	32.95	-1.5138	-0.1472	0.0106
345	SLV 11		1.9	1.9	-22.79	112.38	-8.2522	0.0682	-0.0105
345	SLV 12		1.9	1.9	-22.79	112.38	-8.2522	0.0682	-0.0105
345	SLV 13		-8.73	-8.73	-3.34	55.44	-3.481	-0.413	0.0001
345	SLV 14		-8.73	-8.73	-3.34	55.44	-3.481	-0.413	0.0001
345	SLV 15		-7.41	-7.41	-11.61	79.26	-5.5025	-0.3484	-0.0062
345	SLV 16		-7.41	-7.41	-11.61	79.26	-5.5025	-0.3484	-0.0062
346	SLU 1		0.07	0.07	-0.19	46.56	0.0069	0.0428	0.0005
346	SLU 2		0.07	0.07	-0.19	46.45	0.007	0.0428	0.0005
346	SLU 3		-0.01	-0.01	-0.2	48.28	0.0076	0.0415	0.0006
346	SLU 4		-0.01	-0.01	-0.2	48.21	0.0076	0.0415	0.0006
346	SLU 5		-0.02	-0.02	-0.2	47.73	0.0077	0.0406	0.0006
346	SLU 6		-0.1	-0.1	-0.21	49.55	0.0083	0.0392	0.0006
346	SLU 7		-0.1	-0.1	-0.21	49.49	0.0083	0.0392	0.0006
346	SLU 8		-0.11	-0.11	-0.2	49.1	0.0083	0.0383	0.0006
346	SLU 9		-0.11	-0.11	-0.2	49.04	0.0084	0.0383	0.0006
346	SLU 10		0.29	0.29	-0.22	53.28	0.008	0.0583	0.0006
346	SLU 11		0.21	0.21	-0.23	55.11	0.0086	0.0569	0.0006
346	SLU 12		0.21	0.21	-0.23	55.04	0.0087	0.0569	0.0006
346	SLU 13		0.2	0.2	-0.23	54.56	0.0087	0.056	0.0006
346	SLU 14		0.12	0.12	-0.24	56.38	0.0093	0.0547	0.0007
346	SLU 15		0.13	0.13	-0.24	56.32	0.0094	0.0547	0.0007
346	SLU 16		0.11	0.11	-0.23	55.94	0.0094	0.0538	0.0007
346	SLU 17		0.12	0.12	-0.23	55.87	0.0094	0.0538	0.0007
346	SLU 18		0.38	0.38	-0.23	56.31	0.0085	0.0649	0.0007
346	SLU 19		0.39	0.39	-0.23	56.25	0.0085	0.0649	0.0007
346	SLU 20		0.3	0.3	-0.24	57.59	0.0092	0.0627	0.0007
346	SLU 21		0.3	0.3	-0.24	57.53	0.0092	0.0627	0.0007
346	SLU 22		0.17	0.17	-0.22	53.19	0.0082	0.0533	0.0006
346	SLU 23		0.17	0.17	-0.22	53.08	0.0082	0.0533	0.0006
346	SLU 24		0.09	0.09	-0.23	54.91	0.0088	0.052	0.0006
346	SLU 25		0.09	0.09	-0.23	54.85	0.0088	0.052	0.0006
346	SLU 26		0.08	0.08	-0.23	54.36	0.0089	0.0511	0.0006
346	SLU 27		0	0	-0.24	56.18	0.0095	0.0497	0.0007
346	SLU 28		0	0	-0.24	56.12	0.0095	0.0497	0.0007
346	SLU 29		-0.01	-0.01	-0.23	55.74	0.0096	0.0488	0.0007
346	SLU 30		-0.01	-0.01	-0.23	55.67	0.0096	0.0488	0.0007
346	SLU 31		0.39	0.39	-0.25	59.91	0.0093	0.0688	0.0007
346	SLU 32		0.31	0.31	-0.26	61.74	0.0099	0.0674	0.0007
346	SLU 33		0.31	0.31	-0.26	61.68	0.0099	0.0675	0.0007
346	SLU 34		0.3	0.3	-0.26	61.19	0.01	0.0665	0.0007
346	SLU 35		0.22	0.22	-0.27	63.01	0.0106	0.0652	0.0008
346	SLU 36		0.23	0.23	-0.27	62.95	0.0106	0.0652	0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
346	SLU 37		0.22	-0.26	62.57	0.0107	0.0643	0.0007
346	SLU 38		0.22	-0.26	62.51	0.0107	0.0643	0.0007
346	SLU 39		0.49	-0.26	62.95	0.0097	0.0754	0.0007
346	SLU 40		0.49	-0.26	62.88	0.0097	0.0754	0.0007
346	SLU 41		0.4	-0.27	64.22	0.0104	0.0732	0.0008
346	SLU 42		0.4	-0.27	64.16	0.0104	0.0732	0.0008
346	SLU 43		0.05	-0.24	58.25	0.0086	0.0521	0.0007
346	SLU 44		0.05	-0.24	58.14	0.0086	0.0521	0.0007
346	SLU 45		-0.03	-0.25	59.97	0.0092	0.0507	0.0007
346	SLU 46		-0.02	-0.25	59.91	0.0092	0.0507	0.0007
346	SLU 47		-0.03	-0.24	59.42	0.0093	0.0498	0.0007
346	SLU 48		-0.11	-0.25	61.24	0.0099	0.0485	0.0007
346	SLU 49		-0.11	-0.25	61.18	0.0099	0.0485	0.0007
346	SLU 50		-0.12	-0.25	60.8	0.01	0.0475	0.0007
346	SLU 51		-0.12	-0.25	60.73	0.01	0.0475	0.0007
346	SLU 52		0.28	-0.27	64.97	0.0097	0.0675	0.0008
346	SLU 53		0.2	-0.28	66.8	0.0103	0.0662	0.0008
346	SLU 54		0.2	-0.28	66.74	0.0103	0.0662	0.0008
346	SLU 55		0.19	-0.27	66.25	0.0104	0.0653	0.0008
346	SLU 56		0.11	-0.28	68.07	0.011	0.0639	0.0008
346	SLU 57		0.11	-0.28	68.01	0.011	0.0639	0.0008
346	SLU 58		0.1	-0.28	67.63	0.0111	0.063	0.0008
346	SLU 59		0.1	-0.28	67.57	0.0111	0.063	0.0008
346	SLU 60		0.37	-0.28	68.01	0.0101	0.0742	0.0008
346	SLU 61		0.37	-0.28	67.94	0.0101	0.0742	0.0008
346	SLU 62		0.28	-0.29	69.28	0.0108	0.0719	0.0008
346	SLU 63		0.28	-0.29	69.22	0.0108	0.0719	0.0008
346	SLU 64		0.15	-0.27	64.88	0.0098	0.0626	0.0008
346	SLU 65		0.15	-0.27	64.78	0.0099	0.0626	0.0008
346	SLU 66		0.07	-0.28	66.6	0.0105	0.0612	0.0008
346	SLU 67		0.08	-0.28	66.54	0.0105	0.0612	0.0008
346	SLU 68		0.07	-0.27	66.05	0.0106	0.0603	0.0008
346	SLU 69		-0.01	-0.28	67.88	0.0112	0.059	0.0008
346	SLU 70		-0.01	-0.28	67.81	0.0112	0.059	0.0008
346	SLU 71		-0.02	-0.28	67.43	0.0112	0.058	0.0008
346	SLU 72		-0.02	-0.28	67.37	0.0113	0.058	0.0008
346	SLU 73		0.38	-0.3	71.61	0.0109	0.0781	0.0008
346	SLU 74		0.3	-0.31	73.43	0.0115	0.0767	0.0009
346	SLU 75		0.3	-0.31	73.37	0.0116	0.0767	0.0009
346	SLU 76		0.29	-0.3	72.88	0.0116	0.0758	0.0009
346	SLU 77		0.21	-0.31	74.71	0.0122	0.0744	0.0009
346	SLU 78		0.21	-0.31	74.64	0.0123	0.0744	0.0009
346	SLU 79		0.2	-0.31	74.26	0.0123	0.0735	0.0009
346	SLU 80		0.2	-0.31	74.2	0.0123	0.0735	0.0009
346	SLU 81		0.47	-0.31	74.64	0.0114	0.0847	0.0009
346	SLU 82		0.47	-0.31	74.58	0.0114	0.0847	0.0009
346	SLU 83		0.38	-0.32	75.91	0.0121	0.0824	0.0009
346	SLU 84		0.38	-0.32	75.85	0.0121	0.0824	0.0009
346	SLE RA 1		0.09	-0.2	48.45	0.0073	0.0458	0.0006
346	SLE RA 2		0.1	-0.2	48.38	0.0073	0.0458	0.0006
346	SLE RA 3		0.04	-0.21	49.6	0.0077	0.0449	0.0006
346	SLE RA 4		0.04	-0.2	49.56	0.0077	0.0449	0.0006
346	SLE RA 5		0.04	-0.2	49.23	0.0078	0.0443	0.0006
346	SLE RA 6		-0.02	-0.21	50.45	0.0082	0.0434	0.0006
346	SLE RA 7		-0.01	-0.21	50.41	0.0082	0.0434	0.0006
346	SLE RA 8		-0.02	-0.21	50.15	0.0082	0.0428	0.0006
346	SLE RA 9		-0.02	-0.21	50.11	0.0082	0.0428	0.0006
346	SLE RA 10		0.25	-0.22	52.93	0.008	0.0561	0.0006
346	SLE RA 11		0.19	-0.23	54.15	0.0084	0.0552	0.0006
346	SLE RA 12		0.19	-0.23	54.11	0.0084	0.0552	0.0006
346	SLE RA 13		0.19	-0.22	53.78	0.0085	0.0546	0.0006
346	SLE RA 14		0.13	-0.23	55	0.0089	0.0537	0.0006
346	SLE RA 15		0.13	-0.23	54.96	0.0089	0.0537	0.0006
346	SLE RA 16		0.13	-0.23	54.7	0.0089	0.0531	0.0006
346	SLE RA 17		0.13	-0.23	54.66	0.009	0.0531	0.0006
346	SLE RA 18		0.31	-0.23	54.96	0.0083	0.0606	0.0006
346	SLE RA 19		0.31	-0.23	54.91	0.0083	0.0606	0.0006
346	SLE RA 20		0.25	-0.23	55.81	0.0088	0.059	0.0007
346	SLE RA 21		0.25	-0.23	55.76	0.0088	0.059	0.0007
346	SLE FR 1		0.09	-0.2	48.45	0.0073	0.0458	0.0006
346	SLE FR 2		0.1	-0.2	48.44	0.0073	0.0458	0.0006
346	SLE FR 3		0.07	-0.2	48.79	0.0075	0.0452	0.0006
346	SLE FR 4		0.16	-0.21	50.39	0.0076	0.0503	0.0006
346	SLE FR 5		0.14	-0.21	50.74	0.0078	0.0496	0.0006
346	SLE FR 6		0.2	-0.21	51.7	0.0078	0.0532	0.0006
346	SLE QP 1		0.09	-0.2	48.45	0.0073	0.0458	0.0006
346	SLE QP 2		0.16	-0.21	50.4	0.0076	0.0503	0.0006
346	SLD 1		5.43	-0.24	49.63	0.0076	0.2771	0.0006
346	SLD 2		5.43	-0.24	49.63	0.0076	0.2771	0.0006
346	SLD 3		4.66	-0.28	54.52	0.0462	0.2481	0.0007
346	SLD 4		4.66	-0.28	54.52	0.0462	0.2481	0.0007
346	SLD 5		2.9	-0.16	42.76	-0.0509	0.1623	0.0004
346	SLD 6		2.9	-0.16	42.76	-0.0509	0.1623	0.0004
346	SLD 7		0.34	-0.29	59.04	0.0777	0.0656	0.0009
346	SLD 8		0.34	-0.29	59.04	0.0777	0.0656	0.0009
346	SLD 9		-0.03	-0.13	41.76	-0.0625	0.0349	0.0003
346	SLD 10		-0.03	-0.13	41.76	-0.0625	0.0349	0.0003
346	SLD 11		-2.59	-0.26	58.04	0.0661	-0.0618	0.0008
346	SLD 12		-2.59	-0.26	58.04	0.0661	-0.0618	0.0008
346	SLD 13		-4.34	-0.14	46.29	-0.031	-0.1476	0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
346	SLD 14			-4.34	-0.14	46.29	-0.031	-0.1476	0.0004
346	SLD 15			-5.11	-0.18	51.17	0.0076	-0.1766	0.0006
346	SLD 16			-5.11	-0.18	51.17	0.0076	-0.1766	0.0006
346	SLV 1			12.47	-0.28	48.55	0.0094	0.5804	0.0006
346	SLV 2			12.47	-0.28	48.55	0.0094	0.5804	0.0006
346	SLV 3			10.61	-0.38	60.14	0.1032	0.5098	0.001
346	SLV 4			10.61	-0.38	60.14	0.1032	0.5098	0.001
346	SLV 5			6.68	-0.09	32.28	-0.134	0.3163	0.0001
346	SLV 6			6.68	-0.09	32.28	-0.134	0.3163	0.0001
346	SLV 7			0.47	-0.4	70.89	0.1785	0.0811	0.0012
346	SLV 8			0.47	-0.4	70.89	0.1785	0.0811	0.0012
346	SLV 9			-0.15	-0.02	29.91	-0.1633	0.0194	-0.0001
346	SLV 10			-0.15	-0.02	29.91	-0.1633	0.0194	-0.0001
346	SLV 11			-6.36	-0.32	68.53	0.1493	-0.2158	0.0011
346	SLV 12			-6.36	-0.32	68.53	0.1493	-0.2158	0.0011
346	SLV 13			-10.29	-0.04	40.67	-0.088	-0.4093	0.0002
346	SLV 14			-10.29	-0.04	40.67	-0.088	-0.4093	0.0002
346	SLV 15			-12.16	-0.13	52.25	0.0058	-0.4799	0.0006
346	SLV 16			-12.16	-0.13	52.25	0.0058	-0.4799	0.0006
347	SLU 1			-2.22	0.03	43.25	-0.0698	-0.0945	0.0001
347	SLU 2			-2.21	0.03	43.15	-0.0696	-0.0942	0.0001
347	SLU 3			-2.38	0.03	44.78	-0.0728	-0.1014	0.0001
347	SLU 4			-2.38	0.03	44.73	-0.0726	-0.1012	0.0001
347	SLU 5			-2.36	0.03	44.28	-0.0715	-0.1002	0.0001
347	SLU 6			-2.53	0.03	45.91	-0.0747	-0.1074	0.0001
347	SLU 7			-2.53	0.03	45.85	-0.0746	-0.1072	0.0001
347	SLU 8			-2.51	0.03	45.51	-0.0737	-0.1065	0.0001
347	SLU 9			-2.51	0.03	45.45	-0.0736	-0.1063	0.0001
347	SLU 10			-2.38	0.03	49.55	-0.0806	-0.102	0.0001
347	SLU 11			-2.56	0.03	51.18	-0.0838	-0.1093	0.0001
347	SLU 12			-2.55	0.03	51.12	-0.0836	-0.1091	0.0001
347	SLU 13			-2.53	0.03	50.68	-0.0825	-0.108	0.0001
347	SLU 14			-2.7	0.04	52.31	-0.0857	-0.1153	0.0001
347	SLU 15			-2.7	0.04	52.25	-0.0856	-0.1151	0.0001
347	SLU 16			-2.68	0.03	51.9	-0.0848	-0.1144	0.0001
347	SLU 17			-2.68	0.03	51.84	-0.0846	-0.1142	0.0001
347	SLU 18			-2.47	0.03	52.39	-0.0855	-0.1057	0.0001
347	SLU 19			-2.46	0.03	52.33	-0.0854	-0.1055	0.0001
347	SLU 20			-2.61	0.04	53.52	-0.0875	-0.1117	0.0001
347	SLU 21			-2.61	0.04	53.46	-0.0873	-0.1115	0.0001
347	SLU 22			-2.5	0.03	49.39	-0.0808	-0.1066	0.0001
347	SLU 23			-2.49	0.03	49.3	-0.0805	-0.1063	0.0001
347	SLU 24			-2.66	0.03	50.93	-0.0837	-0.1135	0.0001
347	SLU 25			-2.66	0.03	50.87	-0.0836	-0.1133	0.0001
347	SLU 26			-2.64	0.03	50.42	-0.0825	-0.1123	0.0001
347	SLU 27			-2.81	0.04	52.06	-0.0857	-0.1195	0.0001
347	SLU 28			-2.81	0.04	52	-0.0856	-0.1193	0.0001
347	SLU 29			-2.79	0.03	51.65	-0.0847	-0.1186	0.0001
347	SLU 30			-2.78	0.03	51.59	-0.0846	-0.1184	0.0001
347	SLU 31			-2.66	0.04	55.69	-0.0915	-0.1142	0.0001
347	SLU 32			-2.84	0.04	57.32	-0.0947	-0.1214	0.0001
347	SLU 33			-2.83	0.04	57.27	-0.0946	-0.1212	0.0001
347	SLU 34			-2.81	0.04	56.82	-0.0935	-0.1202	0.0001
347	SLU 35			-2.98	0.04	58.45	-0.0967	-0.1274	0.0001
347	SLU 36			-2.98	0.04	58.39	-0.0966	-0.1272	0.0001
347	SLU 37			-2.96	0.04	58.04	-0.0957	-0.1265	0.0001
347	SLU 38			-2.96	0.04	57.99	-0.0956	-0.1263	0.0001
347	SLU 39			-2.74	0.04	58.53	-0.0965	-0.1179	0.0001
347	SLU 40			-2.74	0.04	58.47	-0.0963	-0.1177	0.0001
347	SLU 41			-2.89	0.04	59.66	-0.0985	-0.1239	0.0001
347	SLU 42			-2.89	0.04	59.6	-0.0983	-0.1237	0.0001
347	SLU 43			-2.79	0.04	54.12	-0.087	-0.1187	0.0001
347	SLU 44			-2.78	0.04	54.02	-0.0867	-0.1183	0.0001
347	SLU 45			-2.95	0.04	55.65	-0.0899	-0.1255	0.0001
347	SLU 46			-2.95	0.04	55.6	-0.0898	-0.1254	0.0001
347	SLU 47			-2.93	0.04	55.15	-0.0887	-0.1243	0.0001
347	SLU 48			-3.1	0.04	56.78	-0.0919	-0.1315	0.0001
347	SLU 49			-3.1	0.04	56.72	-0.0918	-0.1314	0.0001
347	SLU 50			-3.08	0.04	56.38	-0.0909	-0.1307	0.0001
347	SLU 51			-3.08	0.04	56.32	-0.0908	-0.1305	0.0001
347	SLU 52			-2.95	0.04	60.42	-0.0977	-0.1262	0.0001
347	SLU 53			-3.13	0.04	62.05	-0.1009	-0.1334	0.0001
347	SLU 54			-3.12	0.04	61.99	-0.1008	-0.1332	0.0001
347	SLU 55			-3.1	0.04	61.55	-0.0997	-0.1322	0.0001
347	SLU 56			-3.27	0.04	63.18	-0.1029	-0.1394	0.0001
347	SLU 57			-3.27	0.04	63.12	-0.1028	-0.1392	0.0001
347	SLU 58			-3.25	0.04	62.77	-0.1019	-0.1385	0.0001
347	SLU 59			-3.25	0.04	62.71	-0.1018	-0.1384	0.0001
347	SLU 60			-3.04	0.04	63.26	-0.1027	-0.1299	0.0001
347	SLU 61			-3.03	0.04	63.2	-0.1025	-0.1297	0.0001
347	SLU 62			-3.18	0.04	64.38	-0.1047	-0.1359	0.0001
347	SLU 63			-3.18	0.04	64.33	-0.1045	-0.1357	0.0001
347	SLU 64			-3.07	0.04	60.26	-0.0979	-0.1308	0.0001
347	SLU 65			-3.06	0.04	60.17	-0.0977	-0.1305	0.0001
347	SLU 66			-3.23	0.04	61.8	-0.1009	-0.1377	0.0001
347	SLU 67			-3.23	0.04	61.74	-0.1008	-0.1375	0.0001
347	SLU 68			-3.21	0.04	61.29	-0.0997	-0.1365	0.0001
347	SLU 69			-3.38	0.04	62.92	-0.1029	-0.1437	0.0001
347	SLU 70			-3.38	0.04	62.87	-0.1027	-0.1435	0.0001
347	SLU 71			-3.36	0.04	62.52	-0.1019	-0.1428	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
347	SLU 72			-3.35	0.04	62.46	-0.1018	-0.1426	0.0001
347	SLU 73			-3.23	0.04	66.56	-0.1087	-0.1383	0.0001
347	SLU 74			-3.41	0.05	68.19	-0.1119	-0.1456	0.0001
347	SLU 75			-3.4	0.05	68.13	-0.1118	-0.1454	0.0001
347	SLU 76			-3.38	0.05	67.69	-0.1107	-0.1443	0.0001
347	SLU 77			-3.55	0.05	69.32	-0.1139	-0.1516	0.0001
347	SLU 78			-3.55	0.05	69.26	-0.1138	-0.1514	0.0001
347	SLU 79			-3.53	0.05	68.91	-0.1129	-0.1507	0.0001
347	SLU 80			-3.53	0.05	68.86	-0.1128	-0.1505	0.0001
347	SLU 81			-3.31	0.05	69.4	-0.1137	-0.142	0.0001
347	SLU 82			-3.31	0.05	69.34	-0.1135	-0.1419	0.0001
347	SLU 83			-3.46	0.05	70.53	-0.1156	-0.148	0.0001
347	SLU 84			-3.46	0.05	70.47	-0.1155	-0.1479	0.0001
347	SLE RA 1			-2.3	0.03	45.01	-0.0729	-0.0979	0.0001
347	SLE RA 2			-2.29	0.03	44.94	-0.0728	-0.0977	0.0001
347	SLE RA 3			-2.41	0.03	46.03	-0.0749	-0.1025	0.0001
347	SLE RA 4			-2.41	0.03	45.99	-0.0748	-0.1024	0.0001
347	SLE RA 5			-2.39	0.03	45.69	-0.0741	-0.1017	0.0001
347	SLE RA 6			-2.51	0.03	46.78	-0.0762	-0.1065	0.0001
347	SLE RA 7			-2.5	0.03	46.74	-0.0761	-0.1064	0.0001
347	SLE RA 8			-2.49	0.03	46.51	-0.0756	-0.1059	0.0001
347	SLE RA 9			-2.49	0.03	46.47	-0.0755	-0.1058	0.0001
347	SLE RA 10			-2.41	0.03	49.21	-0.0801	-0.103	0.0001
347	SLE RA 11			-2.52	0.03	50.29	-0.0822	-0.1078	0.0001
347	SLE RA 12			-2.52	0.03	50.25	-0.0821	-0.1077	0.0001
347	SLE RA 13			-2.51	0.03	49.96	-0.0814	-0.107	0.0001
347	SLE RA 14			-2.62	0.03	51.04	-0.0836	-0.1118	0.0001
347	SLE RA 15			-2.62	0.03	51.01	-0.0835	-0.1117	0.0001
347	SLE RA 16			-2.61	0.03	50.77	-0.0829	-0.1112	0.0001
347	SLE RA 17			-2.61	0.03	50.73	-0.0828	-0.1111	0.0001
347	SLE RA 18			-2.46	0.03	51.1	-0.0834	-0.1054	0.0001
347	SLE RA 19			-2.46	0.03	51.06	-0.0833	-0.1053	0.0001
347	SLE RA 20			-2.56	0.03	51.85	-0.0847	-0.1094	0.0001
347	SLE RA 21			-2.56	0.03	51.81	-0.0846	-0.1093	0.0001
347	SLE FR 1			-2.3	0.03	45.01	-0.0729	-0.0979	0.0001
347	SLE FR 2			-2.3	0.03	44.99	-0.0729	-0.0979	0.0001
347	SLE FR 3			-2.34	0.03	45.31	-0.0735	-0.0995	0.0001
347	SLE FR 4			-2.35	0.03	46.82	-0.076	-0.1001	0.0001
347	SLE FR 5			-2.39	0.03	47.13	-0.0766	-0.1018	0.0001
347	SLE FR 6			-2.38	0.03	48.05	-0.0782	-0.1017	0.0001
347	SLE QP 1			-2.3	0.03	45.01	-0.0729	-0.0979	0.0001
347	SLE QP 2			-2.35	0.03	46.83	-0.0761	-0.1002	0.0001
347	SLD 1			2.89	-0.06	43.57	-0.0678	0.1252	0.0003
347	SLD 2			2.89	-0.06	43.57	-0.0678	0.1252	0.0003
347	SLD 3			2.16	0	47.53	-0.1449	0.0963	0.0001
347	SLD 4			2.16	0	47.53	-0.1449	0.0963	0.0001
347	SLD 5			0.34	-0.1	39.85	0.0434	0.0113	0.0003
347	SLD 6			0.34	-0.1	39.85	0.0434	0.0113	0.0003
347	SLD 7			-2.11	0.12	53.04	-0.2137	-0.0851	-0.0001
347	SLD 8			-2.11	0.12	53.04	-0.2137	-0.0851	-0.0001
347	SLD 9			-2.58	-0.06	40.62	0.0615	-0.1153	0.0002
347	SLD 10			-2.58	-0.06	40.62	0.0615	-0.1153	0.0002
347	SLD 11			-5.03	0.16	53.81	-0.1955	-0.2116	-0.0002
347	SLD 12			-5.03	0.16	53.81	-0.1955	-0.2116	-0.0002
347	SLD 13			-6.85	0.06	46.14	-0.0073	-0.2967	0
347	SLD 14			-6.85	0.06	46.14	-0.0073	-0.2967	0
347	SLD 15			-7.59	0.12	50.1	-0.0844	-0.3256	-0.0002
347	SLD 16			-7.59	0.12	50.1	-0.0844	-0.3256	-0.0002
347	SLV 1			9.9	-0.19	39.07	-0.0592	0.4266	0.0006
347	SLV 2			9.9	-0.19	39.07	-0.0592	0.4266	0.0006
347	SLV 3			8.12	-0.04	48.47	-0.2456	0.3561	0.0003
347	SLV 4			8.12	-0.04	48.47	-0.2456	0.3561	0.0003
347	SLV 5			4.03	-0.27	30.25	0.2116	0.1649	0.0007
347	SLV 6			4.03	-0.27	30.25	0.2116	0.1649	0.0007
347	SLV 7			-1.92	0.25	61.58	-0.4095	-0.0703	-0.0004
347	SLV 8			-1.92	0.25	61.58	-0.4095	-0.0703	-0.0004
347	SLV 9			-2.78	-0.18	32.09	0.2574	-0.1301	0.0005
347	SLV 10			-2.78	-0.18	32.09	0.2574	-0.1301	0.0005
347	SLV 11			-8.73	0.33	63.42	-0.3637	-0.3652	-0.0006
347	SLV 12			-8.73	0.33	63.42	-0.3637	-0.3652	-0.0006
347	SLV 13			-12.81	0.1	45.2	0.0934	-0.5565	-0.0001
347	SLV 14			-12.81	0.1	45.2	0.0934	-0.5565	-0.0001
347	SLV 15			-14.6	0.26	54.6	-0.0929	-0.627	-0.0005
347	SLV 16			-14.6	0.26	54.6	-0.0929	-0.627	-0.0005
348	SLU 1			-3.11	0.2	39.49	-0.1473	-0.0992	-0.0006
348	SLU 2			-3.1	0.2	39.4	-0.1468	-0.0989	-0.0006
348	SLU 3			-3.3	0.21	40.84	-0.1539	-0.1059	-0.0006
348	SLU 4			-3.3	0.21	40.78	-0.1536	-0.1057	-0.0006
348	SLU 5			-3.26	0.21	40.39	-0.1514	-0.1047	-0.0006
348	SLU 6			-3.46	0.21	41.83	-0.1585	-0.1116	-0.0006
348	SLU 7			-3.45	0.21	41.77	-0.1582	-0.1114	-0.0006
348	SLU 8			-3.43	0.21	41.47	-0.1565	-0.1106	-0.0006
348	SLU 9			-3.42	0.21	41.41	-0.1562	-0.1105	-0.0006
348	SLU 10			-3.45	0.23	45.26	-0.1701	-0.1088	-0.0006
348	SLU 11			-3.65	0.24	46.7	-0.1772	-0.1157	-0.0007
348	SLU 12			-3.65	0.24	46.65	-0.1769	-0.1155	-0.0007
348	SLU 13			-3.61	0.24	46.25	-0.1747	-0.1145	-0.0007
348	SLU 14			-3.81	0.25	47.69	-0.1817	-0.1214	-0.0007
348	SLU 15			-3.81	0.25	47.64	-0.1815	-0.1212	-0.0007
348	SLU 16			-3.78	0.24	47.33	-0.1798	-0.1204	-0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
348	SLU 17	-3.77	0.24	47.28	-0.1795	-0.1203	-0.0007
348	SLU 18	-3.61	0.24	47.86	-0.1806	-0.1132	-0.0007
348	SLU 19	-3.61	0.24	47.81	-0.1803	-0.1131	-0.0007
348	SLU 20	-3.77	0.25	48.85	-0.1852	-0.1189	-0.0007
348	SLU 21	-3.77	0.25	48.8	-0.1849	-0.1188	-0.0007
348	SLU 22	-3.55	0.23	45.06	-0.1707	-0.1126	-0.0006
348	SLU 23	-3.54	0.23	44.98	-0.1702	-0.1123	-0.0006
348	SLU 24	-3.74	0.24	46.41	-0.1772	-0.1192	-0.0007
348	SLU 25	-3.73	0.24	46.36	-0.1769	-0.1191	-0.0007
348	SLU 26	-3.7	0.24	45.97	-0.1748	-0.118	-0.0007
348	SLU 27	-3.9	0.25	47.4	-0.1818	-0.125	-0.0007
348	SLU 28	-3.89	0.25	47.35	-0.1815	-0.1248	-0.0007
348	SLU 29	-3.86	0.24	47.04	-0.1798	-0.124	-0.0007
348	SLU 30	-3.86	0.24	46.99	-0.1796	-0.1239	-0.0007
348	SLU 31	-3.89	0.26	50.84	-0.1935	-0.1221	-0.0007
348	SLU 32	-4.09	0.27	52.27	-0.2005	-0.1291	-0.0008
348	SLU 33	-4.09	0.27	52.22	-0.2002	-0.1289	-0.0008
348	SLU 34	-4.05	0.27	51.83	-0.1981	-0.1279	-0.0007
348	SLU 35	-4.25	0.28	53.26	-0.2051	-0.1348	-0.0008
348	SLU 36	-4.24	0.28	53.21	-0.2048	-0.1346	-0.0008
348	SLU 37	-4.22	0.28	52.91	-0.2031	-0.1338	-0.0008
348	SLU 38	-4.21	0.28	52.85	-0.2028	-0.1337	-0.0008
348	SLU 39	-4.05	0.28	53.44	-0.2039	-0.1266	-0.0008
348	SLU 40	-4.05	0.28	53.39	-0.2036	-0.1265	-0.0008
348	SLU 41	-4.21	0.28	54.43	-0.2085	-0.1323	-0.0008
348	SLU 42	-4.2	0.28	54.38	-0.2082	-0.1322	-0.0008
348	SLU 43	-3.89	0.25	49.42	-0.1835	-0.1244	-0.0007
348	SLU 44	-3.88	0.25	49.34	-0.183	-0.1241	-0.0007
348	SLU 45	-4.08	0.26	50.77	-0.1901	-0.131	-0.0007
348	SLU 46	-4.08	0.26	50.72	-0.1898	-0.1309	-0.0007
348	SLU 47	-4.04	0.25	50.32	-0.1876	-0.1298	-0.0007
348	SLU 48	-4.24	0.26	51.76	-0.1947	-0.1367	-0.0007
348	SLU 49	-4.24	0.26	51.71	-0.1944	-0.1366	-0.0007
348	SLU 50	-4.21	0.26	51.4	-0.1927	-0.1358	-0.0007
348	SLU 51	-4.2	0.26	51.35	-0.1924	-0.1356	-0.0007
348	SLU 52	-4.24	0.28	55.2	-0.2063	-0.1339	-0.0008
348	SLU 53	-4.44	0.29	56.63	-0.2133	-0.1408	-0.0008
348	SLU 54	-4.43	0.29	56.58	-0.2131	-0.1407	-0.0008
348	SLU 55	-4.4	0.29	56.19	-0.2109	-0.1396	-0.0008
348	SLU 56	-4.59	0.3	57.62	-0.2179	-0.1465	-0.0008
348	SLU 57	-4.59	0.3	57.57	-0.2177	-0.1464	-0.0008
348	SLU 58	-4.56	0.29	57.27	-0.216	-0.1456	-0.0008
348	SLU 59	-4.56	0.29	57.21	-0.2157	-0.1454	-0.0008
348	SLU 60	-4.4	0.29	57.8	-0.2168	-0.1384	-0.0008
348	SLU 61	-4.39	0.29	57.75	-0.2165	-0.1382	-0.0008
348	SLU 62	-4.55	0.3	58.79	-0.2214	-0.1441	-0.0008
348	SLU 63	-4.55	0.3	58.74	-0.2211	-0.1439	-0.0008
348	SLU 64	-4.33	0.28	55	-0.2069	-0.1378	-0.0008
348	SLU 65	-4.32	0.28	54.91	-0.2064	-0.1375	-0.0008
348	SLU 66	-4.52	0.29	56.35	-0.2134	-0.1444	-0.0008
348	SLU 67	-4.52	0.29	56.29	-0.2131	-0.1443	-0.0008
348	SLU 68	-4.48	0.29	55.9	-0.211	-0.1432	-0.0008
348	SLU 69	-4.68	0.3	57.34	-0.218	-0.1501	-0.0008
348	SLU 70	-4.67	0.3	57.28	-0.2177	-0.15	-0.0008
348	SLU 71	-4.65	0.29	56.98	-0.216	-0.1492	-0.0008
348	SLU 72	-4.64	0.29	56.93	-0.2157	-0.149	-0.0008
348	SLU 73	-4.67	0.31	60.77	-0.2297	-0.1473	-0.0009
348	SLU 74	-4.87	0.32	62.21	-0.2367	-0.1542	-0.0009
348	SLU 75	-4.87	0.32	62.16	-0.2364	-0.1541	-0.0009
348	SLU 76	-4.83	0.32	61.76	-0.2342	-0.153	-0.0009
348	SLU 77	-5.03	0.33	63.2	-0.2413	-0.1599	-0.0009
348	SLU 78	-5.03	0.33	63.15	-0.241	-0.1598	-0.0009
348	SLU 79	-5	0.32	62.84	-0.2393	-0.159	-0.0009
348	SLU 80	-4.99	0.32	62.79	-0.239	-0.1588	-0.0009
348	SLU 81	-4.83	0.33	63.37	-0.2401	-0.1518	-0.0009
348	SLU 82	-4.83	0.33	63.32	-0.2398	-0.1516	-0.0009
348	SLU 83	-4.99	0.33	64.36	-0.2447	-0.1575	-0.0009
348	SLU 84	-4.99	0.33	64.31	-0.2444	-0.1573	-0.0009
348	SLE RA 1	-3.23	0.21	41.08	-0.154	-0.103	-0.0006
348	SLE RA 2	-3.23	0.21	41.02	-0.1537	-0.1029	-0.0006
348	SLE RA 3	-3.36	0.21	41.98	-0.1584	-0.1075	-0.0006
348	SLE RA 4	-3.36	0.21	41.94	-0.1582	-0.1074	-0.0006
348	SLE RA 5	-3.33	0.21	41.68	-0.1567	-0.1067	-0.0006
348	SLE RA 6	-3.47	0.22	42.64	-0.1614	-0.1113	-0.0006
348	SLE RA 7	-3.46	0.22	42.6	-0.1612	-0.1112	-0.0006
348	SLE RA 8	-3.45	0.22	42.4	-0.1601	-0.1106	-0.0006
348	SLE RA 9	-3.44	0.22	42.37	-0.1599	-0.1105	-0.0006
348	SLE RA 10	-3.46	0.23	44.93	-0.1692	-0.1094	-0.0006
348	SLE RA 11	-3.6	0.24	45.89	-0.1739	-0.114	-0.0007
348	SLE RA 12	-3.59	0.24	45.85	-0.1737	-0.1139	-0.0007
348	SLE RA 13	-3.57	0.23	45.59	-0.1722	-0.1132	-0.0006
348	SLE RA 14	-3.7	0.24	46.55	-0.1769	-0.1178	-0.0007
348	SLE RA 15	-3.7	0.24	46.51	-0.1767	-0.1177	-0.0007
348	SLE RA 16	-3.68	0.24	46.31	-0.1756	-0.1172	-0.0007
348	SLE RA 17	-3.68	0.24	46.27	-0.1754	-0.1171	-0.0007
348	SLE RA 18	-3.57	0.24	46.66	-0.1762	-0.1124	-0.0007
348	SLE RA 19	-3.57	0.24	46.63	-0.176	-0.1123	-0.0007
348	SLE RA 20	-3.68	0.24	47.32	-0.1792	-0.1162	-0.0007
348	SLE RA 21	-3.67	0.24	47.29	-0.179	-0.1161	-0.0007
348	SLE FR 1	-3.23	0.21	41.08	-0.154	-0.103	-0.0006



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
348	SLE FR 2			-3.23	0.21	41.07	-0.1539	-0.103	-0.0006
348	SLE FR 3			-3.28	0.21	41.34	-0.1552	-0.1046	-0.0006
348	SLE FR 4			-3.33	0.22	42.74	-0.1606	-0.1058	-0.0006
348	SLE FR 5			-3.38	0.22	43.02	-0.1619	-0.1074	-0.0006
348	SLE FR 6			-3.4	0.22	43.87	-0.1651	-0.1077	-0.0006
348	SLE QP 1			-3.23	0.21	41.08	-0.154	-0.103	-0.0006
348	SLE QP 2			-3.34	0.22	42.76	-0.1606	-0.1058	-0.0006
348	SLD 1			1.99	0.21	39.78	-0.1352	0.1257	-0.0002
348	SLD 2			1.99	0.21	39.78	-0.1352	0.1257	-0.0002
348	SLD 3			1.33	0.34	43.26	-0.2578	0.0992	-0.0006
348	SLD 4			1.33	0.34	43.26	-0.2578	0.0992	-0.0006
348	SLD 5			-0.74	0.03	36.59	0.0328	0.0038	0
348	SLD 6			-0.74	0.03	36.59	0.0328	0.0038	0
348	SLD 7			-2.93	0.44	48.18	-0.3756	-0.0845	-0.0011
348	SLD 8			-2.93	0.44	48.18	-0.3756	-0.0845	-0.0011
348	SLD 9			-3.74	-0.01	37.33	0.0544	-0.1271	-0.0001
348	SLD 10			-3.74	-0.01	37.33	0.0544	-0.1271	-0.0001
348	SLD 11			-5.93	0.41	48.92	-0.3541	-0.2155	-0.0012
348	SLD 12			-5.93	0.41	48.92	-0.3541	-0.2155	-0.0012
348	SLD 13			-8.01	0.1	42.26	-0.0635	-0.3109	-0.0006
348	SLD 14			-8.01	0.1	42.26	-0.0635	-0.3109	-0.0006
348	SLD 15			-8.66	0.22	45.73	-0.186	-0.3374	-0.001
348	SLD 16			-8.66	0.22	45.73	-0.186	-0.3374	-0.001
348	SLV 1			9.11	0.21	35.66	-0.1026	0.4351	0.0003
348	SLV 2			9.11	0.21	35.66	-0.1026	0.4351	0.0003
348	SLV 3			7.51	0.51	43.93	-0.3979	0.3706	-0.0005
348	SLV 4			7.51	0.51	43.93	-0.3979	0.3706	-0.0005
348	SLV 5			2.81	-0.23	28.09	0.3046	0.1544	0.0009
348	SLV 6			2.81	-0.23	28.09	0.3046	0.1544	0.0009
348	SLV 7			-2.5	0.75	55.65	-0.6797	-0.0608	-0.0018
348	SLV 8			-2.5	0.75	55.65	-0.6797	-0.0608	-0.0018
348	SLV 9			-4.18	-0.32	29.87	0.3584	-0.1509	0.0006
348	SLV 10			-4.18	-0.32	29.87	0.3584	-0.1509	0.0006
348	SLV 11			-9.48	0.67	57.42	-0.6259	-0.366	-0.0021
348	SLV 12			-9.48	0.67	57.42	-0.6259	-0.366	-0.0021
348	SLV 13			-14.19	-0.07	41.58	0.0766	-0.5823	-0.0007
348	SLV 14			-14.19	-0.07	41.58	0.0766	-0.5823	-0.0007
348	SLV 15			-15.78	0.22	49.85	-0.2187	-0.6468	-0.0015
348	SLV 16			-15.78	0.22	49.85	-0.2187	-0.6468	-0.0015
349	SLU 1			-3.67	0.3	35.59	-0.2055	-0.1479	-0.0014
349	SLU 2			-3.66	0.3	35.51	-0.2048	-0.1476	-0.0013
349	SLU 3			-3.86	0.31	36.76	-0.2148	-0.1559	-0.0014
349	SLU 4			-3.86	0.31	36.71	-0.2144	-0.1557	-0.0014
349	SLU 5			-3.82	0.31	36.37	-0.2114	-0.1539	-0.0014
349	SLU 6			-4.02	0.32	37.62	-0.2214	-0.1622	-0.0015
349	SLU 7			-4.02	0.32	37.57	-0.221	-0.162	-0.0015
349	SLU 8			-3.98	0.32	37.31	-0.2187	-0.1606	-0.0014
349	SLU 9			-3.98	0.32	37.26	-0.2183	-0.1604	-0.0014
349	SLU 10			-4.15	0.35	40.79	-0.2372	-0.1672	-0.0016
349	SLU 11			-4.35	0.36	42.04	-0.2472	-0.1754	-0.0016
349	SLU 12			-4.35	0.36	41.99	-0.2468	-0.1753	-0.0016
349	SLU 13			-4.3	0.36	41.65	-0.2439	-0.1735	-0.0016
349	SLU 14			-4.51	0.37	42.9	-0.2539	-0.1818	-0.0017
349	SLU 15			-4.5	0.37	42.85	-0.2535	-0.1816	-0.0017
349	SLU 16			-4.46	0.37	42.59	-0.2512	-0.1802	-0.0017
349	SLU 17			-4.46	0.37	42.54	-0.2508	-0.18	-0.0017
349	SLU 18			-4.36	0.37	43.13	-0.2518	-0.1759	-0.0017
349	SLU 19			-4.36	0.37	43.08	-0.2514	-0.1757	-0.0017
349	SLU 20			-4.52	0.38	43.99	-0.2584	-0.1822	-0.0017
349	SLU 21			-4.51	0.38	43.94	-0.258	-0.182	-0.0017
349	SLU 22			-4.21	0.35	40.56	-0.2381	-0.17	-0.0016
349	SLU 23			-4.21	0.35	40.48	-0.2374	-0.1697	-0.0016
349	SLU 24			-4.41	0.36	41.73	-0.2474	-0.1779	-0.0016
349	SLU 25			-4.41	0.36	41.69	-0.247	-0.1778	-0.0016
349	SLU 26			-4.36	0.36	41.35	-0.2441	-0.176	-0.0016
349	SLU 27			-4.57	0.37	42.6	-0.2541	-0.1843	-0.0017
349	SLU 28			-4.56	0.37	42.55	-0.2537	-0.1841	-0.0017
349	SLU 29			-4.53	0.37	42.29	-0.2514	-0.1827	-0.0017
349	SLU 30			-4.52	0.37	42.24	-0.251	-0.1825	-0.0017
349	SLU 31			-4.69	0.4	45.76	-0.2699	-0.1893	-0.0018
349	SLU 32			-4.9	0.41	47.01	-0.2799	-0.1975	-0.0018
349	SLU 33			-4.89	0.41	46.96	-0.2795	-0.1974	-0.0018
349	SLU 34			-4.85	0.41	46.62	-0.2765	-0.1956	-0.0018
349	SLU 35			-5.05	0.42	47.87	-0.2865	-0.2039	-0.0019
349	SLU 36			-5.05	0.42	47.83	-0.2861	-0.2037	-0.0019
349	SLU 37			-5.01	0.42	47.57	-0.2838	-0.2023	-0.0019
349	SLU 38			-5.01	0.42	47.52	-0.2834	-0.2021	-0.0019
349	SLU 39			-4.91	0.42	48.1	-0.2844	-0.1979	-0.0019
349	SLU 40			-4.9	0.42	48.06	-0.284	-0.1978	-0.0019
349	SLU 41			-5.06	0.43	48.97	-0.2911	-0.2043	-0.0019
349	SLU 42			-5.06	0.43	48.92	-0.2907	-0.2041	-0.0019
349	SLU 43			-4.58	0.37	44.56	-0.2559	-0.1846	-0.0017
349	SLU 44			-4.57	0.37	44.48	-0.2553	-0.1844	-0.0017
349	SLU 45			-4.78	0.39	45.73	-0.2653	-0.1926	-0.0017
349	SLU 46			-4.77	0.39	45.68	-0.2649	-0.1925	-0.0017
349	SLU 47			-4.73	0.38	45.34	-0.2619	-0.1907	-0.0017
349	SLU 48			-4.93	0.4	46.59	-0.2719	-0.199	-0.0018
349	SLU 49			-4.93	0.4	46.54	-0.2715	-0.1988	-0.0018
349	SLU 50			-4.89	0.39	46.28	-0.2692	-0.1974	-0.0018
349	SLU 51			-4.89	0.39	46.23	-0.2688	-0.1972	-0.0018



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
349	SLU 52			-5.06	0.42	49.76	-0.2877	-0.204	-0.0019
349	SLU 53			-5.26	0.44	51.01	-0.2977	-0.2122	-0.002
349	SLU 54			-5.26	0.44	50.96	-0.2973	-0.2121	-0.002
349	SLU 55			-5.21	0.43	50.62	-0.2943	-0.2103	-0.0019
349	SLU 56			-5.42	0.45	51.87	-0.3043	-0.2186	-0.002
349	SLU 57			-5.41	0.45	51.82	-0.3039	-0.2184	-0.002
349	SLU 58			-5.38	0.44	51.56	-0.3016	-0.217	-0.002
349	SLU 59			-5.37	0.44	51.51	-0.3012	-0.2168	-0.002
349	SLU 60			-5.27	0.44	52.1	-0.3023	-0.2126	-0.002
349	SLU 61			-5.27	0.44	52.05	-0.3019	-0.2125	-0.002
349	SLU 62			-5.43	0.45	52.96	-0.3089	-0.219	-0.002
349	SLU 63			-5.43	0.45	52.91	-0.3085	-0.2188	-0.002
349	SLU 64			-5.13	0.42	49.53	-0.2886	-0.2067	-0.0019
349	SLU 65			-5.12	0.42	49.45	-0.2879	-0.2065	-0.0019
349	SLU 66			-5.32	0.44	50.7	-0.2979	-0.2147	-0.002
349	SLU 67			-5.32	0.44	50.66	-0.2975	-0.2146	-0.002
349	SLU 68			-5.28	0.43	50.32	-0.2945	-0.2128	-0.0019
349	SLU 69			-5.48	0.45	51.57	-0.3045	-0.2211	-0.002
349	SLU 70			-5.47	0.45	51.52	-0.3041	-0.2209	-0.002
349	SLU 71			-5.44	0.44	51.26	-0.3018	-0.2195	-0.002
349	SLU 72			-5.43	0.44	51.21	-0.3014	-0.2193	-0.002
349	SLU 73			-5.6	0.47	54.73	-0.3203	-0.226	-0.0021
349	SLU 74			-5.81	0.48	55.98	-0.3303	-0.2343	-0.0022
349	SLU 75			-5.8	0.48	55.93	-0.3299	-0.2341	-0.0022
349	SLU 76			-5.76	0.48	55.59	-0.3269	-0.2324	-0.0022
349	SLU 77			-5.96	0.49	56.84	-0.3369	-0.2407	-0.0022
349	SLU 78			-5.96	0.49	56.8	-0.3365	-0.2405	-0.0022
349	SLU 79			-5.92	0.49	56.54	-0.3342	-0.2391	-0.0022
349	SLU 80			-5.92	0.49	56.49	-0.3338	-0.2389	-0.0022
349	SLU 81			-5.82	0.49	57.07	-0.3349	-0.2347	-0.0022
349	SLU 82			-5.82	0.49	57.03	-0.3345	-0.2346	-0.0022
349	SLU 83			-5.98	0.5	57.94	-0.3415	-0.2411	-0.0022
349	SLU 84			-5.97	0.5	57.89	-0.3411	-0.2409	-0.0022
349	SLE RA 1			-3.82	0.31	37.01	-0.2148	-0.1542	-0.0014
349	SLE RA 2			-3.82	0.31	36.96	-0.2144	-0.154	-0.0014
349	SLE RA 3			-3.95	0.32	37.79	-0.221	-0.1595	-0.0015
349	SLE RA 4			-3.95	0.32	37.76	-0.2207	-0.1594	-0.0015
349	SLE RA 5			-3.92	0.32	37.53	-0.2188	-0.1582	-0.0014
349	SLE RA 6			-4.06	0.33	38.36	-0.2254	-0.1637	-0.0015
349	SLE RA 7			-4.06	0.33	38.33	-0.2252	-0.1636	-0.0015
349	SLE RA 8			-4.03	0.33	38.16	-0.2236	-0.1627	-0.0015
349	SLE RA 9			-4.03	0.33	38.13	-0.2234	-0.1625	-0.0015
349	SLE RA 10			-4.14	0.35	40.47	-0.236	-0.167	-0.0016
349	SLE RA 11			-4.28	0.36	41.31	-0.2426	-0.1726	-0.0016
349	SLE RA 12			-4.28	0.36	41.28	-0.2424	-0.1724	-0.0016
349	SLE RA 13			-4.25	0.35	41.05	-0.2404	-0.1713	-0.0016
349	SLE RA 14			-4.38	0.36	41.88	-0.2471	-0.1768	-0.0016
349	SLE RA 15			-4.38	0.36	41.85	-0.2468	-0.1767	-0.0016
349	SLE RA 16			-4.36	0.36	41.68	-0.2453	-0.1757	-0.0016
349	SLE RA 17			-4.35	0.36	41.65	-0.245	-0.1756	-0.0016
349	SLE RA 18			-4.29	0.36	42.04	-0.2457	-0.1728	-0.0016
349	SLE RA 19			-4.28	0.36	42	-0.2454	-0.1727	-0.0016
349	SLE RA 20			-4.39	0.37	42.61	-0.2501	-0.1771	-0.0016
349	SLE RA 21			-4.39	0.37	42.58	-0.2498	-0.177	-0.0016
349	SLE FR 1			-3.82	0.31	37.01	-0.2148	-0.1542	-0.0014
349	SLE FR 2			-3.82	0.31	37	-0.2147	-0.1541	-0.0014
349	SLE FR 3			-3.87	0.32	37.24	-0.2166	-0.1559	-0.0014
349	SLE FR 4			-3.96	0.33	38.51	-0.224	-0.1597	-0.0015
349	SLE FR 5			-4	0.33	38.75	-0.2258	-0.1615	-0.0015
349	SLE FR 6			-4.05	0.34	39.52	-0.2302	-0.1635	-0.0015
349	SLE QP 1			-3.82	0.31	37.01	-0.2148	-0.1542	-0.0014
349	SLE QP 2			-3.96	0.33	38.52	-0.2241	-0.1598	-0.0015
349	SLD 1			1.55	0.29	35.53	-0.18	0.0788	-0.0008
349	SLD 2			1.55	0.29	35.53	-0.18	0.0788	-0.0008
349	SLD 3			0.99	0.47	38.81	-0.3454	0.056	-0.0016
349	SLD 4			0.99	0.47	38.81	-0.3454	0.056	-0.0016
349	SLD 5			-1.45	0.05	32.65	0.0401	-0.0536	-0.0002
349	SLD 6			-1.45	0.05	32.65	0.0401	-0.0536	-0.0002
349	SLD 7			-3.33	0.64	43.58	-0.5114	-0.1296	-0.0026
349	SLD 8			-3.33	0.64	43.58	-0.5114	-0.1296	-0.0026
349	SLD 9			-4.59	0.01	33.46	0.0632	-0.1899	-0.0003
349	SLD 10			-4.59	0.01	33.46	0.0632	-0.1899	-0.0003
349	SLD 11			-6.47	0.61	44.39	-0.4882	-0.2659	-0.0028
349	SLD 12			-6.47	0.61	44.39	-0.4882	-0.2659	-0.0028
349	SLD 13			-8.91	0.18	38.23	-0.1027	-0.3755	-0.0014
349	SLD 14			-8.91	0.18	38.23	-0.1027	-0.3755	-0.0014
349	SLD 15			-9.47	0.36	41.5	-0.2681	-0.3983	-0.0021
349	SLD 16			-9.47	0.36	41.5	-0.2681	-0.3983	-0.0021
349	SLV 1			8.91	0.25	31.4	-0.1203	0.3971	0.0001
349	SLV 2			8.91	0.25	31.4	-0.1203	0.3971	0.0001
349	SLV 3			7.55	0.68	39.22	-0.5184	0.3421	-0.0017
349	SLV 4			7.55	0.68	39.22	-0.5184	0.3421	-0.0017
349	SLV 5			1.96	-0.34	24.52	0.4109	0.0907	0.0017
349	SLV 6			1.96	-0.34	24.52	0.4109	0.0907	0.0017
349	SLV 7			-2.57	1.08	50.59	-0.9162	-0.0927	-0.0042
349	SLV 8			-2.57	1.08	50.59	-0.9162	-0.0927	-0.0042
349	SLV 9			-5.35	-0.42	26.45	0.4681	-0.2269	0.0013
349	SLV 10			-5.35	-0.42	26.45	0.4681	-0.2269	0.0013
349	SLV 11			-9.89	1	52.51	-0.859	-0.4103	-0.0046
349	SLV 12			-9.89	1	52.51	-0.859	-0.4103	-0.0046



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
349	SLV 13			-15.47	-0.02	37.81	0.0703	-0.6616	-0.0013
349	SLV 14			-15.47	-0.02	37.81	0.0703	-0.6616	-0.0013
349	SLV 15			-16.83	0.4	45.63	-0.3278	-0.7166	-0.003
349	SLV 16			-16.83	0.4	45.63	-0.3278	-0.7166	-0.003
350	SLU 1			-2.94	0.33	32.02	-0.2377	-0.1049	-0.002
350	SLU 2			-2.94	0.33	31.95	-0.2369	-0.1048	-0.002
350	SLU 3			-3.09	0.35	33.04	-0.2487	-0.1104	-0.0021
350	SLU 4			-3.09	0.35	33	-0.2482	-0.1104	-0.0021
350	SLU 5			-3.06	0.34	32.71	-0.2448	-0.1092	-0.0021
350	SLU 6			-3.21	0.36	33.8	-0.2566	-0.1148	-0.0022
350	SLU 7			-3.2	0.36	33.76	-0.2562	-0.1148	-0.0022
350	SLU 8			-3.17	0.35	33.54	-0.2535	-0.1137	-0.0021
350	SLU 9			-3.17	0.35	33.49	-0.2531	-0.1136	-0.0021
350	SLU 10			-3.34	0.38	36.67	-0.2743	-0.1184	-0.0023
350	SLU 11			-3.49	0.4	37.77	-0.2861	-0.1241	-0.0024
350	SLU 12			-3.49	0.4	37.72	-0.2857	-0.124	-0.0024
350	SLU 13			-3.46	0.4	37.43	-0.2823	-0.1228	-0.0024
350	SLU 14			-3.61	0.41	38.52	-0.294	-0.1284	-0.0025
350	SLU 15			-3.61	0.41	38.48	-0.2936	-0.1284	-0.0025
350	SLU 16			-3.58	0.41	38.26	-0.2909	-0.1273	-0.0025
350	SLU 17			-3.57	0.41	38.22	-0.2905	-0.1272	-0.0025
350	SLU 18			-3.52	0.41	38.77	-0.2912	-0.1244	-0.0025
350	SLU 19			-3.52	0.41	38.73	-0.2907	-0.1243	-0.0025
350	SLU 20			-3.63	0.42	39.53	-0.2991	-0.1288	-0.0025
350	SLU 21			-3.63	0.42	39.49	-0.2986	-0.1287	-0.0025
350	SLU 22			-3.39	0.39	36.44	-0.2755	-0.1205	-0.0023
350	SLU 23			-3.38	0.38	36.37	-0.2747	-0.1204	-0.0023
350	SLU 24			-3.54	0.4	37.46	-0.2865	-0.126	-0.0024
350	SLU 25			-3.53	0.4	37.42	-0.286	-0.1259	-0.0024
350	SLU 26			-3.5	0.4	37.13	-0.2826	-0.1248	-0.0024
350	SLU 27			-3.65	0.41	38.22	-0.2944	-0.1304	-0.0025
350	SLU 28			-3.65	0.41	38.18	-0.2939	-0.1303	-0.0025
350	SLU 29			-3.62	0.41	37.96	-0.2913	-0.1292	-0.0025
350	SLU 30			-3.62	0.41	37.91	-0.2908	-0.1292	-0.0025
350	SLU 31			-3.79	0.44	41.09	-0.3121	-0.134	-0.0026
350	SLU 32			-3.94	0.45	42.19	-0.3239	-0.1396	-0.0027
350	SLU 33			-3.94	0.45	42.14	-0.3234	-0.1396	-0.0027
350	SLU 34			-3.9	0.45	41.85	-0.32	-0.1384	-0.0027
350	SLU 35			-4.05	0.46	42.94	-0.3318	-0.144	-0.0028
350	SLU 36			-4.05	0.46	42.9	-0.3313	-0.1439	-0.0028
350	SLU 37			-4.02	0.46	42.68	-0.3287	-0.1429	-0.0028
350	SLU 38			-4.02	0.46	42.64	-0.3282	-0.1428	-0.0028
350	SLU 39			-3.96	0.46	43.19	-0.3289	-0.1399	-0.0028
350	SLU 40			-3.96	0.46	43.15	-0.3285	-0.1399	-0.0028
350	SLU 41			-4.08	0.47	43.95	-0.3368	-0.1443	-0.0029
350	SLU 42			-4.07	0.47	43.91	-0.3364	-0.1443	-0.0029
350	SLU 43			-3.68	0.41	40.11	-0.2961	-0.1311	-0.0025
350	SLU 44			-3.67	0.41	40.04	-0.2953	-0.131	-0.0025
350	SLU 45			-3.82	0.43	41.13	-0.3071	-0.1366	-0.0026
350	SLU 46			-3.82	0.43	41.09	-0.3066	-0.1365	-0.0026
350	SLU 47			-3.79	0.42	40.8	-0.3032	-0.1354	-0.0026
350	SLU 48			-3.94	0.44	41.89	-0.315	-0.141	-0.0027
350	SLU 49			-3.94	0.44	41.85	-0.3145	-0.1409	-0.0027
350	SLU 50			-3.9	0.44	41.63	-0.3119	-0.1398	-0.0026
350	SLU 51			-3.9	0.44	41.59	-0.3114	-0.1398	-0.0026
350	SLU 52			-4.07	0.47	44.77	-0.3327	-0.1446	-0.0028
350	SLU 53			-4.22	0.48	45.86	-0.3445	-0.1502	-0.0029
350	SLU 54			-4.22	0.48	45.81	-0.344	-0.1501	-0.0029
350	SLU 55			-4.19	0.48	45.52	-0.3406	-0.149	-0.0029
350	SLU 56			-4.34	0.49	46.62	-0.3524	-0.1546	-0.003
350	SLU 57			-4.34	0.49	46.57	-0.3519	-0.1545	-0.003
350	SLU 58			-4.31	0.49	46.35	-0.3493	-0.1534	-0.003
350	SLU 59			-4.3	0.49	46.31	-0.3488	-0.1534	-0.003
350	SLU 60			-4.25	0.49	46.86	-0.3495	-0.1505	-0.003
350	SLU 61			-4.25	0.49	46.82	-0.3491	-0.1505	-0.003
350	SLU 62			-4.36	0.5	47.62	-0.3574	-0.1549	-0.003
350	SLU 63			-4.36	0.5	47.58	-0.357	-0.1548	-0.003
350	SLU 64			-4.12	0.47	44.53	-0.3339	-0.1466	-0.0028
350	SLU 65			-4.12	0.47	44.46	-0.3331	-0.1465	-0.0028
350	SLU 66			-4.27	0.48	45.55	-0.3449	-0.1521	-0.0029
350	SLU 67			-4.26	0.48	45.51	-0.3444	-0.1521	-0.0029
350	SLU 68			-4.23	0.48	45.22	-0.341	-0.1509	-0.0029
350	SLU 69			-4.38	0.49	46.31	-0.3528	-0.1565	-0.003
350	SLU 70			-4.38	0.49	46.27	-0.3523	-0.1565	-0.003
350	SLU 71			-4.35	0.49	46.05	-0.3497	-0.1554	-0.003
350	SLU 72			-4.35	0.49	46	-0.3492	-0.1553	-0.003
350	SLU 73			-4.52	0.52	49.18	-0.3705	-0.1602	-0.0031
350	SLU 74			-4.67	0.54	50.28	-0.3823	-0.1658	-0.0032
350	SLU 75			-4.67	0.53	50.23	-0.3818	-0.1657	-0.0032
350	SLU 76			-4.63	0.53	49.94	-0.3784	-0.1645	-0.0032
350	SLU 77			-4.78	0.55	51.03	-0.3902	-0.1701	-0.0033
350	SLU 78			-4.78	0.55	50.99	-0.3897	-0.1701	-0.0033
350	SLU 79			-4.75	0.54	50.77	-0.3871	-0.169	-0.0033
350	SLU 80			-4.75	0.54	50.73	-0.3866	-0.1689	-0.0033
350	SLU 81			-4.69	0.54	51.28	-0.3873	-0.1661	-0.0033
350	SLU 82			-4.69	0.54	51.24	-0.3868	-0.166	-0.0033
350	SLU 83			-4.81	0.55	52.04	-0.3952	-0.1705	-0.0034
350	SLU 84			-4.81	0.55	52	-0.3947	-0.1704	-0.0033
350	SLE RA 1			-3.07	0.35	33.28	-0.2485	-0.1094	-0.0021
350	SLE RA 2			-3.07	0.35	33.24	-0.248	-0.1093	-0.0021



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
350	SLE RA 3			-3.17	0.36	33.96	-0.2558	-0.1131	-0.0022
350	SLE RA 4			-3.17	0.36	33.93	-0.2555	-0.113	-0.0022
350	SLE RA 5			-3.15	0.35	33.74	-0.2533	-0.1122	-0.0021
350	SLE RA 6			-3.25	0.37	34.47	-0.2611	-0.116	-0.0022
350	SLE RA 7			-3.24	0.36	34.44	-0.2608	-0.1159	-0.0022
350	SLE RA 8			-3.22	0.36	34.29	-0.2591	-0.1152	-0.0022
350	SLE RA 9			-3.22	0.36	34.27	-0.2587	-0.1152	-0.0022
350	SLE RA 10			-3.34	0.38	36.39	-0.2729	-0.1184	-0.0023
350	SLE RA 11			-3.44	0.39	37.11	-0.2808	-0.1221	-0.0024
350	SLE RA 12			-3.44	0.39	37.08	-0.2805	-0.1221	-0.0024
350	SLE RA 13			-3.41	0.39	36.89	-0.2782	-0.1213	-0.0024
350	SLE RA 14			-3.51	0.4	37.62	-0.2861	-0.125	-0.0024
350	SLE RA 15			-3.51	0.4	37.59	-0.2857	-0.125	-0.0024
350	SLE RA 16			-3.49	0.4	37.44	-0.284	-0.1243	-0.0024
350	SLE RA 17			-3.49	0.4	37.42	-0.2837	-0.1243	-0.0024
350	SLE RA 18			-3.45	0.4	37.78	-0.2841	-0.1223	-0.0024
350	SLE RA 19			-3.45	0.4	37.75	-0.2838	-0.1223	-0.0024
350	SLE RA 20			-3.53	0.41	38.29	-0.2894	-0.1253	-0.0025
350	SLE RA 21			-3.53	0.4	38.26	-0.2891	-0.1252	-0.0025
350	SLE FR 1			-3.07	0.35	33.28	-0.2485	-0.1094	-0.0021
350	SLE FR 2			-3.07	0.35	33.27	-0.2484	-0.1094	-0.0021
350	SLE FR 3			-3.1	0.35	33.48	-0.2506	-0.1105	-0.0021
350	SLE FR 4			-3.19	0.36	34.62	-0.2591	-0.1133	-0.0022
350	SLE FR 5			-3.22	0.37	34.83	-0.2613	-0.1144	-0.0022
350	SLE FR 6			-3.26	0.37	35.53	-0.2663	-0.1159	-0.0023
350	SLE QP 1			-3.07	0.35	33.28	-0.2485	-0.1094	-0.0021
350	SLE QP 2			-3.19	0.36	34.63	-0.2592	-0.1133	-0.0022
350	SLD 1			2.62	0.31	31.71	-0.1986	0.1392	-0.0012
350	SLD 2			2.62	0.31	31.71	-0.1986	0.1392	-0.0012
350	SLD 3			2.17	0.53	34.96	-0.3984	0.1201	-0.0025
350	SLD 4			2.17	0.53	34.96	-0.3984	0.1201	-0.0025
350	SLD 5			-0.77	0.01	28.83	0.062	-0.0086	0
350	SLD 6			-0.77	0.01	28.83	0.062	-0.0086	0
350	SLD 7			-2.25	0.75	39.66	-0.604	-0.0722	-0.0041
350	SLD 8			-2.25	0.75	39.66	-0.604	-0.0722	-0.0041
350	SLD 9			-4.12	-0.02	29.61	0.0856	-0.1543	-0.0002
350	SLD 10			-4.12	-0.02	29.61	0.0856	-0.1543	-0.0002
350	SLD 11			-5.6	0.71	40.44	-0.5804	-0.218	-0.0043
350	SLD 12			-5.6	0.71	40.44	-0.5804	-0.218	-0.0043
350	SLD 13			-8.55	0.2	34.31	-0.12	-0.3466	-0.0019
350	SLD 14			-8.55	0.2	34.31	-0.12	-0.3466	-0.0019
350	SLD 15			-8.99	0.42	37.56	-0.3198	-0.3657	-0.0032
350	SLD 16			-8.99	0.42	37.56	-0.3198	-0.3657	-0.0032
350	SLV 1			10.35	0.23	27.67	-0.1148	0.4761	0.0001
350	SLV 2			10.35	0.23	27.67	-0.1148	0.4761	0.0001
350	SLV 3			9.29	0.76	35.44	-0.5954	0.4298	-0.0029
350	SLV 4			9.29	0.76	35.44	-0.5954	0.4298	-0.0029
350	SLV 5			2.49	-0.48	20.76	0.5129	0.1337	0.0029
350	SLV 6			2.49	-0.48	20.76	0.5129	0.1337	0.0029
350	SLV 7			-1.06	1.28	46.65	-1.0889	-0.0205	-0.0068
350	SLV 8			-1.06	1.28	46.65	-1.0889	-0.0205	-0.0068
350	SLV 9			-5.31	-0.55	22.61	0.5705	-0.206	0.0024
350	SLV 10			-5.31	-0.55	22.61	0.5705	-0.206	0.0024
350	SLV 11			-8.86	1.2	48.5	-1.0314	-0.3603	-0.0073
350	SLV 12			-8.86	1.2	48.5	-1.0314	-0.3603	-0.0073
350	SLV 13			-15.66	-0.03	33.83	0.077	-0.6563	-0.0015
350	SLV 14			-15.66	-0.03	33.83	0.077	-0.6563	-0.0015
350	SLV 15			-16.73	0.5	41.6	-0.4036	-0.7026	-0.0045
350	SLV 16			-16.73	0.5	41.6	-0.4036	-0.7026	-0.0045
351	SLU 1			-1.72	0.33	29.57	-0.2509	-0.0698	-0.0025
351	SLU 2			-1.72	0.33	29.5	-0.25	-0.0699	-0.0024
351	SLU 3			-1.8	0.34	30.5	-0.2627	-0.0729	-0.0026
351	SLU 4			-1.8	0.34	30.46	-0.2622	-0.073	-0.0026
351	SLU 5			-1.78	0.34	30.2	-0.2587	-0.0722	-0.0025
351	SLU 6			-1.85	0.36	31.2	-0.2714	-0.0753	-0.0027
351	SLU 7			-1.85	0.36	31.16	-0.2709	-0.0753	-0.0026
351	SLU 8			-1.83	0.35	30.97	-0.2682	-0.0745	-0.0026
351	SLU 9			-1.83	0.35	30.93	-0.2676	-0.0745	-0.0026
351	SLU 10			-1.96	0.38	33.84	-0.2894	-0.0796	-0.0028
351	SLU 11			-2.03	0.4	34.83	-0.3021	-0.0826	-0.003
351	SLU 12			-2.03	0.4	34.79	-0.3016	-0.0827	-0.003
351	SLU 13			-2.01	0.39	34.54	-0.2981	-0.0819	-0.0029
351	SLU 14			-2.09	0.41	35.53	-0.3108	-0.085	-0.003
351	SLU 15			-2.09	0.41	35.49	-0.3102	-0.085	-0.003
351	SLU 16			-2.07	0.4	35.31	-0.3075	-0.0842	-0.003
351	SLU 17			-2.07	0.4	35.27	-0.307	-0.0842	-0.003
351	SLU 18			-2.06	0.4	35.76	-0.3072	-0.0836	-0.003
351	SLU 19			-2.06	0.4	35.72	-0.3066	-0.0837	-0.003
351	SLU 20			-2.11	0.41	36.46	-0.3158	-0.086	-0.0031
351	SLU 21			-2.11	0.41	36.42	-0.3153	-0.086	-0.0031
351	SLU 22			-1.98	0.38	33.6	-0.2908	-0.0805	-0.0028
351	SLU 23			-1.98	0.38	33.54	-0.2899	-0.0806	-0.0028
351	SLU 24			-2.06	0.4	34.53	-0.3026	-0.0837	-0.003
351	SLU 25			-2.06	0.4	34.49	-0.3021	-0.0837	-0.003
351	SLU 26			-2.04	0.39	34.24	-0.2986	-0.083	-0.0029
351	SLU 27			-2.11	0.41	35.23	-0.3113	-0.086	-0.003
351	SLU 28			-2.12	0.41	35.19	-0.3108	-0.0861	-0.003
351	SLU 29			-2.09	0.4	35	-0.308	-0.0852	-0.003
351	SLU 30			-2.09	0.4	34.96	-0.3075	-0.0853	-0.003
351	SLU 31			-2.22	0.43	37.87	-0.3293	-0.0903	-0.0032



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
351	SLU 32			-2.29	0.45	38.87	-0.342	-0.0934	-0.0033
351	SLU 33			-2.29	0.45	38.83	-0.3415	-0.0934	-0.0033
351	SLU 34			-2.27	0.44	38.57	-0.3379	-0.0927	-0.0033
351	SLU 35			-2.35	0.46	39.57	-0.3506	-0.0957	-0.0034
351	SLU 36			-2.35	0.46	39.53	-0.3501	-0.0958	-0.0034
351	SLU 37			-2.33	0.46	39.34	-0.3474	-0.0949	-0.0034
351	SLU 38			-2.33	0.46	39.3	-0.3469	-0.095	-0.0034
351	SLU 39			-2.32	0.46	39.8	-0.347	-0.0944	-0.0034
351	SLU 40			-2.32	0.45	39.76	-0.3465	-0.0944	-0.0034
351	SLU 41			-2.37	0.47	40.5	-0.3557	-0.0967	-0.0035
351	SLU 42			-2.37	0.47	40.46	-0.3552	-0.0968	-0.0035
351	SLU 43			-2.15	0.41	37.05	-0.3125	-0.087	-0.0031
351	SLU 44			-2.15	0.41	36.99	-0.3116	-0.0872	-0.003
351	SLU 45			-2.22	0.43	37.98	-0.3243	-0.0902	-0.0032
351	SLU 46			-2.23	0.42	37.94	-0.3238	-0.0903	-0.0032
351	SLU 47			-2.21	0.42	37.69	-0.3203	-0.0895	-0.0031
351	SLU 48			-2.28	0.44	38.68	-0.333	-0.0925	-0.0033
351	SLU 49			-2.28	0.44	38.64	-0.3325	-0.0926	-0.0033
351	SLU 50			-2.26	0.43	38.46	-0.3297	-0.0917	-0.0032
351	SLU 51			-2.26	0.43	38.42	-0.3292	-0.0918	-0.0032
351	SLU 52			-2.38	0.46	41.32	-0.351	-0.0969	-0.0034
351	SLU 53			-2.46	0.48	42.32	-0.3637	-0.0999	-0.0036
351	SLU 54			-2.46	0.48	42.28	-0.3632	-0.0999	-0.0036
351	SLU 55			-2.44	0.47	42.02	-0.3596	-0.0992	-0.0035
351	SLU 56			-2.51	0.49	43.02	-0.3724	-0.1022	-0.0036
351	SLU 57			-2.52	0.49	42.98	-0.3718	-0.1023	-0.0036
351	SLU 58			-2.49	0.48	42.79	-0.3691	-0.1014	-0.0036
351	SLU 59			-2.5	0.48	42.75	-0.3686	-0.1015	-0.0036
351	SLU 60			-2.48	0.48	43.25	-0.3688	-0.1009	-0.0036
351	SLU 61			-2.48	0.48	43.21	-0.3682	-0.101	-0.0036
351	SLU 62			-2.54	0.5	43.95	-0.3774	-0.1032	-0.0037
351	SLU 63			-2.54	0.49	43.91	-0.3769	-0.1033	-0.0037
351	SLU 64			-2.41	0.46	41.09	-0.3524	-0.0978	-0.0034
351	SLU 65			-2.41	0.46	41.02	-0.3515	-0.0979	-0.0034
351	SLU 66			-2.48	0.48	42.02	-0.3642	-0.1009	-0.0036
351	SLU 67			-2.49	0.48	41.98	-0.3637	-0.101	-0.0036
351	SLU 68			-2.47	0.47	41.72	-0.3602	-0.1002	-0.0035
351	SLU 69			-2.54	0.49	42.72	-0.3729	-0.1033	-0.0036
351	SLU 70			-2.54	0.49	42.68	-0.3723	-0.1033	-0.0036
351	SLU 71			-2.52	0.49	42.49	-0.3696	-0.1025	-0.0036
351	SLU 72			-2.52	0.48	42.45	-0.3691	-0.1025	-0.0036
351	SLU 73			-2.65	0.51	45.36	-0.3909	-0.1076	-0.0038
351	SLU 74			-2.72	0.53	46.36	-0.4036	-0.1106	-0.0039
351	SLU 75			-2.72	0.53	46.32	-0.4031	-0.1107	-0.0039
351	SLU 76			-2.7	0.52	46.06	-0.3995	-0.1099	-0.0039
351	SLU 77			-2.78	0.54	47.06	-0.4122	-0.113	-0.004
351	SLU 78			-2.78	0.54	47.02	-0.4117	-0.113	-0.004
351	SLU 79			-2.75	0.54	46.83	-0.409	-0.1122	-0.004
351	SLU 80			-2.76	0.54	46.79	-0.4085	-0.1122	-0.004
351	SLU 81			-2.74	0.54	47.28	-0.4086	-0.1116	-0.004
351	SLU 82			-2.75	0.54	47.24	-0.4081	-0.1117	-0.004
351	SLU 83			-2.8	0.55	47.98	-0.4173	-0.114	-0.0041
351	SLU 84			-2.8	0.55	47.94	-0.4168	-0.114	-0.0041
351	SLE RA 1			-1.8	0.34	30.72	-0.2623	-0.0729	-0.0026
351	SLE RA 2			-1.8	0.34	30.68	-0.2617	-0.0729	-0.0026
351	SLE RA 3			-1.85	0.35	31.34	-0.2702	-0.0749	-0.0026
351	SLE RA 4			-1.85	0.35	31.31	-0.2699	-0.075	-0.0026
351	SLE RA 5			-1.83	0.35	31.14	-0.2675	-0.0745	-0.0026
351	SLE RA 6			-1.88	0.36	31.81	-0.2759	-0.0765	-0.0027
351	SLE RA 7			-1.88	0.36	31.78	-0.2756	-0.0766	-0.0027
351	SLE RA 8			-1.87	0.36	31.65	-0.2738	-0.076	-0.0027
351	SLE RA 9			-1.87	0.36	31.63	-0.2735	-0.076	-0.0027
351	SLE RA 10			-1.95	0.38	33.57	-0.288	-0.0794	-0.0028
351	SLE RA 11			-2	0.39	34.23	-0.2964	-0.0814	-0.0029
351	SLE RA 12			-2	0.39	34.2	-0.2961	-0.0815	-0.0029
351	SLE RA 13			-1.99	0.39	34.03	-0.2937	-0.081	-0.0029
351	SLE RA 14			-2.04	0.4	34.7	-0.3022	-0.083	-0.003
351	SLE RA 15			-2.04	0.4	34.67	-0.3019	-0.083	-0.003
351	SLE RA 16			-2.03	0.39	34.55	-0.3001	-0.0824	-0.0029
351	SLE RA 17			-2.03	0.39	34.52	-0.2997	-0.0825	-0.0029
351	SLE RA 18			-2.02	0.39	34.85	-0.2998	-0.0821	-0.0029
351	SLE RA 19			-2.02	0.39	34.82	-0.2995	-0.0821	-0.0029
351	SLE RA 20			-2.06	0.4	35.32	-0.3056	-0.0836	-0.003
351	SLE RA 21			-2.06	0.4	35.29	-0.3052	-0.0837	-0.003
351	SLE FR 1			-1.8	0.34	30.72	-0.2623	-0.0729	-0.0026
351	SLE FR 2			-1.8	0.34	30.71	-0.2622	-0.0729	-0.0026
351	SLE FR 3			-1.81	0.35	30.91	-0.2646	-0.0735	-0.0026
351	SLE FR 4			-1.86	0.36	31.95	-0.2734	-0.0756	-0.0027
351	SLE FR 5			-1.88	0.36	32.15	-0.2758	-0.0762	-0.0027
351	SLE FR 6			-1.91	0.37	32.78	-0.281	-0.0775	-0.0027
351	SLE QP 1			-1.8	0.34	30.72	-0.2623	-0.0729	-0.0026
351	SLE QP 2			-1.86	0.36	31.96	-0.2735	-0.0756	-0.0027
351	SLD 1			4.18	0.19	29.36	-0.1243	0.1868	-0.0015
351	SLD 2			4.18	0.19	29.36	-0.1243	0.1868	-0.0015
351	SLD 3			3.85	0.43	32.65	-0.346	0.1731	-0.0032
351	SLD 4			3.85	0.43	32.65	-0.346	0.1731	-0.0032
351	SLD 5			0.44	-0.07	26.17	0.1075	0.0238	0.0003
351	SLD 6			0.44	-0.07	26.17	0.1075	0.0238	0.0003
351	SLD 7			-0.64	0.76	37.17	-0.6316	-0.0217	-0.0054
351	SLD 8			-0.64	0.76	37.17	-0.6316	-0.0217	-0.0054



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
351	SLD 9	-3.09	-0.04	26.75	0.0845	-0.1296	0.0001
351	SLD 10	-3.09	-0.04	26.75	0.0845	-0.1296	0.0001
351	SLD 11	-4.16	0.78	37.74	-0.6546	-0.175	-0.0056
351	SLD 12	-4.16	0.78	37.74	-0.6546	-0.175	-0.0056
351	SLD 13	-7.58	0.28	31.26	-0.2011	-0.3244	-0.0022
351	SLD 14	-7.58	0.28	31.26	-0.2011	-0.3244	-0.0022
351	SLD 15	-7.9	0.53	34.56	-0.4228	-0.338	-0.0039
351	SLD 16	-7.9	0.53	34.56	-0.4228	-0.338	-0.0039
351	SLV 1	12.22	-0.05	25.74	0.0861	0.5362	0.0002
351	SLV 2	12.22	-0.05	25.74	0.0861	0.5362	0.0002
351	SLV 3	11.45	0.54	33.64	-0.4472	0.5041	-0.0039
351	SLV 4	11.45	0.54	33.64	-0.4472	0.5041	-0.0039
351	SLV 5	3.53	-0.66	18.11	0.6432	0.1567	0.0044
351	SLV 6	3.53	-0.66	18.11	0.6432	0.1567	0.0044
351	SLV 7	0.97	1.31	44.45	-1.1345	0.0495	-0.0092
351	SLV 8	0.97	1.31	44.45	-1.1345	0.0495	-0.0092
351	SLV 9	-4.69	-0.59	19.47	0.5874	-0.2007	0.0039
351	SLV 10	-4.69	-0.59	19.47	0.5874	-0.2007	0.0039
351	SLV 11	-7.25	1.38	45.81	-1.1903	-0.308	-0.0098
351	SLV 12	-7.25	1.38	45.81	-1.1903	-0.308	-0.0098
351	SLV 13	-15.18	0.18	30.27	-0.0999	-0.6553	-0.0015
351	SLV 14	-15.18	0.18	30.27	-0.0999	-0.6553	-0.0015
351	SLV 15	-15.94	0.77	38.18	-0.6332	-0.6875	-0.0056
351	SLV 16	-15.94	0.77	38.18	-0.6332	-0.6875	-0.0056
352	SLU 1	0.05	0.33	28.61	-0.2549	0.0056	-0.0026
352	SLU 2	0.04	0.32	28.54	-0.254	0.0052	-0.0026
352	SLU 3	0.07	0.34	29.52	-0.2672	0.0063	-0.0028
352	SLU 4	0.07	0.34	29.48	-0.2667	0.006	-0.0027
352	SLU 5	0.06	0.34	29.24	-0.2631	0.0059	-0.0027
352	SLU 6	0.09	0.35	30.22	-0.2763	0.0069	-0.0028
352	SLU 7	0.08	0.35	30.18	-0.2757	0.0067	-0.0028
352	SLU 8	0.09	0.35	30.01	-0.2731	0.0069	-0.0028
352	SLU 9	0.09	0.35	29.97	-0.2725	0.0067	-0.0028
352	SLU 10	0.08	0.38	32.73	-0.294	0.0077	-0.003
352	SLU 11	0.11	0.39	33.71	-0.3072	0.0087	-0.0032
352	SLU 12	0.1	0.39	33.67	-0.3067	0.0085	-0.0032
352	SLU 13	0.1	0.39	33.43	-0.3031	0.0083	-0.0031
352	SLU 14	0.13	0.4	34.41	-0.3163	0.0094	-0.0033
352	SLU 15	0.12	0.4	34.37	-0.3157	0.0092	-0.0033
352	SLU 16	0.13	0.4	34.2	-0.313	0.0094	-0.0032
352	SLU 17	0.12	0.4	34.16	-0.3125	0.0092	-0.0032
352	SLU 18	0.11	0.4	34.59	-0.312	0.0091	-0.0032
352	SLU 19	0.1	0.4	34.55	-0.3115	0.0089	-0.0032
352	SLU 20	0.13	0.41	35.29	-0.3211	0.0098	-0.0033
352	SLU 21	0.12	0.41	35.25	-0.3206	0.0096	-0.0033
352	SLU 22	0.07	0.38	32.5	-0.2955	0.0071	-0.003
352	SLU 23	0.07	0.38	32.44	-0.2946	0.0067	-0.003
352	SLU 24	0.09	0.39	33.42	-0.3078	0.0078	-0.0032
352	SLU 25	0.09	0.39	33.38	-0.3073	0.0076	-0.0032
352	SLU 26	0.08	0.39	33.14	-0.3037	0.0074	-0.0031
352	SLU 27	0.11	0.4	34.12	-0.3169	0.0085	-0.0033
352	SLU 28	0.11	0.4	34.08	-0.3163	0.0082	-0.0033
352	SLU 29	0.11	0.4	33.9	-0.3137	0.0085	-0.0032
352	SLU 30	0.11	0.4	33.86	-0.3131	0.0082	-0.0032
352	SLU 31	0.1	0.43	36.62	-0.3346	0.0092	-0.0035
352	SLU 32	0.13	0.44	37.6	-0.3478	0.0103	-0.0036
352	SLU 33	0.12	0.44	37.56	-0.3473	0.01	-0.0036
352	SLU 34	0.12	0.44	37.33	-0.3437	0.0099	-0.0035
352	SLU 35	0.15	0.46	38.31	-0.3569	0.0109	-0.0037
352	SLU 36	0.14	0.46	38.27	-0.3563	0.0107	-0.0037
352	SLU 37	0.15	0.45	38.09	-0.3536	0.011	-0.0036
352	SLU 38	0.15	0.45	38.05	-0.3531	0.0107	-0.0036
352	SLU 39	0.13	0.45	38.49	-0.3526	0.0106	-0.0036
352	SLU 40	0.12	0.45	38.45	-0.3521	0.0104	-0.0036
352	SLU 41	0.15	0.46	39.19	-0.3617	0.0113	-0.0037
352	SLU 42	0.14	0.46	39.15	-0.3612	0.0111	-0.0037
352	SLU 43	0.06	0.41	35.86	-0.3175	0.0067	-0.0033
352	SLU 44	0.05	0.4	35.79	-0.3166	0.0063	-0.0033
352	SLU 45	0.08	0.42	36.77	-0.3298	0.0074	-0.0034
352	SLU 46	0.07	0.42	36.73	-0.3292	0.0072	-0.0034
352	SLU 47	0.07	0.42	36.49	-0.3256	0.007	-0.0034
352	SLU 48	0.1	0.43	37.47	-0.3388	0.0081	-0.0035
352	SLU 49	0.09	0.43	37.43	-0.3383	0.0079	-0.0035
352	SLU 50	0.1	0.43	37.26	-0.3356	0.0081	-0.0035
352	SLU 51	0.1	0.43	37.22	-0.3351	0.0079	-0.0035
352	SLU 52	0.09	0.45	39.98	-0.3566	0.0088	-0.0037
352	SLU 53	0.12	0.47	40.96	-0.3697	0.0099	-0.0038
352	SLU 54	0.11	0.47	40.92	-0.3692	0.0096	-0.0038
352	SLU 55	0.11	0.47	40.68	-0.3656	0.0095	-0.0038
352	SLU 56	0.14	0.48	41.66	-0.3788	0.0106	-0.0039
352	SLU 57	0.13	0.48	41.62	-0.3783	0.0103	-0.0039
352	SLU 58	0.14	0.48	41.45	-0.3756	0.0106	-0.0039
352	SLU 59	0.13	0.48	41.41	-0.3751	0.0103	-0.0039
352	SLU 60	0.12	0.48	41.84	-0.3746	0.0103	-0.0039
352	SLU 61	0.11	0.48	41.8	-0.3741	0.01	-0.0039
352	SLU 62	0.14	0.49	42.54	-0.3837	0.0109	-0.004
352	SLU 63	0.13	0.49	42.5	-0.3831	0.0107	-0.004
352	SLU 64	0.08	0.46	39.75	-0.3581	0.0083	-0.0037
352	SLU 65	0.07	0.46	39.68	-0.3572	0.0079	-0.0037
352	SLU 66	0.1	0.47	40.66	-0.3704	0.0089	-0.0038



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
352	SLU 67	0.1	0.47	40.62	-0.3698	0.0087	-0.0038
352	SLU 68	0.09	0.47	40.38	-0.3662	0.0086	-0.0038
352	SLU 69	0.12	0.48	41.36	-0.3794	0.0096	-0.0039
352	SLU 70	0.11	0.48	41.32	-0.3789	0.0094	-0.0039
352	SLU 71	0.12	0.48	41.15	-0.3762	0.0096	-0.0039
352	SLU 72	0.12	0.48	41.11	-0.3757	0.0094	-0.0039
352	SLU 73	0.11	0.51	43.87	-0.3972	0.0103	-0.0041
352	SLU 74	0.14	0.52	44.85	-0.4103	0.0114	-0.0042
352	SLU 75	0.13	0.52	44.81	-0.4098	0.0112	-0.0042
352	SLU 76	0.13	0.52	44.57	-0.4062	0.011	-0.0042
352	SLU 77	0.16	0.54	45.55	-0.4194	0.0121	-0.0043
352	SLU 78	0.15	0.54	45.51	-0.4189	0.0119	-0.0043
352	SLU 79	0.16	0.53	45.34	-0.4162	0.0121	-0.0043
352	SLU 80	0.15	0.53	45.3	-0.4157	0.0119	-0.0043
352	SLU 81	0.14	0.53	45.73	-0.4152	0.0118	-0.0043
352	SLU 82	0.13	0.53	45.69	-0.4147	0.0116	-0.0043
352	SLU 83	0.16	0.54	46.43	-0.4243	0.0125	-0.0044
352	SLU 84	0.15	0.54	46.39	-0.4237	0.0122	-0.0044
352	SLE RA 1	0.06	0.34	29.72	-0.2665	0.006	-0.0027
352	SLE RA 2	0.05	0.34	29.68	-0.2659	0.0058	-0.0027
352	SLE RA 3	0.07	0.35	30.33	-0.2747	0.0065	-0.0028
352	SLE RA 4	0.07	0.35	30.3	-0.2744	0.0063	-0.0028
352	SLE RA 5	0.07	0.35	30.14	-0.272	0.0062	-0.0028
352	SLE RA 6	0.08	0.36	30.8	-0.2808	0.0069	-0.0029
352	SLE RA 7	0.08	0.36	30.77	-0.2804	0.0068	-0.0029
352	SLE RA 8	0.09	0.36	30.66	-0.2786	0.0069	-0.0029
352	SLE RA 9	0.08	0.36	30.63	-0.2782	0.0068	-0.0029
352	SLE RA 10	0.08	0.37	32.47	-0.2926	0.0074	-0.003
352	SLE RA 11	0.1	0.38	33.12	-0.3014	0.0081	-0.0031
352	SLE RA 12	0.09	0.38	33.1	-0.301	0.008	-0.0031
352	SLE RA 13	0.09	0.38	32.94	-0.2986	0.0079	-0.0031
352	SLE RA 14	0.11	0.39	33.59	-0.3074	0.0086	-0.0032
352	SLE RA 15	0.11	0.39	33.56	-0.3071	0.0084	-0.0032
352	SLE RA 16	0.11	0.39	33.45	-0.3053	0.0086	-0.0031
352	SLE RA 17	0.11	0.39	33.42	-0.3049	0.0084	-0.0031
352	SLE RA 18	0.1	0.39	33.71	-0.3046	0.0084	-0.0031
352	SLE RA 19	0.09	0.39	33.68	-0.3042	0.0082	-0.0031
352	SLE RA 20	0.11	0.4	34.18	-0.3106	0.0088	-0.0032
352	SLE RA 21	0.11	0.4	34.15	-0.3103	0.0087	-0.0032
352	SLE FR 1	0.06	0.34	29.72	-0.2665	0.006	-0.0027
352	SLE FR 2	0.06	0.34	29.71	-0.2664	0.006	-0.0027
352	SLE FR 3	0.06	0.34	29.91	-0.2689	0.0062	-0.0028
352	SLE FR 4	0.07	0.35	30.91	-0.2778	0.0067	-0.0029
352	SLE FR 5	0.08	0.36	31.1	-0.2804	0.0069	-0.0029
352	SLE FR 6	0.08	0.36	31.72	-0.2856	0.0072	-0.0029
352	SLE QP 1	0.06	0.34	29.72	-0.2665	0.006	-0.0027
352	SLE QP 2	0.07	0.35	30.92	-0.2779	0.0067	-0.0029
352	SLD 1	5.88	0.18	28.72	-0.1262	0.2569	-0.0015
352	SLD 2	5.88	0.18	28.72	-0.1262	0.2569	-0.0015
352	SLD 3	6.2	0.44	32.02	-0.3555	0.2713	-0.0035
352	SLD 4	6.2	0.44	32.02	-0.3555	0.2713	-0.0035
352	SLD 5	1.34	-0.08	25.26	0.1154	0.0599	0.0006
352	SLD 6	1.34	-0.08	25.26	0.1154	0.0599	0.0006
352	SLD 7	2.38	0.77	36.25	-0.649	0.108	-0.0061
352	SLD 8	2.38	0.77	36.25	-0.649	0.108	-0.0061
352	SLD 9	-2.24	-0.06	25.59	0.0931	-0.0946	0.0004
352	SLD 10	-2.24	-0.06	25.59	0.0931	-0.0946	0.0004
352	SLD 11	-1.2	0.79	36.58	-0.6712	-0.0464	-0.0063
352	SLD 12	-1.2	0.79	36.58	-0.6712	-0.0464	-0.0063
352	SLD 13	-6.05	0.27	29.82	-0.2004	-0.2579	-0.0022
352	SLD 14	-6.05	0.27	29.82	-0.2004	-0.2579	-0.0022
352	SLD 15	-5.74	0.52	33.11	-0.4297	-0.2434	-0.0042
352	SLD 16	-5.74	0.52	33.11	-0.4297	-0.2434	-0.0042
352	SLV 1	13.61	-0.05	25.65	0.0871	0.5894	0.0003
352	SLV 2	13.61	-0.05	25.65	0.0871	0.5894	0.0003
352	SLV 3	14.36	0.56	33.55	-0.4645	0.6239	-0.0045
352	SLV 4	14.36	0.56	33.55	-0.4645	0.6239	-0.0045
352	SLV 5	3.01	-0.69	17.35	0.6682	0.1292	0.0054
352	SLV 6	3.01	-0.69	17.35	0.6682	0.1292	0.0054
352	SLV 7	5.48	1.34	43.69	-1.1706	0.2442	-0.0106
352	SLV 8	5.48	1.34	43.69	-1.1706	0.2442	-0.0106
352	SLV 9	-5.34	-0.63	18.14	0.6147	-0.2308	0.0049
352	SLV 10	-5.34	-0.63	18.14	0.6147	-0.2308	0.0049
352	SLV 11	-2.87	1.4	44.48	-1.2241	-0.1157	-0.0111
352	SLV 12	-2.87	1.4	44.48	-1.2241	-0.1157	-0.0111
352	SLV 13	-14.22	0.15	28.28	-0.0913	-0.6105	-0.0013
352	SLV 14	-14.22	0.15	28.28	-0.0913	-0.6105	-0.0013
352	SLV 15	-13.47	0.76	36.18	-0.643	-0.576	-0.0061
352	SLV 16	-13.47	0.76	36.18	-0.643	-0.576	-0.0061
353	SLU 1	1.7	0.34	29.34	-0.254	0.0655	-0.0028
353	SLU 2	1.69	0.33	29.27	-0.2531	0.0648	-0.0028
353	SLU 3	1.81	0.35	30.32	-0.2664	0.0697	-0.0029
353	SLU 4	1.8	0.35	30.28	-0.2659	0.0693	-0.0029
353	SLU 5	1.78	0.35	30.03	-0.2623	0.0684	-0.0029
353	SLU 6	1.91	0.37	31.09	-0.2757	0.0734	-0.003
353	SLU 7	1.9	0.36	31.05	-0.2752	0.073	-0.003
353	SLU 8	1.89	0.36	30.87	-0.2725	0.0728	-0.003
353	SLU 9	1.88	0.36	30.83	-0.272	0.0723	-0.003
353	SLU 10	1.97	0.39	33.58	-0.293	0.0751	-0.0032
353	SLU 11	2.09	0.41	34.63	-0.3063	0.08	-0.0033



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
353	SLU 12		2.08	0.4	34.59	-0.3058	0.0796	-0.0033
353	SLU 13		2.06	0.4	34.35	-0.3022	0.0787	-0.0033
353	SLU 14		2.19	0.42	35.4	-0.3156	0.0837	-0.0034
353	SLU 15		2.18	0.42	35.36	-0.315	0.0833	-0.0034
353	SLU 16		2.17	0.41	35.19	-0.3124	0.083	-0.0034
353	SLU 17		2.16	0.41	35.15	-0.3119	0.0826	-0.0034
353	SLU 18		2.1	0.41	35.5	-0.311	0.0802	-0.0034
353	SLU 19		2.09	0.41	35.46	-0.3104	0.0798	-0.0034
353	SLU 20		2.2	0.42	36.27	-0.3202	0.0838	-0.0035
353	SLU 21		2.19	0.42	36.23	-0.3197	0.0834	-0.0035
353	SLU 22		1.98	0.39	33.36	-0.2945	0.0758	-0.0032
353	SLU 23		1.96	0.39	33.29	-0.2936	0.0751	-0.0032
353	SLU 24		2.09	0.41	34.34	-0.307	0.08	-0.0033
353	SLU 25		2.08	0.41	34.3	-0.3064	0.0796	-0.0033
353	SLU 26		2.06	0.4	34.06	-0.3029	0.0788	-0.0033
353	SLU 27		2.18	0.42	35.11	-0.3162	0.0837	-0.0034
353	SLU 28		2.17	0.42	35.07	-0.3157	0.0833	-0.0034
353	SLU 29		2.17	0.42	34.9	-0.3131	0.0831	-0.0034
353	SLU 30		2.16	0.41	34.86	-0.3125	0.0827	-0.0034
353	SLU 31		2.24	0.44	37.61	-0.3335	0.0854	-0.0036
353	SLU 32		2.37	0.46	38.66	-0.3469	0.0903	-0.0038
353	SLU 33		2.36	0.46	38.62	-0.3463	0.0899	-0.0038
353	SLU 34		2.34	0.45	38.37	-0.3428	0.0891	-0.0037
353	SLU 35		2.46	0.47	39.43	-0.3561	0.094	-0.0039
353	SLU 36		2.45	0.47	39.38	-0.3556	0.0936	-0.0039
353	SLU 37		2.45	0.47	39.21	-0.353	0.0934	-0.0039
353	SLU 38		2.44	0.47	39.17	-0.3524	0.093	-0.0038
353	SLU 39		2.38	0.47	39.53	-0.3515	0.0905	-0.0038
353	SLU 40		2.37	0.46	39.48	-0.351	0.0901	-0.0038
353	SLU 41		2.47	0.48	40.29	-0.3608	0.0941	-0.0039
353	SLU 42		2.46	0.48	40.25	-0.3603	0.0937	-0.0039
353	SLU 43		2.12	0.42	36.76	-0.3162	0.0816	-0.0034
353	SLU 44		2.11	0.42	36.69	-0.3153	0.0809	-0.0034
353	SLU 45		2.23	0.43	37.74	-0.3287	0.0858	-0.0036
353	SLU 46		2.22	0.43	37.7	-0.3281	0.0854	-0.0036
353	SLU 47		2.2	0.43	37.46	-0.3246	0.0845	-0.0035
353	SLU 48		2.32	0.45	38.51	-0.338	0.0895	-0.0037
353	SLU 49		2.32	0.45	38.47	-0.3374	0.0891	-0.0037
353	SLU 50		2.31	0.44	38.3	-0.3348	0.0888	-0.0036
353	SLU 51		2.3	0.44	38.25	-0.3343	0.0884	-0.0036
353	SLU 52		2.38	0.47	41	-0.3552	0.0912	-0.0039
353	SLU 53		2.51	0.49	42.06	-0.3686	0.0961	-0.004
353	SLU 54		2.5	0.49	42.01	-0.368	0.0957	-0.004
353	SLU 55		2.48	0.48	41.77	-0.3645	0.0948	-0.004
353	SLU 56		2.6	0.5	42.82	-0.3779	0.0998	-0.0041
353	SLU 57		2.59	0.5	42.78	-0.3773	0.0994	-0.0041
353	SLU 58		2.59	0.5	42.61	-0.3747	0.0991	-0.0041
353	SLU 59		2.58	0.5	42.57	-0.3742	0.0987	-0.0041
353	SLU 60		2.52	0.49	42.92	-0.3732	0.0963	-0.0041
353	SLU 61		2.51	0.49	42.88	-0.3727	0.0959	-0.0041
353	SLU 62		2.61	0.51	43.69	-0.3825	0.0999	-0.0042
353	SLU 63		2.6	0.51	43.65	-0.382	0.0995	-0.0042
353	SLU 64		2.4	0.47	40.79	-0.3568	0.0919	-0.0039
353	SLU 65		2.38	0.47	40.71	-0.3559	0.0912	-0.0039
353	SLU 66		2.51	0.49	41.77	-0.3692	0.0961	-0.004
353	SLU 67		2.5	0.49	41.72	-0.3687	0.0957	-0.004
353	SLU 68		2.48	0.48	41.48	-0.3652	0.0949	-0.004
353	SLU 69		2.6	0.5	42.53	-0.3785	0.0998	-0.0041
353	SLU 70		2.59	0.5	42.49	-0.378	0.0994	-0.0041
353	SLU 71		2.59	0.5	42.32	-0.3754	0.0992	-0.0041
353	SLU 72		2.58	0.5	42.28	-0.3748	0.0988	-0.0041
353	SLU 73		2.66	0.52	45.03	-0.3958	0.1015	-0.0043
353	SLU 74		2.79	0.54	46.08	-0.4091	0.1064	-0.0045
353	SLU 75		2.78	0.54	46.04	-0.4086	0.106	-0.0045
353	SLU 76		2.75	0.54	45.8	-0.4051	0.1052	-0.0044
353	SLU 77		2.88	0.55	46.85	-0.4184	0.1101	-0.0046
353	SLU 78		2.87	0.55	46.81	-0.4179	0.1097	-0.0046
353	SLU 79		2.86	0.55	46.63	-0.4153	0.1095	-0.0045
353	SLU 80		2.85	0.55	46.59	-0.4147	0.1091	-0.0045
353	SLU 81		2.8	0.55	46.95	-0.4138	0.1066	-0.0045
353	SLU 82		2.79	0.55	46.9	-0.4133	0.1062	-0.0045
353	SLU 83		2.89	0.56	47.72	-0.4231	0.1102	-0.0046
353	SLU 84		2.88	0.56	47.67	-0.4225	0.1098	-0.0046
353	SLE RA 1		1.78	0.35	30.49	-0.2655	0.0684	-0.0029
353	SLE RA 2		1.77	0.35	30.44	-0.2649	0.068	-0.0029
353	SLE RA 3		1.86	0.36	31.14	-0.2738	0.0713	-0.003
353	SLE RA 4		1.85	0.36	31.11	-0.2735	0.071	-0.003
353	SLE RA 5		1.84	0.36	30.95	-0.2711	0.0704	-0.003
353	SLE RA 6		1.92	0.37	31.66	-0.28	0.0737	-0.0031
353	SLE RA 7		1.91	0.37	31.63	-0.2797	0.0734	-0.003
353	SLE RA 8		1.91	0.37	31.51	-0.2779	0.0733	-0.003
353	SLE RA 9		1.9	0.37	31.48	-0.2776	0.073	-0.003
353	SLE RA 10		1.96	0.39	33.32	-0.2915	0.0748	-0.0032
353	SLE RA 11		2.04	0.4	34.02	-0.3004	0.0781	-0.0033
353	SLE RA 12		2.04	0.4	33.99	-0.3001	0.0778	-0.0033
353	SLE RA 13		2.02	0.39	33.83	-0.2977	0.0773	-0.0032
353	SLE RA 14		2.1	0.41	34.53	-0.3066	0.0805	-0.0033
353	SLE RA 15		2.1	0.41	34.5	-0.3063	0.0803	-0.0033
353	SLE RA 16		2.09	0.4	34.39	-0.3045	0.0801	-0.0033
353	SLE RA 17		2.09	0.4	34.36	-0.3042	0.0799	-0.0033



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
356	SLU 27	4.38	0.27	46.64	-0.1902	0.1558	-0.0016
356	SLU 28	4.36	0.27	46.57	-0.1899	0.1552	-0.0016
356	SLU 29	4.35	0.26	46.35	-0.1883	0.1546	-0.0016
356	SLU 30	4.33	0.26	46.29	-0.188	0.154	-0.0016
356	SLU 31	4.37	0.28	49.38	-0.2012	0.155	-0.0017
356	SLU 32	4.63	0.29	51.06	-0.209	0.1644	-0.0018
356	SLU 33	4.62	0.29	51	-0.2087	0.1638	-0.0018
356	SLU 34	4.57	0.29	50.67	-0.2066	0.1622	-0.0018
356	SLU 35	4.83	0.3	52.35	-0.2144	0.1716	-0.0019
356	SLU 36	4.82	0.3	52.29	-0.2141	0.171	-0.0019
356	SLU 37	4.8	0.3	52.06	-0.2125	0.1704	-0.0018
356	SLU 38	4.79	0.3	52	-0.2122	0.1698	-0.0018
356	SLU 39	4.59	0.3	51.94	-0.2121	0.1628	-0.0018
356	SLU 40	4.58	0.3	51.87	-0.2118	0.1622	-0.0018
356	SLU 41	4.8	0.3	53.22	-0.2175	0.17	-0.0019
356	SLU 42	4.78	0.3	53.16	-0.2171	0.1694	-0.0019
356	SLU 43	4.29	0.27	47.88	-0.1906	0.1528	-0.0016
356	SLU 44	4.26	0.27	47.78	-0.19	0.1518	-0.0016
356	SLU 45	4.52	0.28	49.46	-0.1979	0.1612	-0.0017
356	SLU 46	4.51	0.28	49.39	-0.1976	0.1606	-0.0017
356	SLU 47	4.46	0.27	49.06	-0.1954	0.159	-0.0017
356	SLU 48	4.72	0.28	50.75	-0.2033	0.1684	-0.0018
356	SLU 49	4.71	0.28	50.68	-0.203	0.1678	-0.0018
356	SLU 50	4.69	0.28	50.46	-0.2014	0.1672	-0.0017
356	SLU 51	4.67	0.28	50.39	-0.2011	0.1666	-0.0017
356	SLU 52	4.72	0.3	53.49	-0.2142	0.1676	-0.0018
356	SLU 53	4.98	0.31	55.17	-0.2221	0.177	-0.0019
356	SLU 54	4.96	0.31	55.11	-0.2218	0.1764	-0.0019
356	SLU 55	4.92	0.31	54.78	-0.2196	0.1748	-0.0019
356	SLU 56	5.18	0.32	56.46	-0.2275	0.1842	-0.002
356	SLU 57	5.16	0.32	56.4	-0.2272	0.1836	-0.002
356	SLU 58	5.15	0.32	56.17	-0.2256	0.1831	-0.002
356	SLU 59	5.13	0.32	56.11	-0.2253	0.1825	-0.0019
356	SLU 60	4.94	0.31	56.04	-0.2251	0.1754	-0.0019
356	SLU 61	4.92	0.31	55.98	-0.2248	0.1748	-0.0019
356	SLU 62	5.14	0.32	57.33	-0.2305	0.1826	-0.002
356	SLU 63	5.12	0.32	57.27	-0.2302	0.182	-0.002
356	SLU 64	4.8	0.3	53.38	-0.215	0.1707	-0.0019
356	SLU 65	4.77	0.3	53.27	-0.2145	0.1697	-0.0019
356	SLU 66	5.03	0.31	54.95	-0.2224	0.1791	-0.0019
356	SLU 67	5.02	0.31	54.89	-0.2221	0.1785	-0.0019
356	SLU 68	4.97	0.31	54.56	-0.2199	0.1769	-0.0019
356	SLU 69	5.23	0.32	56.24	-0.2278	0.1863	-0.002
356	SLU 70	5.22	0.32	56.18	-0.2275	0.1857	-0.002
356	SLU 71	5.2	0.32	55.95	-0.2258	0.1852	-0.002
356	SLU 72	5.19	0.32	55.89	-0.2255	0.1846	-0.002
356	SLU 73	5.23	0.33	58.98	-0.2387	0.1855	-0.0021
356	SLU 74	5.49	0.35	60.67	-0.2466	0.1949	-0.0021
356	SLU 75	5.47	0.34	60.6	-0.2463	0.1943	-0.0021
356	SLU 76	5.43	0.34	60.27	-0.2441	0.1928	-0.0021
356	SLU 77	5.69	0.35	61.95	-0.252	0.2021	-0.0022
356	SLU 78	5.67	0.35	61.89	-0.2517	0.2015	-0.0022
356	SLU 79	5.66	0.35	61.67	-0.25	0.201	-0.0022
356	SLU 80	5.64	0.35	61.6	-0.2497	0.2004	-0.0022
356	SLU 81	5.45	0.35	61.54	-0.2496	0.1933	-0.0022
356	SLU 82	5.43	0.35	61.47	-0.2493	0.1927	-0.0022
356	SLU 83	5.65	0.36	62.83	-0.255	0.2005	-0.0022
356	SLU 84	5.63	0.36	62.76	-0.2547	0.1999	-0.0022
356	SLE RA 1	3.58	0.22	39.85	-0.16	0.1274	-0.0014
356	SLE RA 2	3.56	0.22	39.78	-0.1597	0.1267	-0.0014
356	SLE RA 3	3.73	0.23	40.9	-0.1649	0.133	-0.0014
356	SLE RA 4	3.72	0.23	40.86	-0.1647	0.1326	-0.0014
356	SLE RA 5	3.7	0.23	40.64	-0.1633	0.1315	-0.0014
356	SLE RA 6	3.87	0.24	41.76	-0.1685	0.1378	-0.0015
356	SLE RA 7	3.86	0.24	41.72	-0.1683	0.1374	-0.0015
356	SLE RA 8	3.85	0.23	41.57	-0.1672	0.137	-0.0014
356	SLE RA 9	3.84	0.23	41.53	-0.167	0.1366	-0.0014
356	SLE RA 10	3.87	0.25	43.59	-0.1758	0.1373	-0.0015
356	SLE RA 11	4.04	0.25	44.71	-0.1811	0.1435	-0.0016
356	SLE RA 12	4.03	0.25	44.67	-0.1809	0.1431	-0.0016
356	SLE RA 13	4	0.25	44.45	-0.1794	0.1421	-0.0015
356	SLE RA 14	4.17	0.26	45.57	-0.1847	0.1483	-0.0016
356	SLE RA 15	4.16	0.26	45.53	-0.1845	0.1479	-0.0016
356	SLE RA 16	4.15	0.26	45.38	-0.1834	0.1476	-0.0016
356	SLE RA 17	4.14	0.26	45.33	-0.1832	0.1472	-0.0016
356	SLE RA 18	4.01	0.26	45.29	-0.1831	0.1425	-0.0016
356	SLE RA 19	4	0.26	45.25	-0.1829	0.1421	-0.0016
356	SLE RA 20	4.15	0.26	46.15	-0.1867	0.1473	-0.0016
356	SLE RA 21	4.14	0.26	46.11	-0.1865	0.1469	-0.0016
356	SLE FR 1	3.58	0.22	39.85	-0.16	0.1274	-0.0014
356	SLE FR 2	3.58	0.22	39.84	-0.16	0.1273	-0.0014
356	SLE FR 3	3.63	0.23	40.19	-0.1615	0.1293	-0.0014
356	SLE FR 4	3.71	0.23	41.47	-0.1669	0.1318	-0.0014
356	SLE FR 5	3.76	0.24	41.83	-0.1684	0.1338	-0.0015
356	SLE FR 6	3.8	0.24	42.57	-0.1716	0.1349	-0.0015
356	SLE QP 1	3.58	0.22	39.85	-0.16	0.1274	-0.0014
356	SLE QP 2	3.71	0.23	41.48	-0.1669	0.1319	-0.0014
356	SLD 1	8.43	0.12	40.76	-0.073	0.3392	-0.0007
356	SLD 2	8.43	0.12	40.76	-0.073	0.3392	-0.0007
356	SLD 3	9.14	0.24	44.16	-0.1952	0.3665	-0.0016



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
356	SLD 4		9.14	0.24	44.16	-0.1952	0.3665	-0.0016
356	SLD 5		4.04	0.01	36.1	0.0465	0.1527	0
356	SLD 6		4.04	0.01	36.1	0.0465	0.1527	0
356	SLD 7		6.42	0.42	47.45	-0.3606	0.2437	-0.0028
356	SLD 8		6.42	0.42	47.45	-0.3606	0.2437	-0.0028
356	SLD 9		0.99	0.04	35.52	0.0268	0.0202	-0.0001
356	SLD 10		0.99	0.04	35.52	0.0268	0.0202	-0.0001
356	SLD 11		3.38	0.46	46.86	-0.3804	0.1111	-0.0029
356	SLD 12		3.38	0.46	46.86	-0.3804	0.1111	-0.0029
356	SLD 13		-1.72	0.22	38.81	-0.1387	-0.1027	-0.0013
356	SLD 14		-1.72	0.22	38.81	-0.1387	-0.1027	-0.0013
356	SLD 15		-1.01	0.35	42.21	-0.2609	-0.0754	-0.0021
356	SLD 16		-1.01	0.35	42.21	-0.2609	-0.0754	-0.0021
356	SLV 1		14.67	-0.04	39.75	0.0602	0.6138	0.0002
356	SLV 2		14.67	-0.04	39.75	0.0602	0.6138	0.0002
356	SLV 3		16.4	0.26	47.85	-0.2347	0.6796	-0.0018
356	SLV 4		16.4	0.26	47.85	-0.2347	0.6796	-0.0018
356	SLV 5		4.38	-0.3	28.69	0.3486	0.1766	0.0021
356	SLV 6		4.38	-0.3	28.69	0.3486	0.1766	0.0021
356	SLV 7		10.13	0.69	55.67	-0.6347	0.3961	-0.0046
356	SLV 8		10.13	0.69	55.67	-0.6347	0.3961	-0.0046
356	SLV 9		-2.71	-0.22	27.3	0.3008	-0.1323	0.0017
356	SLV 10		-2.71	-0.22	27.3	0.3008	-0.1323	0.0017
356	SLV 11		3.04	0.77	54.28	-0.6825	0.0873	-0.005
356	SLV 12		3.04	0.77	54.28	-0.6825	0.0873	-0.005
356	SLV 13		-8.98	0.21	35.12	-0.0991	-0.4158	-0.0011
356	SLV 14		-8.98	0.21	35.12	-0.0991	-0.4158	-0.0011
356	SLV 15		-7.25	0.51	43.21	-0.3941	-0.3499	-0.0031
356	SLV 16		-7.25	0.51	43.21	-0.3941	-0.3499	-0.0031
357	SLU 1		2.76	0.03	42.06	-0.0723	0.1035	-0.0003
357	SLU 2		2.74	0.03	41.94	-0.072	0.1024	-0.0003
357	SLU 3		2.97	0.03	43.91	-0.0753	0.1113	-0.0003
357	SLU 4		2.96	0.03	43.84	-0.0752	0.1107	-0.0003
357	SLU 5		2.92	0.03	43.47	-0.0741	0.1093	-0.0003
357	SLU 6		3.16	0.03	45.44	-0.0774	0.1181	-0.0003
357	SLU 7		3.14	0.03	45.37	-0.0772	0.1175	-0.0003
357	SLU 8		3.13	0.03	45.12	-0.0763	0.1171	-0.0003
357	SLU 9		3.12	0.03	45.05	-0.0762	0.1165	-0.0003
357	SLU 10		3.04	0.04	48.2	-0.0834	0.1136	-0.0003
357	SLU 11		3.28	0.04	50.17	-0.0867	0.1224	-0.0003
357	SLU 12		3.27	0.04	50.1	-0.0866	0.1218	-0.0003
357	SLU 13		3.23	0.04	49.73	-0.0854	0.1204	-0.0003
357	SLU 14		3.47	0.04	51.7	-0.0887	0.1293	-0.0003
357	SLU 15		3.45	0.04	51.63	-0.0886	0.1286	-0.0003
357	SLU 16		3.44	0.04	51.39	-0.0877	0.1283	-0.0003
357	SLU 17		3.43	0.04	51.31	-0.0876	0.1276	-0.0003
357	SLU 18		3.2	0.04	51.01	-0.0885	0.1194	-0.0003
357	SLU 19		3.19	0.04	50.94	-0.0884	0.1188	-0.0003
357	SLU 20		3.39	0.04	52.54	-0.0905	0.1262	-0.0003
357	SLU 21		3.37	0.04	52.47	-0.0904	0.1256	-0.0003
357	SLU 22		3.14	0.04	48.16	-0.0836	0.1176	-0.0003
357	SLU 23		3.12	0.04	48.04	-0.0834	0.1165	-0.0003
357	SLU 24		3.36	0.04	50.01	-0.0867	0.1254	-0.0003
357	SLU 25		3.34	0.04	49.94	-0.0866	0.1247	-0.0003
357	SLU 26		3.31	0.04	49.57	-0.0854	0.1233	-0.0003
357	SLU 27		3.54	0.04	51.54	-0.0887	0.1322	-0.0003
357	SLU 28		3.53	0.04	51.47	-0.0886	0.1315	-0.0003
357	SLU 29		3.52	0.04	51.22	-0.0877	0.1312	-0.0003
357	SLU 30		3.5	0.04	51.15	-0.0876	0.1306	-0.0003
357	SLU 31		3.43	0.04	54.3	-0.0948	0.1277	-0.0003
357	SLU 32		3.66	0.04	56.27	-0.0981	0.1365	-0.0004
357	SLU 33		3.65	0.04	56.2	-0.0979	0.1359	-0.0004
357	SLU 34		3.61	0.04	55.83	-0.0968	0.1345	-0.0004
357	SLU 35		3.85	0.04	57.8	-0.1001	0.1433	-0.0004
357	SLU 36		3.83	0.04	57.73	-0.1	0.1427	-0.0004
357	SLU 37		3.82	0.04	57.48	-0.0991	0.1423	-0.0004
357	SLU 38		3.81	0.04	57.41	-0.0989	0.1417	-0.0004
357	SLU 39		3.59	0.04	57.11	-0.0999	0.1335	-0.0004
357	SLU 40		3.57	0.04	57.03	-0.0997	0.1329	-0.0004
357	SLU 41		3.77	0.04	58.64	-0.1019	0.1403	-0.0004
357	SLU 42		3.76	0.04	58.56	-0.1018	0.1397	-0.0004
357	SLU 43		3.46	0.04	52.59	-0.09	0.1297	-0.0003
357	SLU 44		3.43	0.04	52.47	-0.0898	0.1287	-0.0003
357	SLU 45		3.67	0.04	54.44	-0.0931	0.1375	-0.0003
357	SLU 46		3.65	0.04	54.37	-0.093	0.1369	-0.0003
357	SLU 47		3.62	0.04	54	-0.0918	0.1355	-0.0003
357	SLU 48		3.86	0.04	55.97	-0.0951	0.1443	-0.0003
357	SLU 49		3.84	0.04	55.9	-0.095	0.1437	-0.0003
357	SLU 50		3.83	0.04	55.65	-0.0941	0.1433	-0.0003
357	SLU 51		3.82	0.04	55.58	-0.094	0.1427	-0.0003
357	SLU 52		3.74	0.05	58.73	-0.1012	0.1398	-0.0004
357	SLU 53		3.98	0.05	60.7	-0.1045	0.1487	-0.0004
357	SLU 54		3.96	0.05	60.63	-0.1043	0.148	-0.0004
357	SLU 55		3.93	0.05	60.26	-0.1032	0.1466	-0.0004
357	SLU 56		4.16	0.05	62.23	-0.1065	0.1555	-0.0004
357	SLU 57		4.15	0.05	62.16	-0.1064	0.1548	-0.0004
357	SLU 58		4.14	0.05	61.91	-0.1055	0.1545	-0.0004
357	SLU 59		4.12	0.05	61.84	-0.1053	0.1539	-0.0004
357	SLU 60		3.9	0.05	61.54	-0.1063	0.1456	-0.0004
357	SLU 61		3.88	0.05	61.46	-0.1061	0.145	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
357	SLU 62		4.09	0.05	63.07	-0.1083	0.1525	-0.0004
357	SLU 63		4.07	0.05	62.99	-0.1082	0.1518	-0.0004
357	SLU 64		3.84	0.05	58.69	-0.1014	0.1438	-0.0004
357	SLU 65		3.82	0.05	58.57	-0.1012	0.1427	-0.0004
357	SLU 66		4.05	0.05	60.54	-0.1045	0.1516	-0.0004
357	SLU 67		4.04	0.05	60.46	-0.1043	0.1509	-0.0004
357	SLU 68		4	0.05	60.1	-0.1032	0.1495	-0.0004
357	SLU 69		4.24	0.05	62.07	-0.1065	0.1584	-0.0004
357	SLU 70		4.22	0.05	61.99	-0.1064	0.1578	-0.0004
357	SLU 71		4.21	0.05	61.75	-0.1055	0.1574	-0.0004
357	SLU 72		4.2	0.05	61.68	-0.1053	0.1568	-0.0004
357	SLU 73		4.12	0.05	64.83	-0.1125	0.1539	-0.0004
357	SLU 74		4.36	0.05	66.8	-0.1159	0.1627	-0.0004
357	SLU 75		4.35	0.05	66.73	-0.1157	0.1621	-0.0004
357	SLU 76		4.31	0.05	66.36	-0.1146	0.1607	-0.0004
357	SLU 77		4.55	0.05	68.33	-0.1179	0.1695	-0.0004
357	SLU 78		4.53	0.05	68.26	-0.1177	0.1689	-0.0004
357	SLU 79		4.52	0.05	68.01	-0.1169	0.1686	-0.0004
357	SLU 80		4.51	0.05	67.94	-0.1167	0.1679	-0.0004
357	SLU 81		4.28	0.05	67.63	-0.1177	0.1597	-0.0004
357	SLU 82		4.27	0.05	67.56	-0.1175	0.1591	-0.0004
357	SLU 83		4.47	0.05	69.16	-0.1197	0.1665	-0.0004
357	SLU 84		4.45	0.05	69.09	-0.1196	0.1659	-0.0004
357	SLE RA 1		2.87	0.03	43.8	-0.0755	0.1075	-0.0003
357	SLE RA 2		2.85	0.03	43.72	-0.0754	0.1068	-0.0003
357	SLE RA 3		3.01	0.03	45.04	-0.0776	0.1127	-0.0003
357	SLE RA 4		3	0.03	44.99	-0.0775	0.1123	-0.0003
357	SLE RA 5		2.98	0.03	44.74	-0.0767	0.1114	-0.0003
357	SLE RA 6		3.14	0.03	46.06	-0.0789	0.1172	-0.0003
357	SLE RA 7		3.13	0.03	46.01	-0.0788	0.1168	-0.0003
357	SLE RA 8		3.12	0.03	45.85	-0.0782	0.1166	-0.0003
357	SLE RA 9		3.11	0.03	45.8	-0.0781	0.1162	-0.0003
357	SLE RA 10		3.06	0.04	47.9	-0.0829	0.1143	-0.0003
357	SLE RA 11		3.22	0.04	49.21	-0.0851	0.1201	-0.0003
357	SLE RA 12		3.21	0.04	49.16	-0.085	0.1197	-0.0003
357	SLE RA 13		3.18	0.04	48.92	-0.0843	0.1188	-0.0003
357	SLE RA 14		3.34	0.04	50.23	-0.0865	0.1247	-0.0003
357	SLE RA 15		3.33	0.04	50.18	-0.0864	0.1243	-0.0003
357	SLE RA 16		3.32	0.04	50.02	-0.0858	0.124	-0.0003
357	SLE RA 17		3.31	0.04	49.97	-0.0857	0.1236	-0.0003
357	SLE RA 18		3.16	0.04	49.77	-0.0863	0.1181	-0.0003
357	SLE RA 19		3.15	0.04	49.72	-0.0862	0.1177	-0.0003
357	SLE RA 20		3.29	0.04	50.79	-0.0877	0.1227	-0.0003
357	SLE RA 21		3.28	0.04	50.74	-0.0876	0.1223	-0.0003
357	SLE FR 1		2.87	0.03	43.8	-0.0755	0.1075	-0.0003
357	SLE FR 2		2.87	0.03	43.79	-0.0755	0.1074	-0.0003
357	SLE FR 3		2.92	0.03	44.21	-0.0761	0.1093	-0.0003
357	SLE FR 4		2.96	0.04	45.58	-0.0787	0.1106	-0.0003
357	SLE FR 5		3.01	0.04	46	-0.0793	0.1125	-0.0003
357	SLE FR 6		3.02	0.04	46.79	-0.0809	0.1128	-0.0003
357	SLE QP 1		2.87	0.03	43.8	-0.0755	0.1075	-0.0003
357	SLE QP 2		2.96	0.04	45.59	-0.0788	0.1107	-0.0003
357	SLD 1		7.57	-0.05	45	-0.0122	0.3163	-0.0003
357	SLD 2		7.57	-0.05	45	-0.0122	0.3163	-0.0003
357	SLD 3		8.39	0.01	48.99	-0.0885	0.3468	0.0001
357	SLD 4		8.39	0.01	48.99	-0.0885	0.3468	0.0001
357	SLD 5		3.1	-0.09	39.37	0.057	0.1262	-0.0009
357	SLD 6		3.1	-0.09	39.37	0.057	0.1262	-0.0009
357	SLD 7		5.83	0.13	52.66	-0.1974	0.2277	0.0005
357	SLD 8		5.83	0.13	52.66	-0.1974	0.2277	0.0005
357	SLD 9		0.09	-0.06	38.53	0.0399	-0.0063	-0.0011
357	SLD 10		0.09	-0.06	38.53	0.0399	-0.0063	-0.0011
357	SLD 11		2.82	0.16	51.82	-0.2145	0.0952	0.0004
357	SLD 12		2.82	0.16	51.82	-0.2145	0.0952	0.0004
357	SLD 13		-2.47	0.06	42.2	-0.069	-0.1254	-0.0007
357	SLD 14		-2.47	0.06	42.2	-0.069	-0.1254	-0.0007
357	SLD 15		-1.65	0.12	46.19	-0.1453	-0.0949	-0.0003
357	SLD 16		-1.65	0.12	46.19	-0.1453	-0.0949	-0.0003
357	SLV 1		13.67	-0.18	44.17	0.0836	0.5881	-0.0003
357	SLV 2		13.67	-0.18	44.17	0.0836	0.5881	-0.0003
357	SLV 3		15.65	-0.03	53.63	-0.1014	0.6622	0.0007
357	SLV 4		15.65	-0.03	53.63	-0.1014	0.6622	0.0007
357	SLV 5		3.17	-0.27	30.81	0.2505	0.1416	-0.0018
357	SLV 6		3.17	-0.27	30.81	0.2505	0.1416	-0.0018
357	SLV 7		9.77	0.26	62.36	-0.3661	0.3885	0.0015
357	SLV 8		9.77	0.26	62.36	-0.3661	0.3885	0.0015
357	SLV 9		-3.86	-0.19	28.83	0.2086	-0.1671	-0.0021
357	SLV 10		-3.86	-0.19	28.83	0.2086	-0.1671	-0.0021
357	SLV 11		2.75	0.34	60.38	-0.4081	0.0798	0.0013
357	SLV 12		2.75	0.34	60.38	-0.4081	0.0798	0.0013
357	SLV 13		-9.73	0.1	37.55	-0.0561	-0.4408	-0.0013
357	SLV 14		-9.73	0.1	37.55	-0.0561	-0.4408	-0.0013
357	SLV 15		-7.75	0.25	47.02	-0.2412	-0.3667	-0.0002
357	SLV 16		-7.75	0.25	47.02	-0.2412	-0.3667	-0.0002
358	SLU 1		1.31	-0.2	46.45	0.0059	0.0223	-0.0002
358	SLU 2		1.29	-0.19	46.31	0.0058	0.0216	-0.0002
358	SLU 3		1.45	-0.21	48.64	0.007	0.0258	-0.0002
358	SLU 4		1.44	-0.21	48.56	0.007	0.0254	-0.0002
358	SLU 5		1.42	-0.2	48.15	0.0071	0.0249	-0.0002
358	SLU 6		1.58	-0.22	50.48	0.0083	0.0292	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
358	SLU 7		1.57	-0.22	50.4	0.0083	0.0288	-0.0002
358	SLU 8		1.57	-0.22	50.13	0.0084	0.0291	-0.0002
358	SLU 9		1.56	-0.22	50.05	0.0084	0.0286	-0.0002
358	SLU 10		1.33	-0.23	53.19	0.0068	0.0185	-0.0002
358	SLU 11		1.49	-0.24	55.53	0.0079	0.0228	-0.0002
358	SLU 12		1.48	-0.24	55.44	0.0079	0.0224	-0.0002
358	SLU 13		1.46	-0.24	55.04	0.0081	0.0219	-0.0002
358	SLU 14		1.62	-0.25	57.37	0.0092	0.0262	-0.0002
358	SLU 15		1.61	-0.25	57.28	0.0092	0.0257	-0.0002
358	SLU 16		1.62	-0.25	57.02	0.0094	0.0261	-0.0002
358	SLU 17		1.6	-0.25	56.93	0.0094	0.0256	-0.0002
358	SLU 18		1.37	-0.24	56.28	0.0073	0.018	-0.0002
358	SLU 19		1.36	-0.24	56.2	0.0072	0.0176	-0.0002
358	SLU 20		1.5	-0.25	58.12	0.0085	0.0214	-0.0002
358	SLU 21		1.49	-0.25	58.04	0.0085	0.0209	-0.0002
358	SLU 22		1.44	-0.23	53.24	0.007	0.0225	-0.0002
358	SLU 23		1.42	-0.23	53.11	0.007	0.0217	-0.0002
358	SLU 24		1.58	-0.24	55.44	0.0081	0.026	-0.0002
358	SLU 25		1.57	-0.24	55.35	0.0081	0.0255	-0.0002
358	SLU 26		1.55	-0.24	54.95	0.0083	0.025	-0.0002
358	SLU 27		1.71	-0.25	57.28	0.0094	0.0293	-0.0002
358	SLU 28		1.7	-0.25	57.19	0.0094	0.0289	-0.0002
358	SLU 29		1.7	-0.25	56.93	0.0096	0.0292	-0.0002
358	SLU 30		1.69	-0.25	56.84	0.0096	0.0287	-0.0002
358	SLU 31		1.46	-0.26	59.99	0.008	0.0186	-0.0002
358	SLU 32		1.62	-0.27	62.32	0.0091	0.0229	-0.0002
358	SLU 33		1.61	-0.27	62.24	0.0091	0.0225	-0.0002
358	SLU 34		1.59	-0.27	61.83	0.0093	0.022	-0.0002
358	SLU 35		1.75	-0.28	64.16	0.0104	0.0263	-0.0003
358	SLU 36		1.74	-0.28	64.08	0.0104	0.0258	-0.0002
358	SLU 37		1.74	-0.28	63.81	0.0106	0.0262	-0.0002
358	SLU 38		1.73	-0.28	63.73	0.0106	0.0257	-0.0002
358	SLU 39		1.5	-0.27	63.08	0.0084	0.0181	-0.0002
358	SLU 40		1.49	-0.27	62.99	0.0084	0.0177	-0.0002
358	SLU 41		1.63	-0.28	64.92	0.0097	0.0215	-0.0003
358	SLU 42		1.62	-0.28	64.84	0.0097	0.021	-0.0003
358	SLU 43		1.66	-0.24	58.06	0.0072	0.029	-0.0002
358	SLU 44		1.64	-0.24	57.92	0.0072	0.0282	-0.0002
358	SLU 45		1.8	-0.25	60.25	0.0083	0.0325	-0.0002
358	SLU 46		1.79	-0.25	60.16	0.0083	0.032	-0.0002
358	SLU 47		1.77	-0.25	59.76	0.0085	0.0316	-0.0002
358	SLU 48		1.93	-0.26	62.09	0.0096	0.0359	-0.0002
358	SLU 49		1.92	-0.26	62.01	0.0096	0.0354	-0.0002
358	SLU 50		1.92	-0.26	61.74	0.0098	0.0358	-0.0002
358	SLU 51		1.91	-0.26	61.66	0.0098	0.0353	-0.0002
358	SLU 52		1.68	-0.27	64.8	0.0082	0.0252	-0.0002
358	SLU 53		1.84	-0.29	67.13	0.0093	0.0295	-0.0003
358	SLU 54		1.83	-0.29	67.05	0.0093	0.029	-0.0003
358	SLU 55		1.81	-0.28	66.64	0.0095	0.0286	-0.0003
358	SLU 56		1.97	-0.3	68.97	0.0106	0.0329	-0.0003
358	SLU 57		1.96	-0.3	68.89	0.0106	0.0324	-0.0003
358	SLU 58		1.97	-0.29	68.62	0.0108	0.0327	-0.0003
358	SLU 59		1.95	-0.29	68.54	0.0108	0.0323	-0.0003
358	SLU 60		1.72	-0.29	67.89	0.0086	0.0247	-0.0003
358	SLU 61		1.71	-0.29	67.81	0.0086	0.0242	-0.0003
358	SLU 62		1.85	-0.3	69.73	0.0099	0.0281	-0.0003
358	SLU 63		1.84	-0.3	69.65	0.0099	0.0276	-0.0003
358	SLU 64		1.79	-0.28	64.85	0.0084	0.0291	-0.0002
358	SLU 65		1.77	-0.27	64.71	0.0084	0.0283	-0.0002
358	SLU 66		1.93	-0.29	67.04	0.0095	0.0326	-0.0003
358	SLU 67		1.92	-0.29	66.96	0.0095	0.0321	-0.0003
358	SLU 68		1.9	-0.28	66.55	0.0097	0.0317	-0.0003
358	SLU 69		2.06	-0.3	68.88	0.0108	0.036	-0.0003
358	SLU 70		2.05	-0.3	68.8	0.0108	0.0355	-0.0003
358	SLU 71		2.05	-0.3	68.53	0.011	0.0359	-0.0003
358	SLU 72		2.04	-0.29	68.45	0.011	0.0354	-0.0003
358	SLU 73		1.81	-0.31	71.59	0.0093	0.0253	-0.0003
358	SLU 74		1.97	-0.32	73.92	0.0105	0.0296	-0.0003
358	SLU 75		1.96	-0.32	73.84	0.0105	0.0291	-0.0003
358	SLU 76		1.94	-0.32	73.44	0.0106	0.0287	-0.0003
358	SLU 77		2.1	-0.33	75.77	0.0118	0.033	-0.0003
358	SLU 78		2.09	-0.33	75.68	0.0118	0.0325	-0.0003
358	SLU 79		2.09	-0.33	75.42	0.0119	0.0328	-0.0003
358	SLU 80		2.08	-0.33	75.33	0.0119	0.0324	-0.0003
358	SLU 81		1.85	-0.32	74.68	0.0098	0.0248	-0.0003
358	SLU 82		1.84	-0.32	74.6	0.0098	0.0243	-0.0003
358	SLU 83		1.98	-0.33	76.52	0.0111	0.0282	-0.0003
358	SLU 84		1.97	-0.33	76.44	0.0111	0.0277	-0.0003
358	SLE RA 1		1.35	-0.2	48.39	0.0062	0.0224	-0.0002
358	SLE RA 2		1.33	-0.2	48.3	0.0062	0.0218	-0.0002
358	SLE RA 3		1.44	-0.21	49.85	0.0069	0.0247	-0.0002
358	SLE RA 4		1.43	-0.21	49.8	0.0069	0.0244	-0.0002
358	SLE RA 5		1.42	-0.21	49.53	0.007	0.0241	-0.0002
358	SLE RA 6		1.53	-0.22	51.08	0.0078	0.027	-0.0002
358	SLE RA 7		1.52	-0.22	51.03	0.0078	0.0266	-0.0002
358	SLE RA 8		1.52	-0.22	50.85	0.0079	0.0269	-0.0002
358	SLE RA 9		1.51	-0.22	50.79	0.0079	0.0266	-0.0002
358	SLE RA 10		1.36	-0.23	52.89	0.0068	0.0198	-0.0002
358	SLE RA 11		1.47	-0.23	54.44	0.0076	0.0227	-0.0002
358	SLE RA 12		1.46	-0.23	54.39	0.0076	0.0224	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
358	SLE RA 13		1.45	-0.23	54.12	0.0077	0.0221	-0.0002
358	SLE RA 14		1.56	-0.24	55.67	0.0084	0.0249	-0.0002
358	SLE RA 15		1.55	-0.24	55.61	0.0084	0.0246	-0.0002
358	SLE RA 16		1.55	-0.24	55.44	0.0086	0.0249	-0.0002
358	SLE RA 17		1.54	-0.24	55.38	0.0086	0.0245	-0.0002
358	SLE RA 18		1.39	-0.23	54.95	0.0071	0.0195	-0.0002
358	SLE RA 19		1.38	-0.23	54.89	0.0071	0.0192	-0.0002
358	SLE RA 20		1.48	-0.24	56.17	0.008	0.0217	-0.0002
358	SLE RA 21		1.47	-0.24	56.12	0.008	0.0214	-0.0002
358	SLE FR 1		1.35	-0.2	48.39	0.0062	0.0224	-0.0002
358	SLE FR 2		1.35	-0.2	48.37	0.0062	0.0223	-0.0002
358	SLE FR 3		1.38	-0.21	48.88	0.0065	0.0233	-0.0002
358	SLE FR 4		1.36	-0.21	50.34	0.0065	0.0214	-0.0002
358	SLE FR 5		1.4	-0.22	50.85	0.0068	0.0224	-0.0002
358	SLE FR 6		1.37	-0.22	51.67	0.0067	0.0209	-0.0002
358	SLE QP 1		1.35	-0.2	48.39	0.0062	0.0224	-0.0002
358	SLE QP 2		1.36	-0.21	50.36	0.0065	0.0215	-0.0002
358	SLD 1		5.9	-0.15	45.52	0.0064	0.2223	0
358	SLD 2		5.9	-0.15	45.52	0.0064	0.2223	0
358	SLD 3		6.83	-0.19	50.82	0.0431	0.2525	-0.0001
358	SLD 4		6.83	-0.19	50.82	0.0431	0.2525	-0.0001
358	SLD 5		1.32	-0.14	40.87	-0.0492	0.036	0.0001
358	SLD 6		1.32	-0.14	40.87	-0.0492	0.036	0.0001
358	SLD 7		4.41	-0.26	58.53	0.0731	0.1365	-0.0004
358	SLD 8		4.41	-0.26	58.53	0.0731	0.1365	-0.0004
358	SLD 9		-1.68	-0.17	42.19	-0.0601	-0.0935	0
358	SLD 10		-1.68	-0.17	42.19	-0.0601	-0.0935	0
358	SLD 11		1.4	-0.29	59.84	0.0621	0.007	-0.0005
358	SLD 12		1.4	-0.29	59.84	0.0621	0.007	-0.0005
358	SLD 13		-4.11	-0.24	49.9	-0.0301	-0.2095	-0.0003
358	SLD 14		-4.11	-0.24	49.9	-0.0301	-0.2095	-0.0003
358	SLD 15		-3.18	-0.28	55.2	0.0066	-0.1793	-0.0004
358	SLD 16		-3.18	-0.28	55.2	0.0066	-0.1793	-0.0004
358	SLV 1		11.9	-0.05	38.94	0.0071	0.4879	0.0003
358	SLV 2		11.9	-0.05	38.94	0.0071	0.4879	0.0003
358	SLV 3		14.13	-0.14	51.49	0.0965	0.561	0
358	SLV 4		14.13	-0.14	51.49	0.0965	0.561	0
358	SLV 5		1.14	-0.03	27.89	-0.129	0.0506	0.0004
358	SLV 6		1.14	-0.03	27.89	-0.129	0.0506	0.0004
358	SLV 7		8.57	-0.32	69.74	0.1691	0.2942	-0.0006
358	SLV 8		8.57	-0.32	69.74	0.1691	0.2942	-0.0006
358	SLV 9		-5.85	-0.1	30.98	-0.1562	-0.2512	0.0002
358	SLV 10		-5.85	-0.1	30.98	-0.1562	-0.2512	0.0002
358	SLV 11		1.58	-0.39	72.82	0.1419	-0.0076	-0.0008
358	SLV 12		1.58	-0.39	72.82	0.1419	-0.0076	-0.0008
358	SLV 13		-11.41	-0.29	49.22	-0.0836	-0.518	-0.0004
358	SLV 14		-11.41	-0.29	49.22	-0.0836	-0.518	-0.0004
358	SLV 15		-9.18	-0.37	61.78	0.0059	-0.4449	-0.0007
358	SLV 16		-9.18	-0.37	61.78	0.0059	-0.4449	-0.0007
359	SLU 1		-2.35	-6.86	71.57	0.1086	-0.0893	-0.0002
359	SLU 2		-2.37	-6.84	71.36	0.1084	-0.0898	-0.0002
359	SLU 3		-2.46	-7.29	75.13	0.1185	-0.0932	-0.0002
359	SLU 4		-2.47	-7.28	75	0.1183	-0.0935	-0.0002
359	SLU 5		-2.45	-7.23	74.37	0.1184	-0.093	-0.0002
359	SLU 6		-2.54	-7.67	78.14	0.1285	-0.0964	-0.0003
359	SLU 7		-2.55	-7.66	78.01	0.1284	-0.0967	-0.0003
359	SLU 8		-2.52	-7.63	77.59	0.1287	-0.0956	-0.0002
359	SLU 9		-2.53	-7.62	77.46	0.1286	-0.096	-0.0003
359	SLU 10		-2.93	-7.9	81.95	0.1241	-0.1116	-0.0003
359	SLU 11		-3.03	-8.35	85.72	0.1342	-0.115	-0.0003
359	SLU 12		-3.03	-8.34	85.59	0.1341	-0.1153	-0.0003
359	SLU 13		-3.02	-8.28	84.96	0.1342	-0.1148	-0.0003
359	SLU 14		-3.11	-8.73	88.73	0.1443	-0.1182	-0.0003
359	SLU 15		-3.12	-8.72	88.6	0.1441	-0.1185	-0.0003
359	SLU 16		-3.09	-8.68	88.18	0.1444	-0.1174	-0.0003
359	SLU 17		-3.1	-8.67	88.05	0.1443	-0.1178	-0.0003
359	SLU 18		-3.17	-8.37	86.7	0.1311	-0.1204	-0.0003
359	SLU 19		-3.17	-8.36	86.57	0.131	-0.1207	-0.0003
359	SLU 20		-3.25	-8.75	89.71	0.1411	-0.1236	-0.0003
359	SLU 21		-3.26	-8.74	89.58	0.141	-0.1239	-0.0003
359	SLU 22		-2.85	-7.93	82.11	0.1252	-0.1083	-0.0003
359	SLU 23		-2.86	-7.91	81.89	0.125	-0.1088	-0.0003
359	SLU 24		-2.96	-8.35	85.66	0.1351	-0.1122	-0.0003
359	SLU 25		-2.96	-8.34	85.54	0.1349	-0.1125	-0.0003
359	SLU 26		-2.95	-8.29	84.9	0.135	-0.112	-0.0003
359	SLU 27		-3.04	-8.73	88.67	0.1451	-0.1154	-0.0003
359	SLU 28		-3.05	-8.72	88.54	0.145	-0.1157	-0.0003
359	SLU 29		-3.02	-8.69	88.12	0.1453	-0.1147	-0.0003
359	SLU 30		-3.03	-8.68	88	0.1452	-0.115	-0.0003
359	SLU 31		-3.43	-8.96	92.48	0.1407	-0.1306	-0.0003
359	SLU 32		-3.52	-9.41	96.25	0.1508	-0.134	-0.0003
359	SLU 33		-3.53	-9.4	96.12	0.1507	-0.1343	-0.0003
359	SLU 34		-3.51	-9.35	95.49	0.1508	-0.1338	-0.0003
359	SLU 35		-3.61	-9.79	99.26	0.1608	-0.1372	-0.0003
359	SLU 36		-3.61	-9.78	99.13	0.1607	-0.1375	-0.0003
359	SLU 37		-3.59	-9.75	98.71	0.161	-0.1365	-0.0003
359	SLU 38		-3.59	-9.73	98.58	0.1609	-0.1368	-0.0003
359	SLU 39		-3.66	-9.43	97.23	0.1477	-0.1394	-0.0003
359	SLU 40		-3.67	-9.42	97.1	0.1475	-0.1397	-0.0003
359	SLU 41		-3.75	-9.82	100.24	0.1577	-0.1426	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
359	SLU 42			-3.75	-9.81	100.11	0.1576	-0.1429	-0.0004
359	SLU 43			-2.89	-8.56	89.43	0.1355	-0.1095	-0.0003
359	SLU 44			-2.9	-8.54	89.22	0.1353	-0.11	-0.0003
359	SLU 45			-2.99	-8.98	92.99	0.1454	-0.1135	-0.0003
359	SLU 46			-3	-8.97	92.86	0.1452	-0.1138	-0.0003
359	SLU 47			-2.99	-8.92	92.23	0.1453	-0.1132	-0.0003
359	SLU 48			-3.08	-9.37	96	0.1554	-0.1167	-0.0003
359	SLU 49			-3.09	-9.36	95.87	0.1553	-0.117	-0.0003
359	SLU 50			-3.06	-9.32	95.45	0.1556	-0.1159	-0.0003
359	SLU 51			-3.07	-9.31	95.33	0.1555	-0.1162	-0.0003
359	SLU 52			-3.47	-9.6	99.81	0.151	-0.1318	-0.0003
359	SLU 53			-3.56	-10.04	103.58	0.1611	-0.1353	-0.0003
359	SLU 54			-3.57	-10.03	103.45	0.161	-0.1356	-0.0003
359	SLU 55			-3.55	-9.98	102.82	0.1611	-0.135	-0.0003
359	SLU 56			-3.65	-10.42	106.59	0.1712	-0.1385	-0.0004
359	SLU 57			-3.65	-10.41	106.46	0.171	-0.1388	-0.0004
359	SLU 58			-3.63	-10.38	106.04	0.1713	-0.1377	-0.0004
359	SLU 59			-3.63	-10.37	105.91	0.1712	-0.138	-0.0004
359	SLU 60			-3.7	-10.07	104.56	0.158	-0.1407	-0.0004
359	SLU 61			-3.71	-10.06	104.43	0.1579	-0.141	-0.0004
359	SLU 62			-3.79	-10.45	107.57	0.168	-0.1439	-0.0004
359	SLU 63			-3.79	-10.44	107.44	0.1679	-0.1442	-0.0004
359	SLU 64			-3.39	-9.62	99.97	0.1521	-0.1285	-0.0003
359	SLU 65			-3.4	-9.6	99.75	0.1519	-0.129	-0.0003
359	SLU 66			-3.49	-10.05	103.52	0.162	-0.1325	-0.0003
359	SLU 67			-3.5	-10.04	103.4	0.1618	-0.1328	-0.0003
359	SLU 68			-3.48	-9.98	102.76	0.1619	-0.1322	-0.0003
359	SLU 69			-3.58	-10.43	106.53	0.172	-0.1357	-0.0003
359	SLU 70			-3.58	-10.42	106.41	0.1719	-0.136	-0.0003
359	SLU 71			-3.56	-10.38	105.99	0.1722	-0.1349	-0.0003
359	SLU 72			-3.56	-10.37	105.86	0.172	-0.1352	-0.0003
359	SLU 73			-3.97	-10.66	110.34	0.1676	-0.1508	-0.0004
359	SLU 74			-4.06	-11.1	114.11	0.1777	-0.1543	-0.0004
359	SLU 75			-4.07	-11.09	113.98	0.1776	-0.1546	-0.0004
359	SLU 76			-4.05	-11.04	113.35	0.1776	-0.154	-0.0004
359	SLU 77			-4.14	-11.49	117.12	0.1877	-0.1575	-0.0004
359	SLU 78			-4.15	-11.47	116.99	0.1876	-0.1578	-0.0004
359	SLU 79			-4.12	-11.44	116.57	0.1879	-0.1567	-0.0004
359	SLU 80			-4.13	-11.43	116.44	0.1878	-0.157	-0.0004
359	SLU 81			-4.2	-11.13	115.09	0.1746	-0.1597	-0.0004
359	SLU 82			-4.21	-11.12	114.96	0.1744	-0.16	-0.0004
359	SLU 83			-4.28	-11.51	118.1	0.1846	-0.1629	-0.0004
359	SLU 84			-4.29	-11.5	117.97	0.1845	-0.1632	-0.0004
359	SLE RA 1			-2.5	-7.17	74.58	0.1134	-0.0947	-0.0002
359	SLE RA 2			-2.5	-7.15	74.44	0.1132	-0.095	-0.0002
359	SLE RA 3			-2.57	-7.45	76.95	0.1199	-0.0973	-0.0003
359	SLE RA 4			-2.57	-7.44	76.87	0.1198	-0.0975	-0.0003
359	SLE RA 5			-2.56	-7.41	76.45	0.1199	-0.0972	-0.0002
359	SLE RA 6			-2.62	-7.71	78.96	0.1266	-0.0994	-0.0003
359	SLE RA 7			-2.63	-7.7	78.88	0.1265	-0.0997	-0.0003
359	SLE RA 8			-2.61	-7.68	78.6	0.1267	-0.0989	-0.0003
359	SLE RA 9			-2.61	-7.67	78.51	0.1267	-0.0992	-0.0003
359	SLE RA 10			-2.88	-7.86	81.5	0.1237	-0.1096	-0.0003
359	SLE RA 11			-2.94	-8.16	84.01	0.1304	-0.1119	-0.0003
359	SLE RA 12			-2.95	-8.15	83.93	0.1303	-0.1121	-0.0003
359	SLE RA 13			-2.94	-8.11	83.51	0.1304	-0.1117	-0.0003
359	SLE RA 14			-3	-8.41	86.02	0.1371	-0.114	-0.0003
359	SLE RA 15			-3.01	-8.4	85.93	0.137	-0.1142	-0.0003
359	SLE RA 16			-2.99	-8.38	85.65	0.1372	-0.1135	-0.0003
359	SLE RA 17			-2.99	-8.37	85.57	0.1371	-0.1137	-0.0003
359	SLE RA 18			-3.04	-8.17	84.67	0.1283	-0.1154	-0.0003
359	SLE RA 19			-3.04	-8.17	84.58	0.1283	-0.1157	-0.0003
359	SLE RA 20			-3.09	-8.43	86.67	0.135	-0.1176	-0.0003
359	SLE RA 21			-3.1	-8.42	86.59	0.1349	-0.1178	-0.0003
359	SLE FR 1			-2.5	-7.17	74.58	0.1134	-0.0947	-0.0002
359	SLE FR 2			-2.5	-7.16	74.55	0.1133	-0.0948	-0.0002
359	SLE FR 3			-2.52	-7.27	75.39	0.116	-0.0955	-0.0002
359	SLE FR 4			-2.66	-7.47	77.58	0.1178	-0.101	-0.0003
359	SLE FR 5			-2.68	-7.57	78.41	0.1205	-0.1018	-0.0003
359	SLE FR 6			-2.77	-7.67	79.62	0.1208	-0.1051	-0.0003
359	SLE QP 1			-2.5	-7.17	74.58	0.1134	-0.0947	-0.0002
359	SLE QP 2			-2.66	-7.47	77.61	0.1179	-0.1009	-0.0003
359	SLD 1			2.48	-5.46	68.1	0.0833	0.1224	0.0002
359	SLD 2			2.48	-5.46	68.1	0.0833	0.1224	0.0002
359	SLD 3			2.85	-8.15	78.27	0.1987	0.1408	0.0001
359	SLD 4			2.85	-8.15	78.27	0.1987	0.1408	0.0001
359	SLD 5			-1.67	-2.79	59.34	-0.0676	-0.0619	0
359	SLD 6			-1.67	-2.79	59.34	-0.0676	-0.0619	0
359	SLD 7			-0.46	-11.75	93.22	0.3172	-0.0004	-0.0003
359	SLD 8			-0.46	-11.75	93.22	0.3172	-0.0004	-0.0003
359	SLD 9			-4.86	-3.18	61.99	-0.0815	-0.2014	-0.0002
359	SLD 10			-4.86	-3.18	61.99	-0.0815	-0.2014	-0.0002
359	SLD 11			-3.65	-12.15	95.88	0.3033	-0.1399	-0.0005
359	SLD 12			-3.65	-12.15	95.88	0.3033	-0.1399	-0.0005
359	SLD 13			-8.16	-6.79	76.95	0.037	-0.3427	-0.0006
359	SLD 14			-8.16	-6.79	76.95	0.037	-0.3427	-0.0006
359	SLD 15			-7.8	-9.48	87.11	0.1524	-0.3242	-0.0007
359	SLD 16			-7.8	-9.48	87.11	0.1524	-0.3242	-0.0007
359	SLV 1			9.31	-2.73	55.22	0.0371	0.4185	0.0008
359	SLV 2			9.31	-2.73	55.22	0.0371	0.4185	0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
359	SLV 3			10.19	-9.08	79.27	0.3083	0.4635	0.0005
359	SLV 4			10.19	-9.08	79.27	0.3083	0.4635	0.0005
359	SLV 5			-0.41	3.57	34.41	-0.3176	-0.0133	0.0004
359	SLV 6			-0.41	3.57	34.41	-0.3176	-0.0133	0.0004
359	SLV 7			2.54	-17.57	114.59	0.5863	0.1366	-0.0004
359	SLV 8			2.54	-17.57	114.59	0.5863	0.1366	-0.0004
359	SLV 9			-7.86	2.63	40.63	-0.3506	-0.3384	-0.0001
359	SLV 10			-7.86	2.63	40.63	-0.3506	-0.3384	-0.0001
359	SLV 11			-4.91	-18.51	120.81	0.5533	-0.1885	-0.0009
359	SLV 12			-4.91	-18.51	120.81	0.5533	-0.1885	-0.0009
359	SLV 13			-15.51	-5.86	75.95	-0.0726	-0.6653	-0.001
359	SLV 14			-15.51	-5.86	75.95	-0.0726	-0.6653	-0.001
359	SLV 15			-14.62	-12.2	100	0.1986	-0.6203	-0.0013
359	SLV 16			-14.62	-12.2	100	0.1986	-0.6203	-0.0013
360	SLU 1			-6.49	-0.19	47.9	0.0012	-0.2482	0.0009
360	SLU 2			-6.49	-0.19	47.75	0.0012	-0.2482	0.0009
360	SLU 3			-6.87	-0.2	50.22	0.0017	-0.2623	0.001
360	SLU 4			-6.87	-0.2	50.13	0.0017	-0.2623	0.001
360	SLU 5			-6.81	-0.2	49.71	0.0018	-0.2602	0.001
360	SLU 6			-7.19	-0.21	52.17	0.0023	-0.2743	0.001
360	SLU 7			-7.19	-0.21	52.09	0.0023	-0.2743	0.001
360	SLU 8			-7.14	-0.21	51.81	0.0024	-0.2722	0.001
360	SLU 9			-7.14	-0.21	51.72	0.0024	-0.2722	0.001
360	SLU 10			-7.73	-0.22	54.62	0.0009	-0.2958	0.0011
360	SLU 11			-8.11	-0.23	57.08	0.0014	-0.3099	0.0011
360	SLU 12			-8.11	-0.23	56.99	0.0014	-0.3099	0.0011
360	SLU 13			-8.06	-0.23	56.57	0.0015	-0.3078	0.0011
360	SLU 14			-8.43	-0.24	59.04	0.0019	-0.3219	0.0012
360	SLU 15			-8.43	-0.24	58.95	0.002	-0.3219	0.0012
360	SLU 16			-8.38	-0.24	58.67	0.002	-0.3198	0.0012
360	SLU 17			-8.38	-0.24	58.59	0.0021	-0.3198	0.0012
360	SLU 18			-8.27	-0.24	57.7	0.0008	-0.3162	0.0011
360	SLU 19			-8.27	-0.24	57.61	0.0008	-0.3162	0.0011
360	SLU 20			-8.59	-0.25	59.66	0.0013	-0.3282	0.0012
360	SLU 21			-8.59	-0.25	59.57	0.0014	-0.3282	0.0012
360	SLU 22			-7.68	-0.22	54.77	0.0011	-0.2937	0.0011
360	SLU 23			-7.68	-0.22	54.62	0.0011	-0.2937	0.0011
360	SLU 24			-8.06	-0.24	57.09	0.0015	-0.3079	0.0011
360	SLU 25			-8.06	-0.23	57	0.0016	-0.3079	0.0011
360	SLU 26			-8.01	-0.23	56.58	0.0017	-0.3058	0.0011
360	SLU 27			-8.38	-0.24	59.04	0.0021	-0.3199	0.0012
360	SLU 28			-8.38	-0.24	58.96	0.0021	-0.3199	0.0012
360	SLU 29			-8.33	-0.24	58.68	0.0022	-0.3178	0.0012
360	SLU 30			-8.33	-0.24	58.6	0.0022	-0.3178	0.0012
360	SLU 31			-8.93	-0.25	61.49	0.0008	-0.3414	0.0012
360	SLU 32			-9.3	-0.27	63.95	0.0012	-0.3555	0.0013
360	SLU 33			-9.3	-0.27	63.86	0.0012	-0.3555	0.0013
360	SLU 34			-9.25	-0.26	63.44	0.0014	-0.3534	0.0013
360	SLU 35			-9.62	-0.27	65.91	0.0018	-0.3675	0.0013
360	SLU 36			-9.62	-0.27	65.82	0.0018	-0.3675	0.0013
360	SLU 37			-9.57	-0.27	65.55	0.0019	-0.3654	0.0013
360	SLU 38			-9.57	-0.27	65.46	0.0019	-0.3654	0.0013
360	SLU 39			-9.46	-0.27	64.57	0.0006	-0.3618	0.0013
360	SLU 40			-9.46	-0.27	64.49	0.0006	-0.3618	0.0013
360	SLU 41			-9.78	-0.28	66.53	0.0012	-0.3738	0.0013
360	SLU 42			-9.78	-0.28	66.44	0.0012	-0.3738	0.0013
360	SLU 43			-8.03	-0.24	59.91	0.0016	-0.307	0.0012
360	SLU 44			-8.03	-0.24	59.76	0.0016	-0.307	0.0012
360	SLU 45			-8.41	-0.25	62.23	0.0021	-0.3211	0.0012
360	SLU 46			-8.41	-0.25	62.14	0.0021	-0.3211	0.0012
360	SLU 47			-8.35	-0.25	61.72	0.0022	-0.319	0.0012
360	SLU 48			-8.73	-0.26	64.19	0.0027	-0.3331	0.0013
360	SLU 49			-8.73	-0.26	64.1	0.0027	-0.3331	0.0013
360	SLU 50			-8.68	-0.26	63.82	0.0028	-0.331	0.0013
360	SLU 51			-8.68	-0.26	63.74	0.0028	-0.331	0.0013
360	SLU 52			-9.27	-0.27	66.63	0.0013	-0.3546	0.0013
360	SLU 53			-9.65	-0.28	69.09	0.0018	-0.3687	0.0014
360	SLU 54			-9.65	-0.28	69	0.0018	-0.3687	0.0014
360	SLU 55			-9.6	-0.28	68.59	0.0019	-0.3666	0.0014
360	SLU 56			-9.97	-0.29	71.05	0.0024	-0.3808	0.0014
360	SLU 57			-9.97	-0.29	70.96	0.0024	-0.3808	0.0014
360	SLU 58			-9.92	-0.29	70.69	0.0025	-0.3786	0.0014
360	SLU 59			-9.92	-0.29	70.6	0.0025	-0.3787	0.0014
360	SLU 60			-9.81	-0.28	69.71	0.0012	-0.375	0.0014
360	SLU 61			-9.81	-0.28	69.63	0.0012	-0.375	0.0014
360	SLU 62			-10.13	-0.29	71.67	0.0017	-0.387	0.0014
360	SLU 63			-10.13	-0.29	71.58	0.0018	-0.387	0.0014
360	SLU 64			-9.22	-0.27	66.78	0.0015	-0.3525	0.0013
360	SLU 65			-9.22	-0.27	66.64	0.0015	-0.3526	0.0013
360	SLU 66			-9.6	-0.28	69.1	0.002	-0.3667	0.0014
360	SLU 67			-9.6	-0.28	69.01	0.002	-0.3667	0.0014
360	SLU 68			-9.55	-0.28	68.59	0.0021	-0.3646	0.0014
360	SLU 69			-9.92	-0.29	71.06	0.0025	-0.3787	0.0014
360	SLU 70			-9.92	-0.29	70.97	0.0025	-0.3787	0.0014
360	SLU 71			-9.87	-0.29	70.7	0.0026	-0.3766	0.0014
360	SLU 72			-9.87	-0.29	70.61	0.0026	-0.3766	0.0014
360	SLU 73			-10.47	-0.3	73.5	0.0012	-0.4002	0.0015
360	SLU 74			-10.84	-0.31	75.96	0.0016	-0.4143	0.0015
360	SLU 75			-10.84	-0.31	75.88	0.0017	-0.4143	0.0015
360	SLU 76			-10.79	-0.31	75.46	0.0018	-0.4122	0.0015



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
360	SLU 77			-11.16	-0.32	77.92	0.0022	-0.4263	0.0016
360	SLU 78			-11.16	-0.32	77.83	0.0022	-0.4263	0.0016
360	SLU 79			-11.11	-0.32	77.56	0.0023	-0.4242	0.0016
360	SLU 80			-11.11	-0.32	77.47	0.0023	-0.4242	0.0016
360	SLU 81			-11	-0.31	76.59	0.001	-0.4206	0.0015
360	SLU 82			-11	-0.31	76.5	0.001	-0.4206	0.0015
360	SLU 83			-11.32	-0.32	78.54	0.0016	-0.4326	0.0016
360	SLU 84			-11.32	-0.32	78.46	0.0016	-0.4326	0.0016
360	SLE RA 1			-6.83	-0.2	49.86	0.0012	-0.2612	0.001
360	SLE RA 2			-6.83	-0.2	49.76	0.0012	-0.2612	0.001
360	SLE RA 3			-7.08	-0.21	51.41	0.0015	-0.2706	0.001
360	SLE RA 4			-7.08	-0.21	51.35	0.0015	-0.2706	0.001
360	SLE RA 5			-7.05	-0.21	51.07	0.0016	-0.2692	0.001
360	SLE RA 6			-7.3	-0.22	52.71	0.0019	-0.2786	0.001
360	SLE RA 7			-7.3	-0.22	52.65	0.0019	-0.2786	0.001
360	SLE RA 8			-7.26	-0.21	52.47	0.0019	-0.2772	0.001
360	SLE RA 9			-7.26	-0.21	52.41	0.0019	-0.2772	0.001
360	SLE RA 10			-7.66	-0.22	54.34	0.001	-0.2929	0.0011
360	SLE RA 11			-7.91	-0.23	55.98	0.0013	-0.3023	0.0011
360	SLE RA 12			-7.91	-0.23	55.92	0.0013	-0.3024	0.0011
360	SLE RA 13			-7.88	-0.23	55.64	0.0014	-0.3009	0.0011
360	SLE RA 14			-8.13	-0.24	57.29	0.0017	-0.3104	0.0011
360	SLE RA 15			-8.13	-0.24	57.23	0.0017	-0.3104	0.0011
360	SLE RA 16			-8.09	-0.23	57.05	0.0017	-0.309	0.0011
360	SLE RA 17			-8.09	-0.23	56.99	0.0017	-0.309	0.0011
360	SLE RA 18			-8.02	-0.23	56.4	0.0009	-0.3065	0.0011
360	SLE RA 19			-8.02	-0.23	56.34	0.0009	-0.3065	0.0011
360	SLE RA 20			-8.23	-0.24	57.7	0.0013	-0.3145	0.0012
360	SLE RA 21			-8.23	-0.24	57.64	0.0013	-0.3145	0.0012
360	SLE FR 1			-6.83	-0.2	49.86	0.0012	-0.2612	0.001
360	SLE FR 2			-6.83	-0.2	49.84	0.0012	-0.2612	0.001
360	SLE FR 3			-6.92	-0.2	50.38	0.0013	-0.2644	0.001
360	SLE FR 4			-7.19	-0.21	51.8	0.0011	-0.2748	0.001
360	SLE FR 5			-7.27	-0.21	52.34	0.0012	-0.278	0.001
360	SLE FR 6			-7.43	-0.22	53.13	0.001	-0.2839	0.0011
360	SLE QP 1			-6.83	-0.2	49.86	0.0012	-0.2612	0.001
360	SLE QP 2			-7.19	-0.21	51.82	0.0011	-0.2748	0.001
360	SLD 1			-1	-0.22	45.5	-0.0373	-0.0196	0.001
360	SLD 2			-1	-0.22	45.5	-0.0373	-0.0196	0.001
360	SLD 3			-2.05	-0.3	51.24	0.0012	-0.0561	0.0012
360	SLD 4			-2.05	-0.3	51.24	0.0012	-0.0561	0.0012
360	SLD 5			-3.74	-0.1	41.23	-0.0689	-0.1429	0.0007
360	SLD 6			-3.74	-0.1	41.23	-0.0689	-0.1429	0.0007
360	SLD 7			-7.24	-0.35	60.35	0.0596	-0.2645	0.0014
360	SLD 8			-7.24	-0.35	60.35	0.0596	-0.2645	0.0014
360	SLD 9			-7.14	-0.07	43.3	-0.0574	-0.2851	0.0007
360	SLD 10			-7.14	-0.07	43.3	-0.0574	-0.2851	0.0007
360	SLD 11			-10.63	-0.32	62.42	0.071	-0.4067	0.0013
360	SLD 12			-10.63	-0.32	62.42	0.071	-0.4067	0.0013
360	SLD 13			-12.33	-0.12	52.4	0.0009	-0.4935	0.0008
360	SLD 14			-12.33	-0.12	52.4	0.0009	-0.4935	0.0008
360	SLD 15			-13.38	-0.2	58.14	0.0395	-0.53	0.001
360	SLD 16			-13.38	-0.2	58.14	0.0395	-0.53	0.001
360	SLV 1			7.25	-0.25	36.96	-0.0924	0.3206	0.001
360	SLV 2			7.25	-0.25	36.96	-0.0924	0.3206	0.001
360	SLV 3			4.79	-0.42	50.53	-0.0006	0.2347	0.0015
360	SLV 4			4.79	-0.42	50.53	-0.0006	0.2347	0.0015
360	SLV 5			0.88	0.05	26.78	-0.1662	0.0341	0.0003
360	SLV 6			0.88	0.05	26.78	-0.1662	0.0341	0.0003
360	SLV 7			-7.33	-0.55	72.02	0.1398	-0.2522	0.0019
360	SLV 8			-7.33	-0.55	72.02	0.1398	-0.2522	0.0019
360	SLV 9			-7.05	0.13	31.62	-0.1377	-0.2974	0.0002
360	SLV 10			-7.05	0.13	31.62	-0.1377	-0.2974	0.0002
360	SLV 11			-15.26	-0.47	76.86	0.1684	-0.5836	0.0017
360	SLV 12			-15.26	-0.47	76.86	0.1684	-0.5836	0.0017
360	SLV 13			-19.16	0	53.11	0.0027	-0.7842	0.0006
360	SLV 14			-19.16	0	53.11	0.0027	-0.7842	0.0006
360	SLV 15			-21.63	-0.18	66.68	0.0945	-0.8701	0.0011
360	SLV 16			-21.63	-0.18	66.68	0.0945	-0.8701	0.0011
361	SLU 1			-7.83	0.04	42.17	-0.085	-0.299	-0.0001
361	SLU 2			-7.82	0.04	42.04	-0.0846	-0.299	-0.0001
361	SLU 3			-8.28	0.05	44.13	-0.0896	-0.3161	-0.0001
361	SLU 4			-8.27	0.05	44.05	-0.0893	-0.3161	-0.0001
361	SLU 5			-8.2	0.05	43.69	-0.0883	-0.3134	-0.0001
361	SLU 6			-8.65	0.05	45.77	-0.0932	-0.3305	-0.0001
361	SLU 7			-8.65	0.05	45.7	-0.093	-0.3305	-0.0001
361	SLU 8			-8.58	0.05	45.46	-0.0923	-0.3278	-0.0001
361	SLU 9			-8.58	0.05	45.38	-0.0921	-0.3278	-0.0001
361	SLU 10			-9.27	0.05	47.87	-0.0991	-0.3545	-0.0001
361	SLU 11			-9.72	0.05	49.96	-0.104	-0.3716	-0.0001
361	SLU 12			-9.72	0.05	49.89	-0.1038	-0.3716	-0.0001
361	SLU 13			-9.65	0.05	49.52	-0.1027	-0.3689	-0.0001
361	SLU 14			-10.1	0.06	51.61	-0.1077	-0.386	-0.0001
361	SLU 15			-10.1	0.06	51.53	-0.1075	-0.386	-0.0001
361	SLU 16			-10.03	0.06	51.29	-0.1068	-0.3833	-0.0001
361	SLU 17			-10.03	0.06	51.21	-0.1066	-0.3833	-0.0001
361	SLU 18			-9.89	0.05	50.5	-0.1056	-0.3783	-0.0001
361	SLU 19			-9.89	0.05	50.43	-0.1054	-0.3783	-0.0001
361	SLU 20			-10.27	0.06	52.15	-0.1093	-0.3927	-0.0001
361	SLU 21			-10.27	0.06	52.07	-0.1091	-0.3927	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
361	SLU 22			-9.23	0.05	48.02	-0.0995	-0.3528	-0.0001
361	SLU 23			-9.22	0.05	47.9	-0.0992	-0.3527	-0.0001
361	SLU 24			-9.68	0.05	49.99	-0.1041	-0.3698	-0.0001
361	SLU 25			-9.67	0.05	49.91	-0.1039	-0.3698	-0.0001
361	SLU 26			-9.6	0.05	49.54	-0.1028	-0.3671	-0.0001
361	SLU 27			-10.06	0.06	51.63	-0.1078	-0.3842	-0.0001
361	SLU 28			-10.05	0.06	51.55	-0.1075	-0.3842	-0.0001
361	SLU 29			-9.99	0.06	51.31	-0.1069	-0.3815	-0.0001
361	SLU 30			-9.98	0.06	51.24	-0.1066	-0.3815	-0.0001
361	SLU 31			-10.67	0.06	53.73	-0.1136	-0.4082	-0.0001
361	SLU 32			-11.12	0.06	55.82	-0.1185	-0.4253	-0.0001
361	SLU 33			-11.12	0.06	55.74	-0.1183	-0.4253	-0.0001
361	SLU 34			-11.05	0.06	55.37	-0.1173	-0.4226	-0.0001
361	SLU 35			-11.5	0.06	57.46	-0.1222	-0.4397	-0.0002
361	SLU 36			-11.5	0.06	57.39	-0.122	-0.4397	-0.0002
361	SLU 37			-11.43	0.06	57.14	-0.1213	-0.437	-0.0002
361	SLU 38			-11.43	0.06	57.07	-0.1211	-0.437	-0.0002
361	SLU 39			-11.29	0.06	56.36	-0.1202	-0.432	-0.0001
361	SLU 40			-11.29	0.06	56.28	-0.12	-0.432	-0.0001
361	SLU 41			-11.67	0.06	58	-0.1238	-0.4464	-0.0002
361	SLU 42			-11.67	0.06	57.92	-0.1236	-0.4464	-0.0002
361	SLU 43			-9.69	0.05	52.81	-0.1055	-0.3703	-0.0001
361	SLU 44			-9.69	0.05	52.69	-0.1051	-0.3703	-0.0001
361	SLU 45			-10.14	0.06	54.77	-0.1101	-0.3874	-0.0001
361	SLU 46			-10.14	0.06	54.7	-0.1099	-0.3874	-0.0001
361	SLU 47			-10.07	0.06	54.33	-0.1088	-0.3847	-0.0001
361	SLU 48			-10.52	0.06	56.42	-0.1137	-0.4018	-0.0001
361	SLU 49			-10.52	0.06	56.34	-0.1135	-0.4018	-0.0001
361	SLU 50			-10.45	0.06	56.1	-0.1128	-0.3991	-0.0001
361	SLU 51			-10.45	0.06	56.02	-0.1126	-0.3991	-0.0001
361	SLU 52			-11.14	0.06	58.52	-0.1196	-0.4258	-0.0001
361	SLU 53			-11.59	0.06	60.61	-0.1245	-0.4429	-0.0002
361	SLU 54			-11.59	0.06	60.53	-0.1243	-0.4429	-0.0002
361	SLU 55			-11.51	0.06	60.16	-0.1233	-0.4402	-0.0002
361	SLU 56			-11.97	0.07	62.25	-0.1282	-0.4573	-0.0002
361	SLU 57			-11.96	0.07	62.17	-0.128	-0.4573	-0.0002
361	SLU 58			-11.9	0.07	61.93	-0.1273	-0.4546	-0.0002
361	SLU 59			-11.89	0.07	61.86	-0.1271	-0.4546	-0.0002
361	SLU 60			-11.76	0.07	61.15	-0.1261	-0.4496	-0.0002
361	SLU 61			-11.76	0.07	61.07	-0.1259	-0.4496	-0.0002
361	SLU 62			-12.14	0.07	62.79	-0.1298	-0.464	-0.0002
361	SLU 63			-12.14	0.07	62.71	-0.1296	-0.464	-0.0002
361	SLU 64			-11.1	0.06	58.67	-0.12	-0.424	-0.0001
361	SLU 65			-11.09	0.06	58.54	-0.1197	-0.424	-0.0001
361	SLU 66			-11.54	0.06	60.63	-0.1246	-0.4411	-0.0002
361	SLU 67			-11.54	0.06	60.55	-0.1244	-0.4411	-0.0002
361	SLU 68			-11.47	0.06	60.18	-0.1233	-0.4384	-0.0002
361	SLU 69			-11.92	0.07	62.27	-0.1283	-0.4555	-0.0002
361	SLU 70			-11.92	0.07	62.2	-0.1281	-0.4555	-0.0002
361	SLU 71			-11.85	0.07	61.96	-0.1274	-0.4528	-0.0002
361	SLU 72			-11.85	0.07	61.88	-0.1272	-0.4528	-0.0002
361	SLU 73			-12.54	0.07	64.37	-0.1341	-0.4795	-0.0002
361	SLU 74			-12.99	0.07	66.46	-0.1391	-0.4966	-0.0002
361	SLU 75			-12.99	0.07	66.39	-0.1388	-0.4966	-0.0002
361	SLU 76			-12.92	0.07	66.02	-0.1378	-0.4939	-0.0002
361	SLU 77			-13.37	0.07	68.11	-0.1427	-0.511	-0.0002
361	SLU 78			-13.37	0.07	68.03	-0.1425	-0.511	-0.0002
361	SLU 79			-13.3	0.07	67.79	-0.1418	-0.5083	-0.0002
361	SLU 80			-13.3	0.07	67.71	-0.1416	-0.5083	-0.0002
361	SLU 81			-13.16	0.07	67	-0.1407	-0.5033	-0.0002
361	SLU 82			-13.16	0.07	66.92	-0.1405	-0.5033	-0.0002
361	SLU 83			-13.54	0.08	68.64	-0.1443	-0.5177	-0.0002
361	SLU 84			-13.54	0.08	68.57	-0.1441	-0.5177	-0.0002
361	SLE RA 1			-8.23	0.05	43.84	-0.0891	-0.3144	-0.0001
361	SLE RA 2			-8.23	0.05	43.76	-0.0889	-0.3144	-0.0001
361	SLE RA 3			-8.53	0.05	45.15	-0.0922	-0.3258	-0.0001
361	SLE RA 4			-8.52	0.05	45.1	-0.092	-0.3258	-0.0001
361	SLE RA 5			-8.48	0.05	44.85	-0.0913	-0.324	-0.0001
361	SLE RA 6			-8.78	0.05	46.25	-0.0946	-0.3354	-0.0001
361	SLE RA 7			-8.78	0.05	46.19	-0.0945	-0.3354	-0.0001
361	SLE RA 8			-8.73	0.05	46.03	-0.094	-0.3336	-0.0001
361	SLE RA 9			-8.73	0.05	45.98	-0.0939	-0.3336	-0.0001
361	SLE RA 10			-9.19	0.05	47.65	-0.0985	-0.3514	-0.0001
361	SLE RA 11			-9.49	0.05	49.04	-0.1018	-0.3628	-0.0001
361	SLE RA 12			-9.49	0.05	48.99	-0.1017	-0.3628	-0.0001
361	SLE RA 13			-9.44	0.05	48.74	-0.101	-0.361	-0.0001
361	SLE RA 14			-9.74	0.05	50.13	-0.1043	-0.3724	-0.0001
361	SLE RA 15			-9.74	0.05	50.08	-0.1041	-0.3724	-0.0001
361	SLE RA 16			-9.7	0.05	49.92	-0.1037	-0.3706	-0.0001
361	SLE RA 17			-9.69	0.05	49.87	-0.1035	-0.3706	-0.0001
361	SLE RA 18			-9.6	0.05	49.4	-0.1029	-0.3672	-0.0001
361	SLE RA 19			-9.6	0.05	49.35	-0.1028	-0.3672	-0.0001
361	SLE RA 20			-9.86	0.05	50.49	-0.1053	-0.3768	-0.0001
361	SLE RA 21			-9.85	0.05	50.44	-0.1052	-0.3768	-0.0001
361	SLE FR 1			-8.23	0.05	43.84	-0.0891	-0.3144	-0.0001
361	SLE FR 2			-8.23	0.05	43.83	-0.0891	-0.3144	-0.0001
361	SLE FR 3			-8.33	0.05	44.28	-0.0901	-0.3182	-0.0001
361	SLE FR 4			-8.64	0.05	45.49	-0.0932	-0.3302	-0.0001
361	SLE FR 5			-8.74	0.05	45.95	-0.0942	-0.3341	-0.0001
361	SLE FR 6			-8.92	0.05	46.62	-0.096	-0.3408	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.		x	y	z		
361	SLE QP 1		x	-8.23	0.05	43.84	-0.0891	-0.3144	-0.0001
361	SLE QP 2			-8.64	0.05	45.51	-0.0933	-0.3302	-0.0001
361	SLD 1			-2.16	-0.06	39.6	-0.0947	-0.0521	0.0004
361	SLD 2			-2.16	-0.06	39.6	-0.0947	-0.0521	0.0004
361	SLD 3			-3.13	0.04	44.18	-0.1567	-0.0889	-0.0001
361	SLD 4			-3.13	0.04	44.18	-0.1567	-0.0889	-0.0001
361	SLD 5			-5.21	-0.13	36.8	0.0002	-0.191	0.0007
361	SLD 6			-5.21	-0.13	36.8	0.0002	-0.191	0.0007
361	SLD 7			-8.47	0.19	52.05	-0.2062	-0.3137	-0.0008
361	SLD 8			-8.47	0.19	52.05	-0.2062	-0.3137	-0.0008
361	SLD 9			-8.81	-0.1	38.97	0.0197	-0.3468	0.0006
361	SLD 10			-8.81	-0.1	38.97	0.0197	-0.3468	0.0006
361	SLD 11			-12.07	0.23	54.22	-0.1868	-0.4695	-0.0009
361	SLD 12			-12.07	0.23	54.22	-0.1868	-0.4695	-0.0009
361	SLD 13			-14.15	0.05	46.84	-0.0299	-0.5716	-0.0002
361	SLD 14			-14.15	0.05	46.84	-0.0299	-0.5716	-0.0002
361	SLD 15			-15.13	0.15	51.41	-0.0918	-0.6084	-0.0006
361	SLD 16			-15.13	0.15	51.41	-0.0918	-0.6084	-0.0006
361	SLV 1			6.5	-0.21	31.63	-0.099	0.319	0.0011
361	SLV 2			6.5	-0.21	31.63	-0.099	0.319	0.0011
361	SLV 3			4.19	0.03	42.46	-0.2476	0.232	0
361	SLV 4			4.19	0.03	42.46	-0.2476	0.232	0
361	SLV 5			-0.6	-0.39	24.94	0.1303	-0.0035	0.0019
361	SLV 6			-0.6	-0.39	24.94	0.1303	-0.0035	0.0019
361	SLV 7			-8.29	0.4	61	-0.3648	-0.2936	-0.0017
361	SLV 8			-8.29	0.4	61	-0.3648	-0.2936	-0.0017
361	SLV 9			-8.99	-0.3	30.01	0.1783	-0.3669	0.0015
361	SLV 10			-8.99	-0.3	30.01	0.1783	-0.3669	0.0015
361	SLV 11			-16.68	0.48	66.08	-0.3168	-0.657	-0.0021
361	SLV 12			-16.68	0.48	66.08	-0.3168	-0.657	-0.0021
361	SLV 13			-21.47	0.07	48.56	0.061	-0.8924	-0.0002
361	SLV 14			-21.47	0.07	48.56	0.061	-0.8924	-0.0002
361	SLV 15			-23.78	0.3	59.38	-0.0875	-0.9795	-0.0013
361	SLV 16			-23.78	0.3	59.38	-0.0875	-0.9795	-0.0013
362	SLU 1			-8.78	0.21	37.07	-0.1691	-0.3518	-0.0014
362	SLU 2			-8.77	0.21	36.96	-0.1684	-0.3516	-0.0014
362	SLU 3			-9.28	0.22	38.74	-0.1785	-0.3717	-0.0014
362	SLU 4			-9.27	0.22	38.68	-0.1781	-0.3716	-0.0014
362	SLU 5			-9.19	0.22	38.36	-0.1761	-0.3683	-0.0014
362	SLU 6			-9.69	0.23	40.14	-0.1862	-0.3884	-0.0015
362	SLU 7			-9.69	0.23	40.07	-0.1858	-0.3883	-0.0015
362	SLU 8			-9.61	0.23	39.86	-0.1845	-0.3851	-0.0015
362	SLU 9			-9.61	0.23	39.8	-0.1841	-0.385	-0.0015
362	SLU 10			-10.35	0.25	41.88	-0.1966	-0.4147	-0.0016
362	SLU 11			-10.85	0.26	43.66	-0.2067	-0.4348	-0.0017
362	SLU 12			-10.85	0.26	43.6	-0.2063	-0.4347	-0.0017
362	SLU 13			-10.76	0.26	43.28	-0.2043	-0.4313	-0.0016
362	SLU 14			-11.27	0.27	45.06	-0.2145	-0.4515	-0.0017
362	SLU 15			-11.26	0.27	44.99	-0.214	-0.4514	-0.0017
362	SLU 16			-11.19	0.27	44.78	-0.2127	-0.4482	-0.0017
362	SLU 17			-11.18	0.27	44.72	-0.2123	-0.4481	-0.0017
362	SLU 18			-11.03	0.26	44.1	-0.2094	-0.4419	-0.0017
362	SLU 19			-11.02	0.26	44.04	-0.209	-0.4418	-0.0017
362	SLU 20			-11.44	0.27	45.5	-0.2171	-0.4586	-0.0017
362	SLU 21			-11.44	0.27	45.43	-0.2167	-0.4585	-0.0017
362	SLU 22			-10.32	0.25	42.03	-0.1977	-0.4134	-0.0016
362	SLU 23			-10.31	0.25	41.92	-0.197	-0.4132	-0.0016
362	SLU 24			-10.81	0.26	43.7	-0.2072	-0.4333	-0.0017
362	SLU 25			-10.81	0.26	43.64	-0.2067	-0.4332	-0.0017
362	SLU 26			-10.73	0.26	43.32	-0.2047	-0.4299	-0.0016
362	SLU 27			-11.23	0.27	45.1	-0.2149	-0.45	-0.0017
362	SLU 28			-11.23	0.27	45.03	-0.2145	-0.4499	-0.0017
362	SLU 29			-11.15	0.27	44.82	-0.2132	-0.4467	-0.0017
362	SLU 30			-11.15	0.27	44.76	-0.2127	-0.4466	-0.0017
362	SLU 31			-11.89	0.28	46.84	-0.2253	-0.4763	-0.0018
362	SLU 32			-12.39	0.3	48.62	-0.2354	-0.4964	-0.0019
362	SLU 33			-12.39	0.3	48.55	-0.235	-0.4963	-0.0019
362	SLU 34			-12.3	0.29	48.24	-0.233	-0.493	-0.0019
362	SLU 35			-12.81	0.31	50.02	-0.2431	-0.5131	-0.002
362	SLU 36			-12.8	0.31	49.95	-0.2427	-0.513	-0.002
362	SLU 37			-12.72	0.3	49.74	-0.2414	-0.5098	-0.0019
362	SLU 38			-12.72	0.3	49.68	-0.241	-0.5097	-0.0019
362	SLU 39			-12.57	0.3	49.06	-0.2381	-0.5035	-0.0019
362	SLU 40			-12.56	0.3	48.99	-0.2376	-0.5034	-0.0019
362	SLU 41			-12.98	0.31	50.46	-0.2458	-0.5202	-0.002
362	SLU 42			-12.98	0.31	50.39	-0.2454	-0.5201	-0.002
362	SLU 43			-10.88	0.26	46.5	-0.21	-0.4362	-0.0017
362	SLU 44			-10.88	0.26	46.38	-0.2093	-0.436	-0.0017
362	SLU 45			-11.38	0.28	48.16	-0.2194	-0.4561	-0.0018
362	SLU 46			-11.38	0.28	48.1	-0.219	-0.456	-0.0018
362	SLU 47			-11.29	0.27	47.78	-0.217	-0.4527	-0.0017
362	SLU 48			-11.8	0.29	49.56	-0.2271	-0.4728	-0.0018
362	SLU 49			-11.79	0.29	49.49	-0.2267	-0.4727	-0.0018
362	SLU 50			-11.72	0.28	49.28	-0.2254	-0.4695	-0.0018
362	SLU 51			-11.71	0.28	49.22	-0.225	-0.4694	-0.0018
362	SLU 52			-12.45	0.3	51.3	-0.2375	-0.4991	-0.0019
362	SLU 53			-12.96	0.31	53.08	-0.2476	-0.5192	-0.002
362	SLU 54			-12.95	0.31	53.02	-0.2472	-0.5191	-0.002
362	SLU 55			-12.87	0.31	52.7	-0.2452	-0.5157	-0.002
362	SLU 56			-13.37	0.32	54.48	-0.2554	-0.5359	-0.0021



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
362	SLU 57			-13.37	0.32	54.41	-0.2549	-0.5358	-0.0021
362	SLU 58			-13.29	0.32	54.2	-0.2536	-0.5326	-0.002
362	SLU 59			-13.29	0.32	54.14	-0.2532	-0.5325	-0.002
362	SLU 60			-13.13	0.32	53.52	-0.2503	-0.5263	-0.002
362	SLU 61			-13.13	0.31	53.46	-0.2499	-0.5262	-0.002
362	SLU 62			-13.55	0.32	54.92	-0.2528	-0.543	-0.0021
362	SLU 63			-13.55	0.32	54.85	-0.2576	-0.5429	-0.0021
362	SLU 64			-12.42	0.3	51.46	-0.2386	-0.4978	-0.0019
362	SLU 65			-12.42	0.3	51.34	-0.2379	-0.4976	-0.0019
362	SLU 66			-12.92	0.31	53.12	-0.2481	-0.5177	-0.002
362	SLU 67			-12.92	0.31	53.06	-0.2476	-0.5176	-0.002
362	SLU 68			-12.83	0.31	52.74	-0.2456	-0.5143	-0.002
362	SLU 69			-13.34	0.32	54.52	-0.2558	-0.5344	-0.0021
362	SLU 70			-13.33	0.32	54.45	-0.2553	-0.5343	-0.0021
362	SLU 71			-13.25	0.32	54.24	-0.254	-0.5311	-0.002
362	SLU 72			-13.25	0.32	54.18	-0.2536	-0.531	-0.002
362	SLU 73			-13.99	0.34	56.26	-0.2662	-0.5607	-0.0021
362	SLU 74			-14.5	0.35	58.04	-0.2763	-0.5808	-0.0022
362	SLU 75			-14.49	0.35	57.98	-0.2759	-0.5807	-0.0022
362	SLU 76			-14.41	0.34	57.66	-0.2739	-0.5774	-0.0022
362	SLU 77			-14.91	0.36	59.44	-0.284	-0.5975	-0.0023
362	SLU 78			-14.91	0.36	59.37	-0.2836	-0.5974	-0.0023
362	SLU 79			-14.83	0.36	59.16	-0.2823	-0.5942	-0.0023
362	SLU 80			-14.83	0.36	59.1	-0.2819	-0.5941	-0.0023
362	SLU 81			-14.67	0.35	58.48	-0.279	-0.5879	-0.0022
362	SLU 82			-14.67	0.35	58.42	-0.2785	-0.5878	-0.0022
362	SLU 83			-15.09	0.36	59.88	-0.2867	-0.6046	-0.0023
362	SLU 84			-15.09	0.36	59.81	-0.2863	-0.6045	-0.0023
362	SLE RA 1			-9.22	0.22	38.49	-0.1773	-0.3694	-0.0014
362	SLE RA 2			-9.21	0.22	38.42	-0.1768	-0.3693	-0.0014
362	SLE RA 3			-9.55	0.23	39.6	-0.1835	-0.3827	-0.0015
362	SLE RA 4			-9.55	0.23	39.56	-0.1833	-0.3826	-0.0015
362	SLE RA 5			-9.49	0.23	39.35	-0.1819	-0.3804	-0.0015
362	SLE RA 6			-9.83	0.24	40.53	-0.1887	-0.3938	-0.0015
362	SLE RA 7			-9.82	0.24	40.49	-0.1884	-0.3937	-0.0015
362	SLE RA 8			-9.77	0.24	40.35	-0.1875	-0.3916	-0.0015
362	SLE RA 9			-9.77	0.24	40.31	-0.1873	-0.3915	-0.0015
362	SLE RA 10			-10.26	0.25	41.7	-0.1956	-0.4113	-0.0016
362	SLE RA 11			-10.6	0.25	42.88	-0.2024	-0.4247	-0.0016
362	SLE RA 12			-10.6	0.25	42.84	-0.2021	-0.4247	-0.0016
362	SLE RA 13			-10.54	0.25	42.63	-0.2008	-0.4224	-0.0016
362	SLE RA 14			-10.88	0.26	43.81	-0.2075	-0.4358	-0.0017
362	SLE RA 15			-10.87	0.26	43.77	-0.2072	-0.4358	-0.0017
362	SLE RA 16			-10.82	0.26	43.63	-0.2064	-0.4337	-0.0017
362	SLE RA 17			-10.82	0.26	43.59	-0.2061	-0.4336	-0.0017
362	SLE RA 18			-10.72	0.26	43.18	-0.2041	-0.4295	-0.0016
362	SLE RA 19			-10.72	0.26	43.13	-0.2039	-0.4294	-0.0016
362	SLE RA 20			-10.99	0.26	44.11	-0.2093	-0.4406	-0.0017
362	SLE RA 21			-10.99	0.26	44.06	-0.209	-0.4405	-0.0017
362	SLE FR 1			-9.22	0.22	38.49	-0.1773	-0.3694	-0.0014
362	SLE FR 2			-9.22	0.22	38.48	-0.1772	-0.3694	-0.0014
362	SLE FR 3			-9.33	0.23	38.86	-0.1793	-0.3738	-0.0014
362	SLE FR 4			-9.67	0.23	39.88	-0.1852	-0.3874	-0.0015
362	SLE FR 5			-9.78	0.24	40.27	-0.1874	-0.3919	-0.0015
362	SLE FR 6			-9.97	0.24	40.83	-0.1907	-0.3994	-0.0015
362	SLE QP 1			-9.22	0.22	38.49	-0.1773	-0.3694	-0.0014
362	SLE QP 2			-9.67	0.23	39.9	-0.1853	-0.3874	-0.0015
362	SLD 1			-2.97	0.12	34.18	-0.1871	-0.1101	-0.0007
362	SLD 2			-2.97	0.12	34.18	-0.1871	-0.1101	-0.0007
362	SLD 3			-3.94	0.23	38.2	-0.2689	-0.1494	-0.0015
362	SLD 4			-3.94	0.23	38.2	-0.2689	-0.1494	-0.0015
362	SLD 5			-6.18	0.03	32.08	-0.0618	-0.2447	-0.0002
362	SLD 6			-6.18	0.03	32.08	-0.0618	-0.2447	-0.0002
362	SLD 7			-9.43	0.4	45.49	-0.3345	-0.3755	-0.0026
362	SLD 8			-9.43	0.4	45.49	-0.3345	-0.3755	-0.0026
362	SLD 9			-9.91	0.07	34.3	-0.0362	-0.3993	-0.0004
362	SLD 10			-9.91	0.07	34.3	-0.0362	-0.3993	-0.0004
362	SLD 11			-13.15	0.43	47.71	-0.3089	-0.5301	-0.0028
362	SLD 12			-13.15	0.43	47.71	-0.3089	-0.5301	-0.0028
362	SLD 13			-15.39	0.24	41.59	-0.1018	-0.6255	-0.0015
362	SLD 14			-15.39	0.24	41.59	-0.1018	-0.6255	-0.0015
362	SLD 15			-16.36	0.35	45.61	-0.1836	-0.6647	-0.0023
362	SLD 16			-16.36	0.35	45.61	-0.1836	-0.6647	-0.0023
362	SLV 1			5.96	-0.04	26.47	-0.1911	0.2599	0.0004
362	SLV 2			5.96	-0.04	26.47	-0.1911	0.2599	0.0004
362	SLV 3			3.66	0.22	35.98	-0.3866	0.1669	-0.0014
362	SLV 4			3.66	0.22	35.98	-0.3866	0.1669	-0.0014
362	SLV 5			-1.48	-0.25	21.45	0.1095	-0.0522	0.0017
362	SLV 6			-1.48	-0.25	21.45	0.1095	-0.0522	0.0017
362	SLV 7			-9.17	0.63	53.14	-0.5422	-0.3621	-0.0041
362	SLV 8			-9.17	0.63	53.14	-0.5422	-0.3621	-0.0041
362	SLV 9			-10.17	-0.16	26.66	0.1716	-0.4127	0.0011
362	SLV 10			-10.17	-0.16	26.66	0.1716	-0.4127	0.0011
362	SLV 11			-17.85	0.71	58.34	-0.4801	-0.7226	-0.0047
362	SLV 12			-17.85	0.71	58.34	-0.4801	-0.7226	-0.0047
362	SLV 13			-22.99	0.25	43.82	0.0159	-0.9417	-0.0016
362	SLV 14			-22.99	0.25	43.82	0.0159	-0.9417	-0.0016
362	SLV 15			-25.3	0.51	53.32	-0.1796	-1.0347	-0.0033
362	SLV 16			-25.3	0.51	53.32	-0.1796	-1.0347	-0.0033
363	SLU 1			-8.7	0.29	32.23	-0.2286	-0.351	-0.0024



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
363	SLU 2			-8.7	0.29	32.13	-0.2276	-0.3511	-0.0024
363	SLU 3			-9.19	0.31	33.62	-0.2416	-0.371	-0.0026
363	SLU 4			-9.19	0.31	33.56	-0.241	-0.371	-0.0026
363	SLU 5			-9.11	0.31	33.3	-0.2383	-0.3676	-0.0025
363	SLU 6			-9.6	0.32	34.79	-0.2523	-0.3875	-0.0027
363	SLU 7			-9.6	0.32	34.73	-0.2517	-0.3875	-0.0027
363	SLU 8			-9.52	0.32	34.56	-0.25	-0.3841	-0.0027
363	SLU 9			-9.52	0.32	34.5	-0.2494	-0.3841	-0.0027
363	SLU 10			-10.24	0.34	36.19	-0.2656	-0.4132	-0.0028
363	SLU 11			-10.73	0.36	37.69	-0.2796	-0.4331	-0.003
363	SLU 12			-10.73	0.36	37.63	-0.279	-0.4332	-0.003
363	SLU 13			-10.65	0.36	37.36	-0.2763	-0.4298	-0.003
363	SLU 14			-11.14	0.37	38.86	-0.2902	-0.4497	-0.0031
363	SLU 15			-11.14	0.37	38.8	-0.2897	-0.4497	-0.0031
363	SLU 16			-11.06	0.37	38.63	-0.288	-0.4463	-0.0031
363	SLU 17			-11.06	0.37	38.57	-0.2874	-0.4463	-0.0031
363	SLU 18			-10.9	0.36	38.03	-0.2829	-0.4398	-0.003
363	SLU 19			-10.9	0.36	37.97	-0.2823	-0.4399	-0.003
363	SLU 20			-11.31	0.38	39.2	-0.2935	-0.4564	-0.0031
363	SLU 21			-11.31	0.38	39.14	-0.293	-0.4564	-0.0031
363	SLU 22			-10.21	0.34	36.35	-0.2673	-0.4119	-0.0029
363	SLU 23			-10.21	0.34	36.25	-0.2663	-0.4119	-0.0028
363	SLU 24			-10.7	0.36	37.74	-0.2803	-0.4319	-0.003
363	SLU 25			-10.7	0.36	37.68	-0.2797	-0.4319	-0.003
363	SLU 26			-10.62	0.36	37.42	-0.277	-0.4285	-0.003
363	SLU 27			-11.11	0.37	38.91	-0.291	-0.4484	-0.0031
363	SLU 28			-11.11	0.37	38.85	-0.2904	-0.4484	-0.0031
363	SLU 29			-11.03	0.37	38.68	-0.2887	-0.445	-0.0031
363	SLU 30			-11.03	0.37	38.62	-0.2881	-0.445	-0.0031
363	SLU 31			-11.75	0.39	40.31	-0.3043	-0.4741	-0.0032
363	SLU 32			-12.24	0.41	41.81	-0.3183	-0.494	-0.0034
363	SLU 33			-12.24	0.41	41.75	-0.3177	-0.4941	-0.0034
363	SLU 34			-12.15	0.41	41.48	-0.315	-0.4907	-0.0034
363	SLU 35			-12.65	0.42	42.98	-0.329	-0.5106	-0.0035
363	SLU 36			-12.65	0.42	42.92	-0.3284	-0.5106	-0.0035
363	SLU 37			-12.57	0.42	42.75	-0.3267	-0.5072	-0.0035
363	SLU 38			-12.56	0.42	42.69	-0.3261	-0.5072	-0.0035
363	SLU 39			-12.41	0.41	42.15	-0.3216	-0.5007	-0.0034
363	SLU 40			-12.41	0.41	42.09	-0.321	-0.5008	-0.0034
363	SLU 41			-12.82	0.43	43.32	-0.3323	-0.5173	-0.0035
363	SLU 42			-12.81	0.43	43.26	-0.3317	-0.5173	-0.0035
363	SLU 43			-10.79	0.37	40.48	-0.2839	-0.4354	-0.003
363	SLU 44			-10.79	0.36	40.38	-0.2829	-0.4355	-0.003
363	SLU 45			-11.29	0.38	41.88	-0.2969	-0.4554	-0.0032
363	SLU 46			-11.29	0.38	41.82	-0.2963	-0.4554	-0.0032
363	SLU 47			-11.2	0.38	41.55	-0.2936	-0.452	-0.0031
363	SLU 48			-11.7	0.4	43.05	-0.3076	-0.4719	-0.0033
363	SLU 49			-11.69	0.4	42.99	-0.307	-0.472	-0.0033
363	SLU 50			-11.61	0.39	42.82	-0.3053	-0.4685	-0.0033
363	SLU 51			-11.61	0.39	42.76	-0.3047	-0.4686	-0.0033
363	SLU 52			-12.33	0.41	44.45	-0.3209	-0.4977	-0.0034
363	SLU 53			-12.83	0.43	45.94	-0.3349	-0.5176	-0.0036
363	SLU 54			-12.82	0.43	45.89	-0.3343	-0.5176	-0.0036
363	SLU 55			-12.74	0.43	45.62	-0.3316	-0.5142	-0.0035
363	SLU 56			-13.23	0.44	47.11	-0.3456	-0.5341	-0.0037
363	SLU 57			-13.23	0.44	47.05	-0.345	-0.5342	-0.0037
363	SLU 58			-13.15	0.44	46.88	-0.3433	-0.5307	-0.0037
363	SLU 59			-13.15	0.44	46.82	-0.3427	-0.5308	-0.0037
363	SLU 60			-12.99	0.44	46.29	-0.3382	-0.5243	-0.0036
363	SLU 61			-12.99	0.43	46.23	-0.3376	-0.5243	-0.0036
363	SLU 62			-13.4	0.45	47.46	-0.3489	-0.5408	-0.0037
363	SLU 63			-13.4	0.45	47.4	-0.3483	-0.5409	-0.0037
363	SLU 64			-12.3	0.42	44.6	-0.3226	-0.4963	-0.0034
363	SLU 65			-12.3	0.41	44.5	-0.3216	-0.4964	-0.0034
363	SLU 66			-12.79	0.43	46	-0.3356	-0.5163	-0.0036
363	SLU 67			-12.79	0.43	45.94	-0.335	-0.5163	-0.0036
363	SLU 68			-12.71	0.43	45.67	-0.3323	-0.5129	-0.0035
363	SLU 69			-13.2	0.45	47.17	-0.3463	-0.5328	-0.0037
363	SLU 70			-13.2	0.45	47.11	-0.3457	-0.5329	-0.0037
363	SLU 71			-13.12	0.44	46.94	-0.344	-0.5294	-0.0037
363	SLU 72			-13.12	0.44	46.88	-0.3434	-0.5295	-0.0037
363	SLU 73			-13.84	0.46	48.57	-0.3596	-0.5586	-0.0038
363	SLU 74			-14.33	0.48	50.06	-0.3736	-0.5785	-0.004
363	SLU 75			-14.33	0.48	50.01	-0.373	-0.5785	-0.004
363	SLU 76			-14.25	0.48	49.74	-0.3703	-0.5751	-0.004
363	SLU 77			-14.74	0.49	51.23	-0.3843	-0.595	-0.0041
363	SLU 78			-14.74	0.49	51.17	-0.3837	-0.595	-0.0041
363	SLU 79			-14.66	0.49	51	-0.382	-0.5916	-0.0041
363	SLU 80			-14.66	0.49	50.94	-0.3814	-0.5917	-0.0041
363	SLU 81			-14.5	0.48	50.41	-0.3769	-0.5852	-0.004
363	SLU 82			-14.5	0.48	50.35	-0.3763	-0.5852	-0.004
363	SLU 83			-14.91	0.5	51.58	-0.3876	-0.6017	-0.0041
363	SLU 84			-14.91	0.5	51.52	-0.387	-0.6018	-0.0041
363	SLE RA 1			-9.13	0.31	33.4	-0.2397	-0.3684	-0.0026
363	SLE RA 2			-9.13	0.31	33.34	-0.239	-0.3684	-0.0026
363	SLE RA 3			-9.46	0.32	34.34	-0.2483	-0.3817	-0.0027
363	SLE RA 4			-9.46	0.32	34.3	-0.2479	-0.3817	-0.0026
363	SLE RA 5			-9.4	0.32	34.12	-0.2461	-0.3795	-0.0026
363	SLE RA 6			-9.73	0.33	35.11	-0.2554	-0.3927	-0.0027
363	SLE RA 7			-9.73	0.33	35.07	-0.255	-0.3928	-0.0027



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
363	SLE RA 8			-9.68	0.33	34.96	-0.2539	-0.3905	-0.0027
363	SLE RA 9			-9.68	0.33	34.92	-0.2535	-0.3905	-0.0027
363	SLE RA 10			-10.16	0.34	36.05	-0.2643	-0.4099	-0.0028
363	SLE RA 11			-10.49	0.35	37.05	-0.2736	-0.4232	-0.0029
363	SLE RA 12			-10.49	0.35	37.01	-0.2732	-0.4232	-0.0029
363	SLE RA 13			-10.43	0.35	36.83	-0.2714	-0.4209	-0.0029
363	SLE RA 14			-10.76	0.36	37.82	-0.2808	-0.4342	-0.003
363	SLE RA 15			-10.76	0.36	37.78	-0.2804	-0.4342	-0.003
363	SLE RA 16			-10.7	0.36	37.67	-0.2792	-0.4319	-0.003
363	SLE RA 17			-10.7	0.36	37.63	-0.2788	-0.432	-0.003
363	SLE RA 18			-10.6	0.35	37.28	-0.2758	-0.4276	-0.0029
363	SLE RA 19			-10.6	0.35	37.24	-0.2754	-0.4277	-0.0029
363	SLE RA 20			-10.87	0.36	38.05	-0.283	-0.4387	-0.003
363	SLE RA 21			-10.87	0.36	38.01	-0.2826	-0.4387	-0.003
363	SLE FR 1			-9.13	0.31	33.4	-0.2397	-0.3684	-0.0026
363	SLE FR 2			-9.13	0.31	33.39	-0.2395	-0.3684	-0.0026
363	SLE FR 3			-9.24	0.31	33.72	-0.2425	-0.3728	-0.0026
363	SLE FR 4			-9.57	0.32	34.55	-0.2504	-0.3862	-0.0027
363	SLE FR 5			-9.68	0.33	34.88	-0.2534	-0.3906	-0.0027
363	SLE FR 6			-9.86	0.33	35.34	-0.2578	-0.398	-0.0028
363	SLE QP 1			-9.13	0.31	33.4	-0.2397	-0.3684	-0.0026
363	SLE QP 2			-9.57	0.32	34.57	-0.2505	-0.3862	-0.0027
363	SLD 1			-2.49	0.2	29.33	-0.252	-0.0761	-0.0017
363	SLD 2			-2.49	0.2	29.33	-0.252	-0.0761	-0.0017
363	SLD 3			-3.41	0.32	32.95	-0.3507	-0.1133	-0.0026
363	SLD 4			-3.41	0.32	32.95	-0.3507	-0.1133	-0.0026
363	SLD 5			-6.04	0.1	27.52	-0.1012	-0.2367	-0.0009
363	SLD 6			-6.04	0.1	27.52	-0.1012	-0.2367	-0.0009
363	SLD 7			-9.13	0.5	39.56	-0.4304	-0.3608	-0.0041
363	SLD 8			-9.13	0.5	39.56	-0.4304	-0.3608	-0.0041
363	SLD 9			-10.01	0.14	29.57	-0.0707	-0.4116	-0.0013
363	SLD 10			-10.01	0.14	29.57	-0.0707	-0.4116	-0.0013
363	SLD 11			-13.1	0.54	41.62	-0.3999	-0.5357	-0.0044
363	SLD 12			-13.1	0.54	41.62	-0.3999	-0.5357	-0.0044
363	SLD 13			-15.73	0.33	36.18	-0.1503	-0.659	-0.0027
363	SLD 14			-15.73	0.33	36.18	-0.1503	-0.659	-0.0027
363	SLD 15			-16.65	0.45	39.8	-0.2491	-0.6963	-0.0037
363	SLD 16			-16.65	0.45	39.8	-0.2491	-0.6963	-0.0037
363	SLV 1			6.97	0.02	22.28	-0.2548	0.3378	-0.0003
363	SLV 2			6.97	0.02	22.28	-0.2548	0.3378	-0.0003
363	SLV 3			4.77	0.31	30.81	-0.4897	0.2494	-0.0025
363	SLV 4			4.77	0.31	30.81	-0.4897	0.2494	-0.0025
363	SLV 5			-1.27	-0.21	17.95	0.1045	-0.0349	0.0015
363	SLV 6			-1.27	-0.21	17.95	0.1045	-0.0349	0.0015
363	SLV 7			-8.6	0.76	46.37	-0.6786	-0.3296	-0.006
363	SLV 8			-8.6	0.76	46.37	-0.6786	-0.3296	-0.006
363	SLV 9			-10.54	-0.11	22.76	0.1776	-0.4428	0.0007
363	SLV 10			-10.54	-0.11	22.76	0.1776	-0.4428	0.0007
363	SLV 11			-17.87	0.85	51.18	-0.6056	-0.7375	-0.0068
363	SLV 12			-17.87	0.85	51.18	-0.6056	-0.7375	-0.0068
363	SLV 13			-23.91	0.34	38.32	-0.0113	-1.0218	-0.0028
363	SLV 14			-23.91	0.34	38.32	-0.0113	-1.0218	-0.0028
363	SLV 15			-26.11	0.63	46.85	-0.2463	-1.1102	-0.0051
363	SLV 16			-26.11	0.63	46.85	-0.2463	-1.1102	-0.0051
364	SLU 1			-7.92	0.32	28.39	-0.2661	-0.3218	-0.0028
364	SLU 2			-7.92	0.32	28.3	-0.2649	-0.3218	-0.0028
364	SLU 3			-8.36	0.34	29.58	-0.2814	-0.3399	-0.003
364	SLU 4			-8.36	0.34	29.53	-0.2807	-0.3399	-0.003
364	SLU 5			-8.29	0.33	29.3	-0.2776	-0.3368	-0.003
364	SLU 6			-8.73	0.35	30.57	-0.2942	-0.3548	-0.0031
364	SLU 7			-8.73	0.35	30.52	-0.2934	-0.3548	-0.0031
364	SLU 8			-8.65	0.35	30.38	-0.2915	-0.3516	-0.0031
364	SLU 9			-8.65	0.35	30.33	-0.2908	-0.3517	-0.0031
364	SLU 10			-9.3	0.37	31.69	-0.3089	-0.3781	-0.0033
364	SLU 11			-9.75	0.39	32.97	-0.3255	-0.3961	-0.0035
364	SLU 12			-9.75	0.39	32.92	-0.3247	-0.3961	-0.0035
364	SLU 13			-9.67	0.39	32.69	-0.3216	-0.393	-0.0034
364	SLU 14			-10.11	0.41	33.96	-0.3382	-0.411	-0.0036
364	SLU 15			-10.11	0.4	33.91	-0.3375	-0.4111	-0.0036
364	SLU 16			-10.04	0.4	33.77	-0.3356	-0.4079	-0.0036
364	SLU 17			-10.04	0.4	33.72	-0.3349	-0.4079	-0.0036
364	SLU 18			-9.89	0.39	33.24	-0.329	-0.4021	-0.0035
364	SLU 19			-9.9	0.39	33.18	-0.3283	-0.4022	-0.0035
364	SLU 20			-10.26	0.41	34.23	-0.3417	-0.4171	-0.0037
364	SLU 21			-10.26	0.41	34.18	-0.341	-0.4171	-0.0037
364	SLU 22			-9.27	0.37	31.85	-0.3112	-0.3769	-0.0033
364	SLU 23			-9.28	0.37	31.76	-0.31	-0.377	-0.0033
364	SLU 24			-9.72	0.39	33.04	-0.3265	-0.395	-0.0035
364	SLU 25			-9.72	0.39	32.98	-0.3258	-0.3951	-0.0035
364	SLU 26			-9.64	0.39	32.75	-0.3227	-0.3919	-0.0035
364	SLU 27			-10.09	0.41	34.03	-0.3393	-0.4099	-0.0036
364	SLU 28			-10.09	0.41	33.98	-0.3385	-0.41	-0.0036
364	SLU 29			-10.01	0.4	33.84	-0.3367	-0.4068	-0.0036
364	SLU 30			-10.01	0.4	33.78	-0.3359	-0.4068	-0.0036
364	SLU 31			-10.66	0.42	35.15	-0.354	-0.4333	-0.0038
364	SLU 32			-11.1	0.44	36.43	-0.3706	-0.4513	-0.004
364	SLU 33			-11.1	0.44	36.37	-0.3699	-0.4513	-0.004
364	SLU 34			-11.03	0.44	36.14	-0.3667	-0.4482	-0.0039
364	SLU 35			-11.47	0.46	37.42	-0.3833	-0.4662	-0.0041
364	SLU 36			-11.47	0.46	37.37	-0.3826	-0.4662	-0.0041



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
364	SLU 37			-11.39	0.46	37.23	-0.3807	-0.4631	-0.0041
364	SLU 38			-11.39	0.46	37.17	-0.38	-0.4631	-0.0041
364	SLU 39			-11.25	0.45	36.69	-0.3741	-0.4573	-0.004
364	SLU 40			-11.25	0.45	36.64	-0.3734	-0.4573	-0.004
364	SLU 41			-11.62	0.46	37.69	-0.3869	-0.4722	-0.0041
364	SLU 42			-11.62	0.46	37.63	-0.3861	-0.4723	-0.0041
364	SLU 43			-9.83	0.4	35.73	-0.3305	-0.3994	-0.0035
364	SLU 44			-9.83	0.4	35.64	-0.3292	-0.3995	-0.0035
364	SLU 45			-10.27	0.42	36.91	-0.3458	-0.4175	-0.0037
364	SLU 46			-10.27	0.41	36.86	-0.3451	-0.4175	-0.0037
364	SLU 47			-10.19	0.41	36.63	-0.342	-0.4144	-0.0037
364	SLU 48			-10.64	0.43	37.91	-0.3585	-0.4324	-0.0038
364	SLU 49			-10.64	0.43	37.85	-0.3578	-0.4324	-0.0038
364	SLU 50			-10.56	0.43	37.71	-0.3559	-0.4293	-0.0038
364	SLU 51			-10.56	0.43	37.66	-0.3552	-0.4293	-0.0038
364	SLU 52			-11.21	0.45	39.03	-0.3733	-0.4557	-0.004
364	SLU 53			-11.66	0.47	40.3	-0.3898	-0.4737	-0.0042
364	SLU 54			-11.66	0.47	40.25	-0.3891	-0.4738	-0.0042
364	SLU 55			-11.58	0.46	40.02	-0.386	-0.4706	-0.0041
364	SLU 56			-12.02	0.48	41.3	-0.4026	-0.4887	-0.0043
364	SLU 57			-12.02	0.48	41.24	-0.4018	-0.4887	-0.0043
364	SLU 58			-11.95	0.48	41.1	-0.4	-0.4855	-0.0043
364	SLU 59			-11.95	0.48	41.05	-0.3992	-0.4856	-0.0043
364	SLU 60			-11.8	0.47	40.57	-0.3934	-0.4798	-0.0042
364	SLU 61			-11.8	0.47	40.52	-0.3926	-0.4798	-0.0042
364	SLU 62			-12.17	0.49	41.56	-0.4061	-0.4947	-0.0043
364	SLU 63			-12.17	0.49	41.51	-0.4054	-0.4947	-0.0043
364	SLU 64			-11.18	0.45	39.19	-0.3756	-0.4546	-0.004
364	SLU 65			-11.18	0.45	39.09	-0.3743	-0.4546	-0.004
364	SLU 66			-11.63	0.47	40.37	-0.3909	-0.4726	-0.0042
364	SLU 67			-11.63	0.47	40.32	-0.3902	-0.4727	-0.0042
364	SLU 68			-11.55	0.46	40.09	-0.3871	-0.4696	-0.0041
364	SLU 69			-12	0.48	41.36	-0.4036	-0.4876	-0.0043
364	SLU 70			-12	0.48	41.31	-0.4029	-0.4876	-0.0043
364	SLU 71			-11.92	0.48	41.17	-0.401	-0.4844	-0.0043
364	SLU 72			-11.92	0.48	41.12	-0.4003	-0.4845	-0.0043
364	SLU 73			-12.57	0.5	42.48	-0.4184	-0.5109	-0.0045
364	SLU 74			-13.01	0.52	43.76	-0.435	-0.5289	-0.0047
364	SLU 75			-13.01	0.52	43.71	-0.4342	-0.5289	-0.0046
364	SLU 76			-12.94	0.52	43.48	-0.4311	-0.5258	-0.0046
364	SLU 77			-13.38	0.54	44.75	-0.4477	-0.5438	-0.0048
364	SLU 78			-13.38	0.54	44.7	-0.4469	-0.5439	-0.0048
364	SLU 79			-13.3	0.53	44.56	-0.4451	-0.5407	-0.0048
364	SLU 80			-13.3	0.53	44.51	-0.4443	-0.5407	-0.0048
364	SLU 81			-13.16	0.53	44.03	-0.4385	-0.5349	-0.0047
364	SLU 82			-13.16	0.53	43.97	-0.4378	-0.535	-0.0047
364	SLU 83			-13.53	0.54	45.02	-0.4512	-0.5498	-0.0048
364	SLU 84			-13.53	0.54	44.97	-0.4505	-0.5499	-0.0048
364	SLE RA 1			-8.3	0.33	29.38	-0.279	-0.3375	-0.003
364	SLE RA 2			-8.31	0.33	29.32	-0.2782	-0.3376	-0.003
364	SLE RA 3			-8.6	0.35	30.17	-0.2892	-0.3496	-0.0031
364	SLE RA 4			-8.6	0.35	30.14	-0.2887	-0.3496	-0.0031
364	SLE RA 5			-8.55	0.34	29.98	-0.2866	-0.3475	-0.0031
364	SLE RA 6			-8.85	0.36	30.84	-0.2977	-0.3595	-0.0032
364	SLE RA 7			-8.85	0.36	30.8	-0.2972	-0.3596	-0.0032
364	SLE RA 8			-8.79	0.36	30.71	-0.2959	-0.3574	-0.0032
364	SLE RA 9			-8.79	0.35	30.67	-0.2955	-0.3575	-0.0032
364	SLE RA 10			-9.23	0.37	31.58	-0.3075	-0.3751	-0.0033
364	SLE RA 11			-9.52	0.38	32.43	-0.3186	-0.3871	-0.0034
364	SLE RA 12			-9.52	0.38	32.4	-0.3181	-0.3871	-0.0034
364	SLE RA 13			-9.47	0.38	32.24	-0.316	-0.385	-0.0034
364	SLE RA 14			-9.77	0.39	33.1	-0.3271	-0.397	-0.0035
364	SLE RA 15			-9.77	0.39	33.06	-0.3266	-0.3971	-0.0035
364	SLE RA 16			-9.72	0.39	32.97	-0.3253	-0.3949	-0.0035
364	SLE RA 17			-9.72	0.39	32.93	-0.3248	-0.395	-0.0035
364	SLE RA 18			-9.62	0.38	32.61	-0.3209	-0.3911	-0.0034
364	SLE RA 19			-9.62	0.38	32.57	-0.3204	-0.3911	-0.0034
364	SLE RA 20			-9.87	0.4	33.27	-0.3294	-0.4011	-0.0035
364	SLE RA 21			-9.87	0.39	33.24	-0.3289	-0.4011	-0.0035
364	SLE FR 1			-8.3	0.33	29.38	-0.279	-0.3375	-0.003
364	SLE FR 2			-8.3	0.33	29.37	-0.2788	-0.3375	-0.003
364	SLE FR 3			-8.4	0.34	29.65	-0.2824	-0.3415	-0.003
364	SLE FR 4			-8.7	0.35	30.34	-0.2914	-0.3536	-0.0031
364	SLE FR 5			-8.8	0.35	30.62	-0.295	-0.3576	-0.0032
364	SLE FR 6			-8.96	0.36	31	-0.3	-0.3643	-0.0032
364	SLE QP 1			-8.3	0.33	29.38	-0.279	-0.3375	-0.003
364	SLE QP 2			-8.7	0.35	30.35	-0.2916	-0.3536	-0.0031
364	SLD 1			-1.87	0.21	25.65	-0.2925	-0.071	-0.0019
364	SLD 2			-1.87	0.21	25.65	-0.2925	-0.071	-0.0019
364	SLD 3			-2.73	0.34	28.92	-0.4043	-0.1061	-0.0031
364	SLD 4			-2.73	0.34	28.92	-0.4043	-0.1061	-0.0031
364	SLD 5			-5.34	0.1	23.97	-0.1224	-0.2157	-0.0011
364	SLD 6			-5.34	0.1	23.97	-0.1224	-0.2157	-0.0011
364	SLD 7			-8.22	0.56	34.89	-0.4949	-0.3325	-0.0048
364	SLD 8			-8.22	0.56	34.89	-0.4949	-0.3325	-0.0048
364	SLD 9			-9.18	0.14	25.81	-0.0883	-0.3747	-0.0015
364	SLD 10			-9.18	0.14	25.81	-0.0883	-0.3747	-0.0015
364	SLD 11			-12.06	0.6	36.73	-0.4608	-0.4916	-0.0052
364	SLD 12			-12.06	0.6	36.73	-0.4608	-0.4916	-0.0052
364	SLD 13			-14.67	0.36	31.78	-0.1789	-0.6011	-0.0032



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
364	SLD 14			-14.67	0.36	31.78	-0.1789	-0.6011	-0.0032
364	SLD 15			-15.53	0.49	35.06	-0.2906	-0.6362	-0.0043
364	SLD 16			-15.53	0.49	35.06	-0.2906	-0.6362	-0.0043
364	SLV 1			7.25	0.01	19.31	-0.2942	0.3061	-0.0003
364	SLV 2			7.25	0.01	19.31	-0.2942	0.3061	-0.0003
364	SLV 3			5.2	0.34	27.03	-0.5591	0.2228	-0.003
364	SLV 4			5.2	0.34	27.03	-0.5591	0.2228	-0.003
364	SLV 5			-0.81	-0.25	15.32	0.1093	-0.0293	0.0017
364	SLV 6			-0.81	-0.25	15.32	0.1093	-0.0293	0.0017
364	SLV 7			-7.64	0.84	41.07	-0.7735	-0.3071	-0.007
364	SLV 8			-7.64	0.84	41.07	-0.7735	-0.3071	-0.007
364	SLV 9			-9.76	-0.14	19.63	0.1904	-0.4001	0.0008
364	SLV 10			-9.76	-0.14	19.63	0.1904	-0.4001	0.0008
364	SLV 11			-16.59	0.94	45.38	-0.6925	-0.6779	-0.0079
364	SLV 12			-16.59	0.94	45.38	-0.6925	-0.6779	-0.0079
364	SLV 13			-22.6	0.36	33.67	-0.0241	-0.93	-0.0033
364	SLV 14			-22.6	0.36	33.67	-0.0241	-0.93	-0.0033
364	SLV 15			-24.65	0.69	41.4	-0.2889	-1.0133	-0.0059
364	SLV 16			-24.65	0.69	41.4	-0.2889	-1.0133	-0.0059
365	SLU 1			-6.87	0.33	25.9	-0.2938	-0.2922	-0.0026
365	SLU 2			-6.87	0.33	25.82	-0.2923	-0.2924	-0.0026
365	SLU 3			-7.25	0.35	26.95	-0.311	-0.3085	-0.0028
365	SLU 4			-7.26	0.35	26.9	-0.3101	-0.3087	-0.0028
365	SLU 5			-7.19	0.35	26.7	-0.3067	-0.3059	-0.0027
365	SLU 6			-7.57	0.37	27.84	-0.3254	-0.322	-0.0029
365	SLU 7			-7.57	0.37	27.79	-0.3245	-0.3221	-0.0029
365	SLU 8			-7.5	0.36	27.67	-0.3226	-0.3191	-0.0029
365	SLU 9			-7.5	0.36	27.62	-0.3217	-0.3192	-0.0029
365	SLU 10			-8.06	0.38	28.76	-0.3408	-0.3428	-0.003
365	SLU 11			-8.44	0.4	29.9	-0.3595	-0.3589	-0.0032
365	SLU 12			-8.44	0.4	29.85	-0.3586	-0.359	-0.0032
365	SLU 13			-8.38	0.4	29.64	-0.3552	-0.3562	-0.0032
365	SLU 14			-8.76	0.42	30.78	-0.3739	-0.3723	-0.0033
365	SLU 15			-8.76	0.42	30.73	-0.373	-0.3725	-0.0033
365	SLU 16			-8.69	0.42	30.61	-0.3711	-0.3694	-0.0033
365	SLU 17			-8.69	0.42	30.56	-0.3702	-0.3696	-0.0033
365	SLU 18			-8.57	0.41	30.11	-0.3631	-0.3641	-0.0032
365	SLU 19			-8.57	0.41	30.06	-0.3622	-0.3643	-0.0032
365	SLU 20			-8.88	0.43	30.99	-0.3774	-0.3776	-0.0034
365	SLU 21			-8.88	0.42	30.94	-0.3766	-0.3777	-0.0034
365	SLU 22			-8.03	0.39	28.93	-0.3437	-0.3416	-0.0031
365	SLU 23			-8.04	0.39	28.84	-0.3422	-0.3418	-0.0031
365	SLU 24			-8.42	0.41	29.98	-0.3609	-0.358	-0.0032
365	SLU 25			-8.42	0.41	29.93	-0.36	-0.3581	-0.0032
365	SLU 26			-8.35	0.4	29.72	-0.3566	-0.3553	-0.0032
365	SLU 27			-8.73	0.42	30.86	-0.3753	-0.3714	-0.0033
365	SLU 28			-8.74	0.42	30.81	-0.3744	-0.3716	-0.0033
365	SLU 29			-8.66	0.42	30.69	-0.3725	-0.3685	-0.0033
365	SLU 30			-8.67	0.42	30.64	-0.3716	-0.3687	-0.0033
365	SLU 31			-9.23	0.44	31.79	-0.3907	-0.3922	-0.0035
365	SLU 32			-9.6	0.46	32.92	-0.4094	-0.4083	-0.0036
365	SLU 33			-9.61	0.46	32.87	-0.4085	-0.4085	-0.0036
365	SLU 34			-9.54	0.46	32.67	-0.4051	-0.4057	-0.0036
365	SLU 35			-9.92	0.48	33.81	-0.4238	-0.4218	-0.0038
365	SLU 36			-9.92	0.48	33.75	-0.4229	-0.4219	-0.0038
365	SLU 37			-9.85	0.47	33.64	-0.421	-0.4189	-0.0038
365	SLU 38			-9.85	0.47	33.59	-0.4201	-0.419	-0.0037
365	SLU 39			-9.73	0.46	33.13	-0.413	-0.4135	-0.0037
365	SLU 40			-9.73	0.46	33.08	-0.4121	-0.4137	-0.0037
365	SLU 41			-10.04	0.48	34.02	-0.4274	-0.427	-0.0038
365	SLU 42			-10.05	0.48	33.97	-0.4265	-0.4272	-0.0038
365	SLU 43			-8.53	0.41	32.64	-0.3648	-0.3629	-0.0033
365	SLU 44			-8.54	0.41	32.55	-0.3634	-0.3631	-0.0032
365	SLU 45			-8.92	0.43	33.69	-0.382	-0.3792	-0.0034
365	SLU 46			-8.92	0.43	33.64	-0.3812	-0.3794	-0.0034
365	SLU 47			-8.85	0.43	33.43	-0.3778	-0.3766	-0.0034
365	SLU 48			-9.23	0.45	34.57	-0.3964	-0.3927	-0.0035
365	SLU 49			-9.23	0.45	34.52	-0.3956	-0.3928	-0.0035
365	SLU 50			-9.16	0.44	34.4	-0.3936	-0.3898	-0.0035
365	SLU 51			-9.16	0.44	34.35	-0.3927	-0.3899	-0.0035
365	SLU 52			-9.72	0.46	35.49	-0.4118	-0.4135	-0.0037
365	SLU 53			-10.1	0.49	36.63	-0.4305	-0.4296	-0.0038
365	SLU 54			-10.1	0.48	36.58	-0.4296	-0.4297	-0.0038
365	SLU 55			-10.04	0.48	36.38	-0.4262	-0.4269	-0.0038
365	SLU 56			-10.42	0.5	37.52	-0.4449	-0.443	-0.004
365	SLU 57			-10.42	0.5	37.46	-0.444	-0.4432	-0.004
365	SLU 58			-10.35	0.5	37.35	-0.4421	-0.4401	-0.0039
365	SLU 59			-10.35	0.5	37.3	-0.4412	-0.4403	-0.0039
365	SLU 60			-10.23	0.49	36.84	-0.4341	-0.4348	-0.0039
365	SLU 61			-10.23	0.49	36.79	-0.4332	-0.435	-0.0039
365	SLU 62			-10.54	0.51	37.73	-0.4485	-0.4483	-0.004
365	SLU 63			-10.55	0.5	37.67	-0.4476	-0.4484	-0.004
365	SLU 64			-9.7	0.47	35.66	-0.4147	-0.4123	-0.0037
365	SLU 65			-9.7	0.47	35.57	-0.4133	-0.4125	-0.0037
365	SLU 66			-10.08	0.49	36.71	-0.4319	-0.4287	-0.0039
365	SLU 67			-10.08	0.49	36.66	-0.4311	-0.4288	-0.0039
365	SLU 68			-10.02	0.48	36.46	-0.4277	-0.426	-0.0038
365	SLU 69			-10.39	0.5	37.6	-0.4463	-0.4421	-0.004
365	SLU 70			-10.4	0.5	37.54	-0.4455	-0.4423	-0.004
365	SLU 71			-10.33	0.5	37.43	-0.4435	-0.4392	-0.004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
365	SLU 72			-10.33	0.5	37.38	-0.4426	-0.4394	-0.0039
365	SLU 73			-10.89	0.52	38.52	-0.4617	-0.4629	-0.0041
365	SLU 74			-11.27	0.54	39.66	-0.4804	-0.479	-0.0043
365	SLU 75			-11.27	0.54	39.6	-0.4795	-0.4792	-0.0043
365	SLU 76			-11.2	0.54	39.4	-0.4761	-0.4764	-0.0042
365	SLU 77			-11.58	0.56	40.54	-0.4948	-0.4925	-0.0044
365	SLU 78			-11.58	0.56	40.49	-0.4939	-0.4926	-0.0044
365	SLU 79			-11.51	0.55	40.37	-0.492	-0.4896	-0.0044
365	SLU 80			-11.52	0.55	40.32	-0.4911	-0.4897	-0.0044
365	SLU 81			-11.39	0.55	39.87	-0.484	-0.4842	-0.0043
365	SLU 82			-11.39	0.54	39.82	-0.4831	-0.4844	-0.0043
365	SLU 83			-11.71	0.56	40.75	-0.4984	-0.4977	-0.0044
365	SLU 84			-11.71	0.56	40.7	-0.4975	-0.4978	-0.0044
365	SLE RA 1			-7.2	0.35	26.77	-0.3081	-0.3063	-0.0027
365	SLE RA 2			-7.21	0.35	26.71	-0.3071	-0.3065	-0.0027
365	SLE RA 3			-7.46	0.36	27.47	-0.3195	-0.3172	-0.0028
365	SLE RA 4			-7.46	0.36	27.43	-0.3189	-0.3173	-0.0028
365	SLE RA 5			-7.42	0.36	27.3	-0.3167	-0.3154	-0.0028
365	SLE RA 6			-7.67	0.37	28.06	-0.3291	-0.3262	-0.0029
365	SLE RA 7			-7.67	0.37	28.02	-0.3285	-0.3263	-0.0029
365	SLE RA 8			-7.62	0.37	27.95	-0.3272	-0.3242	-0.0029
365	SLE RA 9			-7.62	0.37	27.91	-0.3267	-0.3243	-0.0029
365	SLE RA 10			-8	0.38	28.67	-0.3394	-0.34	-0.003
365	SLE RA 11			-8.25	0.4	29.43	-0.3519	-0.3508	-0.0031
365	SLE RA 12			-8.25	0.4	29.4	-0.3513	-0.3509	-0.0031
365	SLE RA 13			-8.21	0.39	29.26	-0.349	-0.349	-0.0031
365	SLE RA 14			-8.46	0.41	30.02	-0.3614	-0.3597	-0.0032
365	SLE RA 15			-8.46	0.41	29.99	-0.3609	-0.3598	-0.0032
365	SLE RA 16			-8.41	0.41	29.91	-0.3596	-0.3578	-0.0032
365	SLE RA 17			-8.42	0.4	29.87	-0.359	-0.3579	-0.0032
365	SLE RA 18			-8.33	0.4	29.57	-0.3542	-0.3542	-0.0032
365	SLE RA 19			-8.33	0.4	29.54	-0.3536	-0.3543	-0.0032
365	SLE RA 20			-8.54	0.41	30.16	-0.3638	-0.3632	-0.0032
365	SLE RA 21			-8.54	0.41	30.13	-0.3632	-0.3633	-0.0032
365	SLE FR 1			-7.2	0.35	26.77	-0.3081	-0.3063	-0.0027
365	SLE FR 2			-7.2	0.35	26.76	-0.3079	-0.3063	-0.0027
365	SLE FR 3			-7.29	0.35	27	-0.3119	-0.3099	-0.0028
365	SLE FR 4			-7.54	0.36	27.6	-0.3217	-0.3207	-0.0029
365	SLE FR 5			-7.63	0.37	27.84	-0.3257	-0.3243	-0.0029
365	SLE FR 6			-7.77	0.37	28.17	-0.3311	-0.3303	-0.003
365	SLE QP 1			-7.2	0.35	26.77	-0.3081	-0.3063	-0.0027
365	SLE QP 2			-7.54	0.36	27.61	-0.3219	-0.3207	-0.0029
365	SLD 1			-0.98	0.21	23.21	-0.3233	-0.0299	-0.0017
365	SLD 2			-0.98	0.21	23.21	-0.3233	-0.0299	-0.0017
365	SLD 3			-1.78	0.35	26.16	-0.4408	-0.0621	-0.0028
365	SLD 4			-1.78	0.35	26.16	-0.4408	-0.0621	-0.0028
365	SLD 5			-4.37	0.09	21.81	-0.1441	-0.1845	-0.0008
365	SLD 6			-4.37	0.09	21.81	-0.1441	-0.1845	-0.0008
365	SLD 7			-7.02	0.58	31.65	-0.5358	-0.2921	-0.0045
365	SLD 8			-7.02	0.58	31.65	-0.5358	-0.2921	-0.0045
365	SLD 9			-8.07	0.14	23.57	-0.108	-0.3493	-0.0012
365	SLD 10			-8.07	0.14	23.57	-0.108	-0.3493	-0.0012
365	SLD 11			-10.71	0.63	33.41	-0.4997	-0.4569	-0.0049
365	SLD 12			-10.71	0.63	33.41	-0.4997	-0.4569	-0.0049
365	SLD 13			-13.3	0.37	29.06	-0.203	-0.5792	-0.0029
365	SLD 14			-13.3	0.37	29.06	-0.203	-0.5792	-0.0029
365	SLD 15			-14.1	0.52	32.01	-0.3205	-0.6115	-0.004
365	SLD 16			-14.1	0.52	32.01	-0.3205	-0.6115	-0.004
365	SLV 1			7.77	0	17.28	-0.3254	0.3583	-0.0001
365	SLV 2			7.77	0	17.28	-0.3254	0.3583	-0.0001
365	SLV 3			5.88	0.34	24.23	-0.6032	0.2816	-0.0028
365	SLV 4			5.88	0.34	24.23	-0.6032	0.2816	-0.0028
365	SLV 5			-0.09	-0.27	13.97	0.0984	-0.0007	0.0019
365	SLV 6			-0.09	-0.27	13.97	0.0984	-0.0007	0.0019
365	SLV 7			-6.37	0.88	37.14	-0.8276	-0.2562	-0.0068
365	SLV 8			-6.37	0.88	37.14	-0.8276	-0.2562	-0.0068
365	SLV 9			-8.71	-0.16	18.08	0.1838	-0.3851	0.0011
365	SLV 10			-8.71	-0.16	18.08	0.1838	-0.3851	0.0011
365	SLV 11			-14.99	1	41.25	-0.7422	-0.6406	-0.0077
365	SLV 12			-14.99	1	41.25	-0.7422	-0.6406	-0.0077
365	SLV 13			-20.96	0.38	30.98	-0.0406	-0.923	-0.003
365	SLV 14			-20.96	0.38	30.98	-0.0406	-0.923	-0.003
365	SLV 15			-22.85	0.73	37.93	-0.3184	-0.9996	-0.0056
365	SLV 16			-22.85	0.73	37.93	-0.3184	-0.9996	-0.0056
366	SLU 1			-5.75	0.35	24.96	-0.3223	-0.2433	-0.0022
366	SLU 2			-5.76	0.35	24.88	-0.3205	-0.2435	-0.0022
366	SLU 3			-6.06	0.37	25.97	-0.3415	-0.2566	-0.0023
366	SLU 4			-6.07	0.37	25.92	-0.3404	-0.2567	-0.0023
366	SLU 5			-6.01	0.37	25.73	-0.3367	-0.2544	-0.0023
366	SLU 6			-6.32	0.39	26.82	-0.3576	-0.2674	-0.0024
366	SLU 7			-6.32	0.39	26.77	-0.3566	-0.2675	-0.0024
366	SLU 8			-6.26	0.39	26.66	-0.3546	-0.265	-0.0024
366	SLU 9			-6.27	0.39	26.61	-0.3536	-0.2651	-0.0024
366	SLU 10			-6.72	0.41	27.65	-0.3736	-0.2843	-0.0025
366	SLU 11			-7.03	0.43	28.74	-0.3945	-0.2974	-0.0027
366	SLU 12			-7.04	0.43	28.69	-0.3934	-0.2975	-0.0027
366	SLU 13			-6.98	0.43	28.5	-0.3897	-0.2952	-0.0027
366	SLU 14			-7.29	0.45	29.59	-0.4107	-0.3082	-0.0028
366	SLU 15			-7.29	0.45	29.54	-0.4096	-0.3084	-0.0028
366	SLU 16			-7.23	0.45	29.43	-0.4076	-0.3059	-0.0028



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
366	SLU 17			-7.24	0.44	29.38	-0.4066	-0.306	-0.0028
366	SLU 18			-7.14	0.44	28.92	-0.398	-0.3016	-0.0027
366	SLU 19			-7.14	0.43	28.87	-0.397	-0.3017	-0.0027
366	SLU 20			-7.39	0.45	29.77	-0.4142	-0.3125	-0.0028
366	SLU 21			-7.39	0.45	29.72	-0.4131	-0.3126	-0.0028
366	SLU 22			-6.7	0.41	27.82	-0.3771	-0.2834	-0.0026
366	SLU 23			-6.71	0.41	27.74	-0.3754	-0.2836	-0.0026
366	SLU 24			-7.02	0.43	28.83	-0.3963	-0.2967	-0.0027
366	SLU 25			-7.02	0.43	28.78	-0.3953	-0.2968	-0.0027
366	SLU 26			-6.96	0.43	28.59	-0.3916	-0.2945	-0.0027
366	SLU 27			-7.27	0.45	29.68	-0.4125	-0.3075	-0.0028
366	SLU 28			-7.28	0.45	29.63	-0.4115	-0.3077	-0.0028
366	SLU 29			-7.22	0.45	29.52	-0.4095	-0.3052	-0.0028
366	SLU 30			-7.22	0.45	29.47	-0.4084	-0.3053	-0.0028
366	SLU 31			-7.68	0.47	30.51	-0.4284	-0.3245	-0.0029
366	SLU 32			-7.98	0.49	31.6	-0.4493	-0.3375	-0.0031
366	SLU 33			-7.99	0.49	31.54	-0.4483	-0.3376	-0.003
366	SLU 34			-7.93	0.49	31.35	-0.4446	-0.3353	-0.003
366	SLU 35			-8.24	0.51	32.44	-0.4655	-0.3484	-0.0032
366	SLU 36			-8.24	0.51	32.39	-0.4645	-0.3485	-0.0032
366	SLU 37			-8.18	0.51	32.29	-0.4625	-0.346	-0.0031
366	SLU 38			-8.19	0.5	32.24	-0.4615	-0.3461	-0.0031
366	SLU 39			-8.09	0.5	31.78	-0.4529	-0.3418	-0.0031
366	SLU 40			-8.09	0.49	31.72	-0.4518	-0.3419	-0.0031
366	SLU 41			-8.34	0.51	32.62	-0.469	-0.3526	-0.0032
366	SLU 42			-8.35	0.51	32.57	-0.468	-0.3527	-0.0032
366	SLU 43			-7.15	0.44	31.47	-0.4001	-0.3025	-0.0027
366	SLU 44			-7.16	0.44	31.39	-0.3984	-0.3027	-0.0027
366	SLU 45			-7.46	0.46	32.48	-0.4193	-0.3158	-0.0029
366	SLU 46			-7.47	0.46	32.43	-0.4183	-0.3159	-0.0028
366	SLU 47			-7.41	0.45	32.24	-0.4146	-0.3136	-0.0028
366	SLU 48			-7.72	0.48	33.33	-0.4355	-0.3266	-0.003
366	SLU 49			-7.72	0.48	33.28	-0.4345	-0.3268	-0.003
366	SLU 50			-7.66	0.47	33.17	-0.4325	-0.3243	-0.0029
366	SLU 51			-7.67	0.47	33.12	-0.4314	-0.3244	-0.0029
366	SLU 52			-8.12	0.49	34.16	-0.4514	-0.3436	-0.0031
366	SLU 53			-8.43	0.52	35.25	-0.4724	-0.3566	-0.0032
366	SLU 54			-8.44	0.52	35.2	-0.4713	-0.3567	-0.0032
366	SLU 55			-8.38	0.51	35.01	-0.4676	-0.3544	-0.0032
366	SLU 56			-8.69	0.53	36.1	-0.4885	-0.3675	-0.0033
366	SLU 57			-8.69	0.53	36.05	-0.4875	-0.3676	-0.0033
366	SLU 58			-8.63	0.53	35.94	-0.4855	-0.3651	-0.0033
366	SLU 59			-8.64	0.53	35.89	-0.4845	-0.3652	-0.0033
366	SLU 60			-8.53	0.52	35.43	-0.4759	-0.3609	-0.0032
366	SLU 61			-8.54	0.52	35.38	-0.4748	-0.361	-0.0032
366	SLU 62			-8.79	0.54	36.28	-0.492	-0.3717	-0.0033
366	SLU 63			-8.79	0.54	36.23	-0.491	-0.3718	-0.0033
366	SLU 64			-8.1	0.5	34.33	-0.455	-0.3427	-0.0031
366	SLU 65			-8.11	0.5	34.25	-0.4533	-0.3429	-0.0031
366	SLU 66			-8.42	0.52	35.34	-0.4742	-0.3559	-0.0032
366	SLU 67			-8.42	0.52	35.29	-0.4732	-0.356	-0.0032
366	SLU 68			-8.36	0.51	35.1	-0.4694	-0.3537	-0.0032
366	SLU 69			-8.67	0.54	36.19	-0.4904	-0.3668	-0.0033
366	SLU 70			-8.67	0.54	36.14	-0.4893	-0.3669	-0.0033
366	SLU 71			-8.62	0.53	36.03	-0.4873	-0.3644	-0.0033
366	SLU 72			-8.62	0.53	35.98	-0.4863	-0.3645	-0.0033
366	SLU 73			-9.08	0.55	37.01	-0.5063	-0.3837	-0.0034
366	SLU 74			-9.38	0.58	38.1	-0.5272	-0.3967	-0.0036
366	SLU 75			-9.39	0.58	38.05	-0.5262	-0.3969	-0.0036
366	SLU 76			-9.33	0.57	37.86	-0.5225	-0.3945	-0.0036
366	SLU 77			-9.64	0.59	38.95	-0.5434	-0.4076	-0.0037
366	SLU 78			-9.64	0.59	38.9	-0.5423	-0.4077	-0.0037
366	SLU 79			-9.58	0.59	38.8	-0.5404	-0.4052	-0.0037
366	SLU 80			-9.59	0.59	38.75	-0.5393	-0.4053	-0.0037
366	SLU 81			-9.49	0.58	38.28	-0.5307	-0.401	-0.0036
366	SLU 82			-9.49	0.58	38.23	-0.5297	-0.4011	-0.0036
366	SLU 83			-9.74	0.6	39.13	-0.5469	-0.4119	-0.0037
366	SLU 84			-9.74	0.6	39.08	-0.5459	-0.412	-0.0037
366	SLE RA 1			-6.02	0.37	25.78	-0.3379	-0.2548	-0.0023
366	SLE RA 2			-6.03	0.37	25.72	-0.3368	-0.2549	-0.0023
366	SLE RA 3			-6.23	0.38	26.45	-0.3507	-0.2636	-0.0024
366	SLE RA 4			-6.23	0.38	26.42	-0.35	-0.2637	-0.0024
366	SLE RA 5			-6.2	0.38	26.29	-0.3476	-0.2621	-0.0024
366	SLE RA 6			-6.4	0.4	27.02	-0.3615	-0.2708	-0.0025
366	SLE RA 7			-6.41	0.39	26.98	-0.3608	-0.2709	-0.0025
366	SLE RA 8			-6.37	0.39	26.91	-0.3595	-0.2693	-0.0024
366	SLE RA 9			-6.37	0.39	26.88	-0.3588	-0.2693	-0.0024
366	SLE RA 10			-6.67	0.41	27.57	-0.3721	-0.2821	-0.0025
366	SLE RA 11			-6.88	0.42	28.3	-0.3861	-0.2908	-0.0026
366	SLE RA 12			-6.88	0.42	28.26	-0.3854	-0.2909	-0.0026
366	SLE RA 13			-6.84	0.42	28.14	-0.3829	-0.2894	-0.0026
366	SLE RA 14			-7.05	0.43	28.86	-0.3969	-0.2981	-0.0027
366	SLE RA 15			-7.05	0.43	28.83	-0.3962	-0.2981	-0.0027
366	SLE RA 16			-7.01	0.43	28.76	-0.3948	-0.2965	-0.0027
366	SLE RA 17			-7.01	0.43	28.72	-0.3942	-0.2966	-0.0027
366	SLE RA 18			-6.95	0.42	28.42	-0.3884	-0.2937	-0.0026
366	SLE RA 19			-6.95	0.42	28.38	-0.3877	-0.2937	-0.0026
366	SLE RA 20			-7.12	0.44	28.98	-0.3992	-0.3009	-0.0027
366	SLE RA 21			-7.12	0.44	28.95	-0.3985	-0.301	-0.0027
366	SLE FR 1			-6.02	0.37	25.78	-0.3379	-0.2548	-0.0023



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
366	SLE FR 2			-6.02	0.37	25.77	-0.3377	-0.2548	-0.0023
366	SLE FR 3			-6.09	0.37	26.01	-0.3423	-0.2577	-0.0023
366	SLE FR 4			-6.3	0.39	26.56	-0.3529	-0.2665	-0.0024
366	SLE FR 5			-6.37	0.39	26.8	-0.3574	-0.2693	-0.0024
366	SLE FR 6			-6.48	0.4	27.1	-0.3632	-0.2742	-0.0025
366	SLE QP 1			-6.02	0.37	25.78	-0.3379	-0.2548	-0.0023
366	SLE QP 2			-6.3	0.39	26.57	-0.3531	-0.2664	-0.0024
366	SLD 1			-0.72	0.4	21.74	-0.3562	-0.0299	-0.0015
366	SLD 2			-0.72	0.4	21.74	-0.3562	-0.0299	-0.0015
366	SLD 3			-1.46	0.54	24.37	-0.4703	-0.0592	-0.0023
366	SLD 4			-1.46	0.54	24.37	-0.4703	-0.0592	-0.0023
366	SLD 5			-3.5	0.17	21.14	-0.181	-0.1509	-0.0008
366	SLD 6			-3.5	0.17	21.14	-0.181	-0.1509	-0.0008
366	SLD 7			-5.98	0.65	29.89	-0.5612	-0.2488	-0.0037
366	SLD 8			-5.98	0.65	29.89	-0.5612	-0.2488	-0.0037
366	SLD 9			-6.63	0.12	23.25	-0.1449	-0.2841	-0.0011
366	SLD 10			-6.63	0.12	23.25	-0.1449	-0.2841	-0.0011
366	SLD 11			-9.1	0.6	32	-0.5252	-0.382	-0.004
366	SLD 12			-9.1	0.6	32	-0.5252	-0.382	-0.004
366	SLD 13			-11.14	0.23	28.78	-0.2359	-0.4736	-0.0025
366	SLD 14			-11.14	0.23	28.78	-0.2359	-0.4736	-0.0025
366	SLD 15			-11.88	0.37	31.4	-0.35	-0.503	-0.0033
366	SLD 16			-11.88	0.37	31.4	-0.35	-0.503	-0.0033
366	SLV 1			6.73	0.41	15.25	-0.3607	0.2857	-0.0002
366	SLV 2			6.73	0.41	15.25	-0.3607	0.2857	-0.0002
366	SLV 3			4.97	0.75	21.43	-0.63	0.216	-0.0022
366	SLV 4			4.97	0.75	21.43	-0.63	0.216	-0.0022
366	SLV 5			0.28	-0.12	13.81	0.0531	0.0049	0.0014
366	SLV 6			0.28	-0.12	13.81	0.0531	0.0049	0.0014
366	SLV 7			-5.59	1.01	34.39	-0.8446	-0.2274	-0.0055
366	SLV 8			-5.59	1.01	34.39	-0.8446	-0.2274	-0.0055
366	SLV 9			-7.01	-0.24	18.75	0.1384	-0.3055	0.0007
366	SLV 10			-7.01	-0.24	18.75	0.1384	-0.3055	0.0007
366	SLV 11			-12.88	0.89	39.33	-0.7593	-0.5378	-0.0062
366	SLV 12			-12.88	0.89	39.33	-0.7593	-0.5378	-0.0062
366	SLV 13			-17.57	0.02	31.72	-0.0762	-0.7489	-0.0026
366	SLV 14			-17.57	0.02	31.72	-0.0762	-0.7489	-0.0026
366	SLV 15			-19.33	0.36	37.89	-0.3455	-0.8186	-0.0046
366	SLV 16			-19.33	0.36	37.89	-0.3455	-0.8186	-0.0046
367	SLU 1			-5.22	0.39	25.37	-0.3571	-0.2334	-0.0018
367	SLU 2			-5.22	0.38	25.29	-0.3551	-0.2336	-0.0018
367	SLU 3			-5.49	0.41	26.42	-0.3787	-0.2458	-0.0019
367	SLU 4			-5.49	0.41	26.37	-0.3775	-0.2459	-0.0019
367	SLU 5			-5.45	0.4	26.17	-0.3733	-0.2437	-0.0019
367	SLU 6			-5.72	0.43	27.3	-0.397	-0.2559	-0.002
367	SLU 7			-5.72	0.43	27.25	-0.3957	-0.256	-0.002
367	SLU 8			-5.67	0.43	27.13	-0.3937	-0.2537	-0.002
367	SLU 9			-5.67	0.42	27.09	-0.3925	-0.2538	-0.002
367	SLU 10			-6.06	0.45	28.12	-0.4136	-0.2712	-0.0021
367	SLU 11			-6.33	0.47	29.24	-0.4373	-0.2834	-0.0022
367	SLU 12			-6.33	0.47	29.19	-0.436	-0.2835	-0.0022
367	SLU 13			-6.28	0.47	29	-0.4319	-0.2813	-0.0022
367	SLU 14			-6.56	0.49	30.12	-0.4556	-0.2936	-0.0023
367	SLU 15			-6.56	0.49	30.08	-0.4543	-0.2937	-0.0023
367	SLU 16			-6.51	0.49	29.96	-0.4523	-0.2913	-0.0023
367	SLU 17			-6.51	0.49	29.91	-0.451	-0.2914	-0.0023
367	SLU 18			-6.42	0.48	29.41	-0.4408	-0.2872	-0.0023
367	SLU 19			-6.42	0.48	29.37	-0.4396	-0.2873	-0.0022
367	SLU 20			-6.64	0.5	30.29	-0.4591	-0.2973	-0.0023
367	SLU 21			-6.64	0.5	30.25	-0.4579	-0.2974	-0.0023
367	SLU 22			-6.05	0.45	28.3	-0.418	-0.2705	-0.0021
367	SLU 23			-6.05	0.45	28.22	-0.416	-0.2707	-0.0021
367	SLU 24			-6.32	0.48	29.34	-0.4396	-0.283	-0.0022
367	SLU 25			-6.32	0.47	29.29	-0.4384	-0.2831	-0.0022
367	SLU 26			-6.27	0.47	29.1	-0.4343	-0.2809	-0.0022
367	SLU 27			-6.55	0.5	30.22	-0.4579	-0.2931	-0.0023
367	SLU 28			-6.55	0.49	30.17	-0.4567	-0.2932	-0.0023
367	SLU 29			-6.5	0.49	30.06	-0.4546	-0.2908	-0.0023
367	SLU 30			-6.5	0.49	30.01	-0.4534	-0.2909	-0.0023
367	SLU 31			-6.89	0.51	31.05	-0.4745	-0.3084	-0.0024
367	SLU 32			-7.16	0.54	32.17	-0.4982	-0.3206	-0.0025
367	SLU 33			-7.16	0.54	32.12	-0.4969	-0.3207	-0.0025
367	SLU 34			-7.11	0.53	31.93	-0.4928	-0.3185	-0.0025
367	SLU 35			-7.38	0.56	33.05	-0.5165	-0.3307	-0.0026
367	SLU 36			-7.39	0.56	33	-0.5152	-0.3308	-0.0026
367	SLU 37			-7.33	0.56	32.89	-0.5132	-0.3285	-0.0026
367	SLU 38			-7.34	0.55	32.84	-0.512	-0.3286	-0.0026
367	SLU 39			-7.25	0.54	32.34	-0.5017	-0.3243	-0.0026
367	SLU 40			-7.25	0.54	32.29	-0.5005	-0.3244	-0.0026
367	SLU 41			-7.47	0.56	33.22	-0.52	-0.3345	-0.0027
367	SLU 42			-7.47	0.56	33.17	-0.5188	-0.3346	-0.0027
367	SLU 43			-6.5	0.48	31.98	-0.4434	-0.2907	-0.0023
367	SLU 44			-6.5	0.48	31.9	-0.4413	-0.2908	-0.0023
367	SLU 45			-6.77	0.5	33.02	-0.4649	-0.3031	-0.0024
367	SLU 46			-6.78	0.5	32.98	-0.4637	-0.3032	-0.0024
367	SLU 47			-6.73	0.5	32.78	-0.4596	-0.301	-0.0023
367	SLU 48			-7	0.52	33.9	-0.4832	-0.3132	-0.0025
367	SLU 49			-7	0.52	33.86	-0.482	-0.3133	-0.0025
367	SLU 50			-6.95	0.52	33.74	-0.4799	-0.311	-0.0025
367	SLU 51			-6.95	0.52	33.7	-0.4787	-0.3111	-0.0024



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
367	SLU 52			-7.34	0.54	34.73	-0.4999	-0.3285	-0.0026
367	SLU 53			-7.61	0.57	35.85	-0.5235	-0.3407	-0.0027
367	SLU 54			-7.62	0.56	35.8	-0.5223	-0.3408	-0.0027
367	SLU 55			-7.57	0.56	35.61	-0.5182	-0.3386	-0.0026
367	SLU 56			-7.84	0.59	36.73	-0.5418	-0.3509	-0.0028
367	SLU 57			-7.84	0.58	36.68	-0.5406	-0.351	-0.0028
367	SLU 58			-7.79	0.58	36.57	-0.5385	-0.3486	-0.0028
367	SLU 59			-7.79	0.58	36.52	-0.5373	-0.3487	-0.0027
367	SLU 60			-7.7	0.57	36.02	-0.527	-0.3444	-0.0027
367	SLU 61			-7.7	0.57	35.97	-0.5258	-0.3445	-0.0027
367	SLU 62			-7.92	0.59	36.9	-0.5453	-0.3546	-0.0028
367	SLU 63			-7.93	0.59	36.86	-0.5441	-0.3547	-0.0028
367	SLU 64			-7.33	0.55	34.91	-0.5043	-0.3278	-0.0026
367	SLU 65			-7.33	0.54	34.83	-0.5022	-0.328	-0.0026
367	SLU 66			-7.6	0.57	35.95	-0.5258	-0.3402	-0.0027
367	SLU 67			-7.6	0.57	35.9	-0.5246	-0.3403	-0.0027
367	SLU 68			-7.56	0.56	35.71	-0.5205	-0.3381	-0.0027
367	SLU 69			-7.83	0.59	36.83	-0.5441	-0.3504	-0.0028
367	SLU 70			-7.83	0.59	36.78	-0.5429	-0.3505	-0.0028
367	SLU 71			-7.78	0.59	36.67	-0.5408	-0.3481	-0.0028
367	SLU 72			-7.78	0.58	36.62	-0.5396	-0.3482	-0.0028
367	SLU 73			-8.17	0.61	37.66	-0.5608	-0.3656	-0.0029
367	SLU 74			-8.44	0.63	38.78	-0.5844	-0.3779	-0.003
367	SLU 75			-8.44	0.63	38.73	-0.5832	-0.378	-0.003
367	SLU 76			-8.39	0.63	38.54	-0.5791	-0.3758	-0.003
367	SLU 77			-8.67	0.65	39.66	-0.6027	-0.388	-0.0031
367	SLU 78			-8.67	0.65	39.61	-0.6015	-0.3881	-0.0031
367	SLU 79			-8.62	0.65	39.5	-0.5994	-0.3858	-0.0031
367	SLU 80			-8.62	0.65	39.45	-0.5982	-0.3859	-0.0031
367	SLU 81			-8.53	0.64	38.95	-0.588	-0.3816	-0.003
367	SLU 82			-8.53	0.63	38.9	-0.5867	-0.3817	-0.003
367	SLU 83			-8.75	0.66	39.83	-0.6062	-0.3917	-0.0031
367	SLU 84			-8.75	0.65	39.78	-0.605	-0.3918	-0.0031
367	SLE RA 1			-5.46	0.41	26.21	-0.3745	-0.244	-0.0019
367	SLE RA 2			-5.46	0.4	26.16	-0.3731	-0.2441	-0.0019
367	SLE RA 3			-5.64	0.42	26.9	-0.3889	-0.2523	-0.002
367	SLE RA 4			-5.64	0.42	26.87	-0.3881	-0.2523	-0.002
367	SLE RA 5			-5.61	0.42	26.74	-0.3853	-0.2509	-0.002
367	SLE RA 6			-5.79	0.43	27.49	-0.4011	-0.259	-0.0021
367	SLE RA 7			-5.79	0.43	27.46	-0.4003	-0.2591	-0.002
367	SLE RA 8			-5.75	0.43	27.38	-0.3989	-0.2575	-0.002
367	SLE RA 9			-5.76	0.43	27.35	-0.3981	-0.2576	-0.002
367	SLE RA 10			-6.02	0.45	28.04	-0.4122	-0.2692	-0.0021
367	SLE RA 11			-6.2	0.46	28.79	-0.4279	-0.2774	-0.0022
367	SLE RA 12			-6.2	0.46	28.76	-0.4271	-0.2774	-0.0022
367	SLE RA 13			-6.17	0.46	28.63	-0.4244	-0.276	-0.0022
367	SLE RA 14			-6.35	0.48	29.38	-0.4401	-0.2841	-0.0022
367	SLE RA 15			-6.35	0.48	29.34	-0.4393	-0.2842	-0.0022
367	SLE RA 16			-6.31	0.47	29.27	-0.438	-0.2826	-0.0022
367	SLE RA 17			-6.31	0.47	29.24	-0.4371	-0.2827	-0.0022
367	SLE RA 18			-6.25	0.47	28.9	-0.4303	-0.2799	-0.0022
367	SLE RA 19			-6.26	0.46	28.87	-0.4295	-0.2799	-0.0022
367	SLE RA 20			-6.4	0.48	29.49	-0.4425	-0.2866	-0.0023
367	SLE RA 21			-6.41	0.48	29.46	-0.4417	-0.2867	-0.0023
367	SLE FR 1			-5.46	0.41	26.21	-0.3745	-0.244	-0.0019
367	SLE FR 2			-5.46	0.4	26.2	-0.3742	-0.244	-0.0019
367	SLE FR 3			-5.52	0.41	26.44	-0.3794	-0.2467	-0.0019
367	SLE FR 4			-5.7	0.42	27.01	-0.391	-0.2548	-0.002
367	SLE FR 5			-5.75	0.43	27.25	-0.3961	-0.2575	-0.002
367	SLE FR 6			-5.85	0.44	27.56	-0.4024	-0.2619	-0.0021
367	SLE QP 1			-5.46	0.41	26.21	-0.3745	-0.244	-0.0019
367	SLE QP 2			-5.7	0.42	27.02	-0.3912	-0.2548	-0.002
367	SLD 1			-0.82	0.44	20.6	-0.3965	-0.0259	-0.0013
367	SLD 2			-0.82	0.44	20.6	-0.3965	-0.0259	-0.0013
367	SLD 3			-1.55	0.57	22.94	-0.4992	-0.0547	-0.0019
367	SLD 4			-1.55	0.57	22.94	-0.4992	-0.0547	-0.0019
367	SLD 5			-3.12	0.23	21.54	-0.2372	-0.1424	-0.0009
367	SLD 6			-3.12	0.23	21.54	-0.2372	-0.1424	-0.0009
367	SLD 7			-5.57	0.67	29.34	-0.5793	-0.2384	-0.0029
367	SLD 8			-5.57	0.67	29.34	-0.5793	-0.2384	-0.0029
367	SLD 9			-5.82	0.18	24.69	-0.2032	-0.2711	-0.0011
367	SLD 10			-5.82	0.18	24.69	-0.2032	-0.2711	-0.0011
367	SLD 11			-8.27	0.62	32.49	-0.5453	-0.3671	-0.0031
367	SLD 12			-8.27	0.62	32.49	-0.5453	-0.3671	-0.0031
367	SLD 13			-9.84	0.28	31.09	-0.2833	-0.4548	-0.0021
367	SLD 14			-9.84	0.28	31.09	-0.2833	-0.4548	-0.0021
367	SLD 15			-10.57	0.41	33.43	-0.386	-0.4836	-0.0027
367	SLD 16			-10.57	0.41	33.43	-0.386	-0.4836	-0.0027
367	SLV 1			5.69	0.46	12.01	-0.4041	0.2793	-0.0004
367	SLV 2			5.69	0.46	12.01	-0.4041	0.2793	-0.0004
367	SLV 3			3.95	0.77	17.5	-0.6463	0.2112	-0.0018
367	SLV 4			3.95	0.77	17.5	-0.6463	0.2112	-0.0018
367	SLV 5			0.35	-0.04	14.18	-0.0277	0.0088	0.0006
367	SLV 6			0.35	-0.04	14.18	-0.0277	0.0088	0.0006
367	SLV 7			-5.44	1	32.49	-0.8352	-0.2183	-0.0041
367	SLV 8			-5.44	1	32.49	-0.8352	-0.2183	-0.0041
367	SLV 9			-5.95	-0.15	21.54	0.0527	-0.2912	0.0001
367	SLV 10			-5.95	-0.15	21.54	0.0527	-0.2912	0.0001
367	SLV 11			-11.74	0.89	39.85	-0.7548	-0.5183	-0.0046
367	SLV 12			-11.74	0.89	39.85	-0.7548	-0.5183	-0.0046



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
367	SLV 13			-15.34	0.08	36.53	-0.1362	-0.7207	-0.0022
367	SLV 14			-15.34	0.08	36.53	-0.1362	-0.7207	-0.0022
367	SLV 15			-17.08	0.39	42.03	-0.3784	-0.7888	-0.0036
367	SLV 16			-17.08	0.39	42.03	-0.3784	-0.7888	-0.0036
368	SLU 1			-5.12	0.45	26.91	-0.4047	-0.2246	-0.0014
368	SLU 2			-5.11	0.45	26.84	-0.4023	-0.2245	-0.0014
368	SLU 3			-5.37	0.48	28.06	-0.4295	-0.236	-0.0015
368	SLU 4			-5.37	0.48	28.01	-0.428	-0.2359	-0.0015
368	SLU 5			-5.32	0.47	27.81	-0.4234	-0.2339	-0.0015
368	SLU 6			-5.58	0.5	29.03	-0.4506	-0.2453	-0.0016
368	SLU 7			-5.58	0.5	28.98	-0.4491	-0.2453	-0.0016
368	SLU 8			-5.54	0.5	28.85	-0.4469	-0.2433	-0.0016
368	SLU 9			-5.53	0.49	28.81	-0.4454	-0.2433	-0.0015
368	SLU 10			-5.88	0.52	29.94	-0.4685	-0.2584	-0.0016
368	SLU 11			-6.14	0.55	31.15	-0.4957	-0.2698	-0.0017
368	SLU 12			-6.14	0.55	31.11	-0.4942	-0.2697	-0.0017
368	SLU 13			-6.09	0.54	30.9	-0.4896	-0.2677	-0.0017
368	SLU 14			-6.35	0.57	32.12	-0.5168	-0.2792	-0.0018
368	SLU 15			-6.35	0.57	32.08	-0.5153	-0.2791	-0.0018
368	SLU 16			-6.3	0.57	31.95	-0.5131	-0.2772	-0.0018
368	SLU 17			-6.3	0.57	31.9	-0.5117	-0.2771	-0.0018
368	SLU 18			-6.21	0.55	31.34	-0.4994	-0.273	-0.0017
368	SLU 19			-6.21	0.55	31.29	-0.4979	-0.2729	-0.0017
368	SLU 20			-6.42	0.58	32.3	-0.5204	-0.2823	-0.0018
368	SLU 21			-6.42	0.58	32.26	-0.519	-0.2822	-0.0018
368	SLU 22			-5.88	0.53	30.11	-0.4739	-0.2584	-0.0016
368	SLU 23			-5.88	0.52	30.03	-0.4714	-0.2583	-0.0016
368	SLU 24			-6.13	0.55	31.25	-0.4986	-0.2697	-0.0017
368	SLU 25			-6.13	0.55	31.21	-0.4972	-0.2697	-0.0017
368	SLU 26			-6.09	0.55	31	-0.4925	-0.2676	-0.0017
368	SLU 27			-6.34	0.58	32.22	-0.5197	-0.2791	-0.0018
368	SLU 28			-6.34	0.58	32.18	-0.5182	-0.279	-0.0018
368	SLU 29			-6.3	0.57	32.04	-0.516	-0.2771	-0.0018
368	SLU 30			-6.3	0.57	32	-0.5146	-0.277	-0.0018
368	SLU 31			-6.64	0.6	33.13	-0.5377	-0.2921	-0.0019
368	SLU 32			-6.9	0.63	34.35	-0.5649	-0.3035	-0.002
368	SLU 33			-6.9	0.63	34.31	-0.5634	-0.3035	-0.002
368	SLU 34			-6.85	0.62	34.1	-0.5587	-0.3014	-0.0019
368	SLU 35			-7.11	0.65	35.32	-0.586	-0.3129	-0.002
368	SLU 36			-7.11	0.65	35.27	-0.5845	-0.3128	-0.002
368	SLU 37			-7.07	0.65	35.14	-0.5823	-0.3109	-0.002
368	SLU 38			-7.06	0.64	35.1	-0.5808	-0.3108	-0.002
368	SLU 39			-6.97	0.63	34.53	-0.5685	-0.3067	-0.002
368	SLU 40			-6.97	0.63	34.49	-0.567	-0.3066	-0.002
368	SLU 41			-7.18	0.65	35.5	-0.5896	-0.316	-0.002
368	SLU 42			-7.18	0.65	35.46	-0.5881	-0.316	-0.002
368	SLU 43			-6.39	0.56	33.89	-0.5025	-0.2805	-0.0017
368	SLU 44			-6.39	0.56	33.82	-0.5	-0.2804	-0.0017
368	SLU 45			-6.64	0.59	35.04	-0.5272	-0.2918	-0.0018
368	SLU 46			-6.64	0.58	34.99	-0.5257	-0.2918	-0.0018
368	SLU 47			-6.6	0.58	34.79	-0.5211	-0.2897	-0.0018
368	SLU 48			-6.85	0.61	36	-0.5483	-0.3012	-0.0019
368	SLU 49			-6.85	0.61	35.96	-0.5468	-0.3011	-0.0019
368	SLU 50			-6.81	0.6	35.83	-0.5446	-0.2992	-0.0019
368	SLU 51			-6.81	0.6	35.78	-0.5431	-0.2991	-0.0019
368	SLU 52			-7.15	0.63	36.91	-0.5662	-0.3142	-0.002
368	SLU 53			-7.41	0.66	38.13	-0.5934	-0.3256	-0.0021
368	SLU 54			-7.41	0.66	38.09	-0.592	-0.3256	-0.0021
368	SLU 55			-7.36	0.65	37.88	-0.5873	-0.3235	-0.002
368	SLU 56			-7.62	0.68	39.1	-0.6145	-0.335	-0.0021
368	SLU 57			-7.62	0.68	39.06	-0.613	-0.3349	-0.0021
368	SLU 58			-7.58	0.68	38.92	-0.6109	-0.333	-0.0021
368	SLU 59			-7.57	0.68	38.88	-0.6094	-0.3329	-0.0021
368	SLU 60			-7.48	0.66	38.31	-0.5971	-0.3288	-0.0021
368	SLU 61			-7.48	0.66	38.27	-0.5956	-0.3287	-0.0021
368	SLU 62			-7.69	0.69	39.28	-0.6182	-0.3381	-0.0021
368	SLU 63			-7.69	0.68	39.24	-0.6167	-0.3381	-0.0021
368	SLU 64			-7.15	0.63	37.08	-0.5716	-0.3142	-0.002
368	SLU 65			-7.15	0.63	37.01	-0.5691	-0.3141	-0.002
368	SLU 66			-7.41	0.66	38.23	-0.5964	-0.3255	-0.0021
368	SLU 67			-7.41	0.66	38.19	-0.5949	-0.3255	-0.0021
368	SLU 68			-7.36	0.66	37.98	-0.5902	-0.3234	-0.002
368	SLU 69			-7.62	0.69	39.2	-0.6174	-0.3349	-0.0021
368	SLU 70			-7.62	0.68	39.16	-0.616	-0.3348	-0.0021
368	SLU 71			-7.57	0.68	39.02	-0.6138	-0.3329	-0.0021
368	SLU 72			-7.57	0.68	38.98	-0.6123	-0.3328	-0.0021
368	SLU 73			-7.92	0.71	40.11	-0.6354	-0.3479	-0.0022
368	SLU 74			-8.17	0.74	41.33	-0.6626	-0.3594	-0.0023
368	SLU 75			-8.17	0.73	41.28	-0.6611	-0.3593	-0.0023
368	SLU 76			-8.13	0.73	41.08	-0.6565	-0.3573	-0.0023
368	SLU 77			-8.38	0.76	42.3	-0.6837	-0.3687	-0.0024
368	SLU 78			-8.38	0.76	42.25	-0.6822	-0.3686	-0.0024
368	SLU 79			-8.34	0.75	42.12	-0.68	-0.3667	-0.0024
368	SLU 80			-8.34	0.75	42.08	-0.6785	-0.3667	-0.0024
368	SLU 81			-8.25	0.74	41.51	-0.6662	-0.3625	-0.0023
368	SLU 82			-8.25	0.74	41.46	-0.6647	-0.3625	-0.0023
368	SLU 83			-8.46	0.76	42.48	-0.6873	-0.3719	-0.0024
368	SLU 84			-8.46	0.76	42.43	-0.6858	-0.3718	-0.0024
368	SLE RA 1			-5.33	0.47	27.82	-0.4245	-0.2343	-0.0015
368	SLE RA 2			-5.33	0.47	27.78	-0.4229	-0.2342	-0.0015



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
368	SLE RA 3			-5.5	0.49	28.59	-0.441	-0.2418	-0.0015
368	SLE RA 4			-5.5	0.49	28.56	-0.44	-0.2418	-0.0015
368	SLE RA 5			-5.47	0.49	28.42	-0.4369	-0.2404	-0.0015
368	SLE RA 6			-5.64	0.51	29.23	-0.4551	-0.2481	-0.0016
368	SLE RA 7			-5.64	0.5	29.21	-0.4541	-0.248	-0.0016
368	SLE RA 8			-5.61	0.5	29.12	-0.4526	-0.2467	-0.0016
368	SLE RA 9			-5.61	0.5	29.09	-0.4516	-0.2467	-0.0016
368	SLE RA 10			-5.84	0.52	29.84	-0.467	-0.2568	-0.0016
368	SLE RA 11			-6.02	0.54	30.65	-0.4852	-0.2644	-0.0017
368	SLE RA 12			-6.01	0.54	30.62	-0.4842	-0.2643	-0.0017
368	SLE RA 13			-5.98	0.53	30.49	-0.4811	-0.263	-0.0017
368	SLE RA 14			-6.16	0.55	31.3	-0.4992	-0.2706	-0.0017
368	SLE RA 15			-6.15	0.55	31.27	-0.4982	-0.2706	-0.0017
368	SLE RA 16			-6.12	0.55	31.18	-0.4968	-0.2693	-0.0017
368	SLE RA 17			-6.12	0.55	31.15	-0.4958	-0.2692	-0.0017
368	SLE RA 18			-6.06	0.54	30.77	-0.4876	-0.2665	-0.0017
368	SLE RA 19			-6.06	0.54	30.74	-0.4866	-0.2665	-0.0017
368	SLE RA 20			-6.2	0.56	31.42	-0.5016	-0.2727	-0.0017
368	SLE RA 21			-6.2	0.56	31.39	-0.5006	-0.2727	-0.0017
368	SLE FR 1			-5.33	0.47	27.82	-0.4245	-0.2343	-0.0015
368	SLE FR 2			-5.33	0.47	27.81	-0.4242	-0.2343	-0.0015
368	SLE FR 3			-5.39	0.48	28.08	-0.4301	-0.2368	-0.0015
368	SLE FR 4			-5.55	0.49	28.7	-0.4431	-0.2439	-0.0015
368	SLE FR 5			-5.61	0.5	28.97	-0.449	-0.2464	-0.0016
368	SLE FR 6			-5.7	0.51	29.3	-0.456	-0.2504	-0.0016
368	SLE QP 1			-5.33	0.47	27.82	-0.4245	-0.2343	-0.0015
368	SLE QP 2			-5.55	0.49	28.71	-0.4434	-0.2439	-0.0015
368	SLD 1			-1.58	0.51	19.22	-0.4499	-0.0643	-0.0012
368	SLD 2			-1.58	0.51	19.22	-0.4499	-0.0643	-0.0012
368	SLD 3			-2.29	0.62	21.46	-0.5377	-0.0921	-0.0015
368	SLD 4			-2.29	0.62	21.46	-0.5377	-0.0921	-0.0015
368	SLD 5			-3.27	0.32	22.46	-0.3122	-0.148	-0.0009
368	SLD 6			-3.27	0.32	22.46	-0.3122	-0.148	-0.0009
368	SLD 7			-5.66	0.71	29.93	-0.6049	-0.2405	-0.002
368	SLD 8			-5.66	0.71	29.93	-0.6049	-0.2405	-0.002
368	SLD 9			-5.44	0.27	27.49	-0.282	-0.2474	-0.0011
368	SLD 10			-5.44	0.27	27.49	-0.282	-0.2474	-0.0011
368	SLD 11			-7.83	0.67	34.95	-0.5747	-0.3399	-0.0021
368	SLD 12			-7.83	0.67	34.95	-0.5747	-0.3399	-0.0021
368	SLD 13			-8.81	0.36	35.96	-0.3491	-0.3958	-0.0016
368	SLD 14			-8.81	0.36	35.96	-0.3491	-0.3958	-0.0016
368	SLD 15			-9.53	0.48	38.2	-0.4369	-0.4235	-0.0019
368	SLD 16			-9.53	0.48	38.2	-0.4369	-0.4235	-0.0019
368	SLV 1			3.72	0.52	6.51	-0.4593	0.175	-0.0007
368	SLV 2			3.72	0.52	6.51	-0.4593	0.175	-0.0007
368	SLV 3			2.03	0.8	11.78	-0.6667	0.1095	-0.0014
368	SLV 4			2.03	0.8	11.78	-0.6667	0.1095	-0.0014
368	SLV 5			-0.2	0.08	14.07	-0.1336	-0.0189	-0.0001
368	SLV 6			-0.2	0.08	14.07	-0.1336	-0.0189	-0.0001
368	SLV 7			-5.85	1.01	31.61	-0.825	-0.2372	-0.0026
368	SLV 8			-5.85	1.01	31.61	-0.825	-0.2372	-0.0026
368	SLV 9			-5.26	-0.03	25.81	-0.0618	-0.2507	-0.0004
368	SLV 10			-5.26	-0.03	25.81	-0.0618	-0.2507	-0.0004
368	SLV 11			-10.9	0.91	43.35	-0.7533	-0.469	-0.0029
368	SLV 12			-10.9	0.91	43.35	-0.7533	-0.469	-0.0029
368	SLV 13			-13.14	0.18	45.64	-0.2201	-0.5974	-0.0017
368	SLV 14			-13.14	0.18	45.64	-0.2201	-0.5974	-0.0017
368	SLV 15			-14.83	0.46	50.9	-0.4276	-0.6629	-0.0024
368	SLV 16			-14.83	0.46	50.9	-0.4276	-0.6629	-0.0024
369	SLU 1			-5.52	0.67	31.33	-0.4625	-0.2819	0.0012
369	SLU 2			-5.51	0.66	31.27	-0.4595	-0.2817	0.0012
369	SLU 3			-5.79	0.71	32.74	-0.4911	-0.2958	0.0013
369	SLU 4			-5.78	0.71	32.7	-0.4893	-0.2957	0.0013
369	SLU 5			-5.73	0.7	32.45	-0.484	-0.2932	0.0013
369	SLU 6			-6.01	0.74	33.92	-0.5155	-0.3073	0.0014
369	SLU 7			-6	0.74	33.88	-0.5137	-0.3072	0.0014
369	SLU 8			-5.96	0.74	33.7	-0.5114	-0.3049	0.0014
369	SLU 9			-5.96	0.74	33.66	-0.5096	-0.3048	0.0014
369	SLU 10			-6.28	0.77	35.09	-0.5351	-0.3218	0.0014
369	SLU 11			-6.56	0.82	36.56	-0.5666	-0.336	0.0015
369	SLU 12			-6.55	0.81	36.52	-0.5648	-0.3358	0.0015
369	SLU 13			-6.5	0.81	36.27	-0.5595	-0.3333	0.0015
369	SLU 14			-6.78	0.85	37.74	-0.591	-0.3474	0.0016
369	SLU 15			-6.77	0.85	37.7	-0.5892	-0.3473	0.0016
369	SLU 16			-6.73	0.85	37.52	-0.5869	-0.3451	0.0016
369	SLU 17			-6.73	0.84	37.48	-0.5851	-0.3449	0.0016
369	SLU 18			-6.62	0.82	36.79	-0.5704	-0.3393	0.0015
369	SLU 19			-6.62	0.82	36.75	-0.5686	-0.3391	0.0015
369	SLU 20			-6.84	0.86	37.97	-0.5948	-0.3508	0.0016
369	SLU 21			-6.84	0.86	37.93	-0.593	-0.3506	0.0016
369	SLU 22			-6.3	0.78	35.25	-0.5416	-0.3223	0.0014
369	SLU 23			-6.29	0.78	35.18	-0.5387	-0.3221	0.0014
369	SLU 24			-6.56	0.82	36.65	-0.5702	-0.3362	0.0015
369	SLU 25			-6.56	0.82	36.62	-0.5684	-0.336	0.0015
369	SLU 26			-6.51	0.81	36.37	-0.5631	-0.3336	0.0015
369	SLU 27			-6.78	0.86	37.84	-0.5946	-0.3477	0.0016
369	SLU 28			-6.78	0.86	37.8	-0.5928	-0.3475	0.0016
369	SLU 29			-6.74	0.85	37.62	-0.5905	-0.3453	0.0016
369	SLU 30			-6.73	0.85	37.58	-0.5887	-0.3451	0.0016
369	SLU 31			-7.06	0.89	39	-0.6142	-0.3622	0.0016



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
369	SLU 32			-7.33	0.93	40.47	-0.6457	-0.3763	0.0017
369	SLU 33			-7.33	0.93	40.43	-0.6439	-0.3762	0.0017
369	SLU 34			-7.28	0.92	40.19	-0.6386	-0.3737	0.0017
369	SLU 35			-7.55	0.97	41.66	-0.6701	-0.3878	0.0018
369	SLU 36			-7.55	0.96	41.62	-0.6684	-0.3877	0.0018
369	SLU 37			-7.51	0.96	41.44	-0.666	-0.3854	0.0018
369	SLU 38			-7.5	0.96	41.4	-0.6642	-0.3853	0.0018
369	SLU 39			-7.4	0.94	40.7	-0.6495	-0.3796	0.0017
369	SLU 40			-7.39	0.93	40.66	-0.6477	-0.3795	0.0017
369	SLU 41			-7.62	0.97	41.89	-0.6739	-0.3911	0.0018
369	SLU 42			-7.61	0.97	41.85	-0.6721	-0.391	0.0018
369	SLU 43			-6.91	0.83	39.39	-0.5741	-0.3527	0.0015
369	SLU 44			-6.9	0.82	39.32	-0.5712	-0.3525	0.0015
369	SLU 45			-7.18	0.87	40.79	-0.6027	-0.3666	0.0016
369	SLU 46			-7.17	0.87	40.76	-0.6009	-0.3664	0.0016
369	SLU 47			-7.12	0.86	40.51	-0.5956	-0.364	0.0016
369	SLU 48			-7.4	0.91	41.98	-0.6272	-0.3781	0.0017
369	SLU 49			-7.39	0.9	41.94	-0.6254	-0.3779	0.0017
369	SLU 50			-7.35	0.9	41.76	-0.623	-0.3757	0.0017
369	SLU 51			-7.35	0.9	41.72	-0.6212	-0.3755	0.0017
369	SLU 52			-7.67	0.93	43.14	-0.6467	-0.3926	0.0017
369	SLU 53			-7.95	0.98	44.61	-0.6782	-0.4067	0.0018
369	SLU 54			-7.94	0.98	44.57	-0.6764	-0.4066	0.0018
369	SLU 55			-7.89	0.97	44.33	-0.6711	-0.4041	0.0018
369	SLU 56			-8.17	1.01	45.8	-0.7027	-0.4182	0.0019
369	SLU 57			-8.16	1.01	45.76	-0.7009	-0.4181	0.0019
369	SLU 58			-8.12	1.01	45.58	-0.6985	-0.4158	0.0019
369	SLU 59			-8.12	1.01	45.54	-0.6967	-0.4157	0.0019
369	SLU 60			-8.01	0.98	44.84	-0.682	-0.41	0.0018
369	SLU 61			-8.01	0.98	44.8	-0.6802	-0.4099	0.0018
369	SLU 62			-8.23	1.02	46.03	-0.7064	-0.4215	0.0019
369	SLU 63			-8.23	1.02	45.99	-0.7047	-0.4214	0.0019
369	SLU 64			-7.69	0.94	43.3	-0.6533	-0.393	0.0017
369	SLU 65			-7.68	0.94	43.24	-0.6503	-0.3928	0.0017
369	SLU 66			-7.95	0.98	44.71	-0.6818	-0.4069	0.0018
369	SLU 67			-7.95	0.98	44.67	-0.68	-0.4068	0.0018
369	SLU 68			-7.9	0.97	44.43	-0.6747	-0.4043	0.0018
369	SLU 69			-8.17	1.02	45.89	-0.7063	-0.4184	0.0019
369	SLU 70			-8.17	1.02	45.86	-0.7045	-0.4183	0.0019
369	SLU 71			-8.13	1.01	45.67	-0.7021	-0.416	0.0019
369	SLU 72			-8.12	1.01	45.64	-0.7003	-0.4159	0.0019
369	SLU 73			-8.45	1.05	47.06	-0.7258	-0.4329	0.0019
369	SLU 74			-8.72	1.09	48.53	-0.7573	-0.447	0.002
369	SLU 75			-8.72	1.09	48.49	-0.7556	-0.4469	0.002
369	SLU 76			-8.67	1.08	48.24	-0.7502	-0.4444	0.002
369	SLU 77			-8.94	1.13	49.71	-0.7818	-0.4585	0.0021
369	SLU 78			-8.94	1.13	49.67	-0.78	-0.4584	0.0021
369	SLU 79			-8.9	1.12	49.49	-0.7776	-0.4561	0.0021
369	SLU 80			-8.89	1.12	49.45	-0.7758	-0.456	0.0021
369	SLU 81			-8.79	1.1	48.76	-0.7611	-0.4504	0.002
369	SLU 82			-8.78	1.1	48.72	-0.7593	-0.4502	0.002
369	SLU 83			-9.01	1.13	49.94	-0.7856	-0.4619	0.0021
369	SLU 84			-9	1.13	49.91	-0.7838	-0.4617	0.0021
369	SLE RA 1			-5.74	0.7	32.45	-0.4851	-0.2935	0.0013
369	SLE RA 2			-5.74	0.7	32.41	-0.4831	-0.2933	0.0013
369	SLE RA 3			-5.92	0.73	33.39	-0.5042	-0.3027	0.0013
369	SLE RA 4			-5.92	0.73	33.36	-0.503	-0.3026	0.0013
369	SLE RA 5			-5.88	0.72	33.2	-0.4994	-0.301	0.0013
369	SLE RA 6			-6.07	0.75	34.18	-0.5205	-0.3104	0.0014
369	SLE RA 7			-6.06	0.75	34.15	-0.5193	-0.3103	0.0014
369	SLE RA 8			-6.04	0.75	34.03	-0.5177	-0.3088	0.0014
369	SLE RA 9			-6.03	0.75	34	-0.5165	-0.3087	0.0014
369	SLE RA 10			-6.25	0.77	34.95	-0.5335	-0.3201	0.0014
369	SLE RA 11			-6.43	0.8	35.93	-0.5545	-0.3295	0.0015
369	SLE RA 12			-6.43	0.8	35.91	-0.5533	-0.3294	0.0015
369	SLE RA 13			-6.4	0.79	35.74	-0.5498	-0.3277	0.0015
369	SLE RA 14			-6.58	0.82	36.72	-0.5708	-0.3371	0.0015
369	SLE RA 15			-6.58	0.82	36.7	-0.5696	-0.337	0.0015
369	SLE RA 16			-6.55	0.82	36.58	-0.568	-0.3355	0.0015
369	SLE RA 17			-6.55	0.82	36.55	-0.5668	-0.3355	0.0015
369	SLE RA 18			-6.48	0.8	36.09	-0.557	-0.3317	0.0015
369	SLE RA 19			-6.47	0.8	36.06	-0.5558	-0.3316	0.0015
369	SLE RA 20			-6.62	0.83	36.88	-0.5733	-0.3393	0.0015
369	SLE RA 21			-6.62	0.83	36.85	-0.5721	-0.3393	0.0015
369	SLE FR 1			-5.74	0.7	32.45	-0.4851	-0.2935	0.0013
369	SLE FR 2			-5.74	0.7	32.44	-0.4847	-0.2934	0.0013
369	SLE FR 3			-5.8	0.71	32.77	-0.4916	-0.2965	0.0013
369	SLE FR 4			-5.96	0.73	33.53	-0.5063	-0.3049	0.0014
369	SLE FR 5			-6.02	0.74	33.86	-0.5132	-0.308	0.0014
369	SLE FR 6			-6.11	0.75	34.27	-0.5211	-0.3126	0.0014
369	SLE QP 1			-5.74	0.7	32.45	-0.4851	-0.2935	0.0013
369	SLE QP 2			-5.96	0.73	33.54	-0.5067	-0.3049	0.0014
369	SLD 1			-2.37	0.73	18.2	-0.5088	-0.1016	0.0013
369	SLD 2			-2.37	0.73	18.2	-0.5088	-0.1016	0.0013
369	SLD 3			-2.99	0.87	20.8	-0.5899	-0.1286	0.0015
369	SLD 4			-2.99	0.87	20.8	-0.5899	-0.1286	0.0015
369	SLD 5			-3.95	0.53	25	-0.3843	-0.203	0.001
369	SLD 6			-3.95	0.53	25	-0.3843	-0.203	0.001
369	SLD 7			-6	0.97	33.66	-0.6547	-0.2929	0.0017
369	SLD 8			-6	0.97	33.66	-0.6547	-0.2929	0.0017



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
369	SLD 9			-5.92	0.49	33.42	-0.3587	-0.3169	0.001
369	SLD 10			-5.92	0.49	33.42	-0.3587	-0.3169	0.001
369	SLD 11			-7.97	0.93	42.09	-0.6291	-0.4068	0.0017
369	SLD 12			-7.97	0.93	42.09	-0.6291	-0.4068	0.0017
369	SLD 13			-8.94	0.6	46.29	-0.4235	-0.4813	0.0012
369	SLD 14			-8.94	0.6	46.29	-0.4235	-0.4813	0.0012
369	SLD 15			-9.55	0.73	48.89	-0.5046	-0.5083	0.0014
369	SLD 16			-9.55	0.73	48.89	-0.5046	-0.5083	0.0014
369	SLV 1			2.42	0.74	-2.32	-0.5129	0.1695	0.0013
369	SLV 2			2.42	0.74	-2.32	-0.5129	0.1695	0.0013
369	SLV 3			0.97	1.05	3.81	-0.7044	0.106	0.0018
369	SLV 4			0.97	1.05	3.81	-0.7044	0.106	0.0018
369	SLV 5			-1.25	0.26	13.49	-0.2181	-0.0663	0.0006
369	SLV 6			-1.25	0.26	13.49	-0.2181	-0.0663	0.0006
369	SLV 7			-6.09	1.3	33.92	-0.8564	-0.2779	0.0022
369	SLV 8			-6.09	1.3	33.92	-0.8564	-0.2779	0.0022
369	SLV 9			-5.84	0.16	33.16	-0.1569	-0.3319	0.0005
369	SLV 10			-5.84	0.16	33.16	-0.1569	-0.3319	0.0005
369	SLV 11			-10.68	1.2	53.6	-0.7953	-0.5436	0.0021
369	SLV 12			-10.68	1.2	53.6	-0.7953	-0.5436	0.0021
369	SLV 13			-12.89	0.41	63.27	-0.309	-0.7159	0.0009
369	SLV 14			-12.89	0.41	63.27	-0.309	-0.7159	0.0009
369	SLV 15			-14.34	0.72	69.4	-0.5005	-0.7794	0.0014
369	SLV 16			-14.34	0.72	69.4	-0.5005	-0.7794	0.0014
370	SLU 1			-5.97	0.31	20.9	-0.2415	-0.1696	-0.0362
370	SLU 2			-5.96	0.31	20.87	-0.2399	-0.1694	-0.036
370	SLU 3			-6.25	0.33	21.87	-0.2566	-0.1778	-0.0385
370	SLU 4			-6.24	0.33	21.85	-0.2556	-0.1777	-0.0383
370	SLU 5			-6.19	0.32	21.69	-0.2528	-0.1762	-0.0379
370	SLU 6			-6.48	0.35	22.69	-0.2694	-0.1846	-0.0404
370	SLU 7			-6.48	0.34	22.67	-0.2685	-0.1845	-0.0402
370	SLU 8			-6.44	0.34	22.54	-0.2673	-0.1833	-0.0401
370	SLU 9			-6.43	0.34	22.52	-0.2663	-0.1831	-0.0399
370	SLU 10			-6.75	0.36	23.54	-0.2793	-0.1926	-0.0418
370	SLU 11			-7.04	0.38	24.55	-0.2959	-0.201	-0.0443
370	SLU 12			-7.03	0.38	24.53	-0.2949	-0.2008	-0.0442
370	SLU 13			-6.98	0.37	24.36	-0.2922	-0.1994	-0.0438
370	SLU 14			-7.27	0.4	25.37	-0.3088	-0.2078	-0.0463
370	SLU 15			-7.27	0.39	25.35	-0.3078	-0.2077	-0.0461
370	SLU 16			-7.23	0.39	25.21	-0.3066	-0.2064	-0.046
370	SLU 17			-7.22	0.39	25.19	-0.3057	-0.2063	-0.0458
370	SLU 18			-7.09	0.38	24.72	-0.2977	-0.2027	-0.0446
370	SLU 19			-7.09	0.38	24.7	-0.2968	-0.2026	-0.0445
370	SLU 20			-7.33	0.4	25.54	-0.3106	-0.2095	-0.0465
370	SLU 21			-7.33	0.4	25.52	-0.3097	-0.2094	-0.0464
370	SLU 22			-6.77	0.36	23.63	-0.2829	-0.1931	-0.0424
370	SLU 23			-6.76	0.36	23.6	-0.2813	-0.1929	-0.0421
370	SLU 24			-7.05	0.38	24.6	-0.2979	-0.2013	-0.0446
370	SLU 25			-7.05	0.38	24.58	-0.2969	-0.2011	-0.0445
370	SLU 26			-7	0.38	24.41	-0.2941	-0.1997	-0.0441
370	SLU 27			-7.29	0.4	25.42	-0.3108	-0.2081	-0.0466
370	SLU 28			-7.28	0.4	25.4	-0.3098	-0.208	-0.0464
370	SLU 29			-7.24	0.4	25.26	-0.3086	-0.2067	-0.0463
370	SLU 30			-7.24	0.4	25.24	-0.3077	-0.2066	-0.0461
370	SLU 31			-7.55	0.41	26.27	-0.3206	-0.216	-0.048
370	SLU 32			-7.84	0.43	27.28	-0.3372	-0.2244	-0.0505
370	SLU 33			-7.84	0.43	27.26	-0.3363	-0.2243	-0.0504
370	SLU 34			-7.79	0.43	27.09	-0.3335	-0.2228	-0.05
370	SLU 35			-8.08	0.45	28.09	-0.3501	-0.2312	-0.0525
370	SLU 36			-8.07	0.45	28.07	-0.3492	-0.2311	-0.0523
370	SLU 37			-8.03	0.45	27.94	-0.348	-0.2299	-0.0522
370	SLU 38			-8.03	0.44	27.92	-0.347	-0.2297	-0.052
370	SLU 39			-7.9	0.43	27.45	-0.3391	-0.2262	-0.0508
370	SLU 40			-7.89	0.43	27.43	-0.3381	-0.226	-0.0507
370	SLU 41			-8.13	0.45	28.27	-0.352	-0.233	-0.0527
370	SLU 42			-8.13	0.45	28.25	-0.351	-0.2328	-0.0526
370	SLU 43			-7.48	0.38	26.24	-0.2998	-0.2125	-0.0449
370	SLU 44			-7.47	0.38	26.2	-0.2982	-0.2123	-0.0447
370	SLU 45			-7.76	0.4	27.21	-0.3148	-0.2207	-0.0472
370	SLU 46			-7.76	0.4	27.19	-0.3139	-0.2205	-0.047
370	SLU 47			-7.71	0.4	27.02	-0.3111	-0.2191	-0.0466
370	SLU 48			-8	0.42	28.03	-0.3277	-0.2275	-0.0491
370	SLU 49			-7.99	0.42	28.01	-0.3268	-0.2274	-0.049
370	SLU 50			-7.95	0.42	27.87	-0.3256	-0.2261	-0.0488
370	SLU 51			-7.95	0.42	27.85	-0.3246	-0.226	-0.0487
370	SLU 52			-8.26	0.43	28.88	-0.3376	-0.2354	-0.0506
370	SLU 53			-8.55	0.45	29.88	-0.3542	-0.2438	-0.0531
370	SLU 54			-8.55	0.45	29.86	-0.3532	-0.2437	-0.0529
370	SLU 55			-8.5	0.45	29.69	-0.3504	-0.2422	-0.0525
370	SLU 56			-8.79	0.47	30.7	-0.3671	-0.2506	-0.055
370	SLU 57			-8.78	0.47	30.68	-0.3661	-0.2505	-0.0549
370	SLU 58			-8.74	0.47	30.55	-0.3649	-0.2493	-0.0547
370	SLU 59			-8.74	0.47	30.53	-0.364	-0.2491	-0.0545
370	SLU 60			-8.61	0.45	30.06	-0.356	-0.2456	-0.0533
370	SLU 61			-8.6	0.45	30.04	-0.3551	-0.2454	-0.0532
370	SLU 62			-8.85	0.47	30.87	-0.3689	-0.2524	-0.0553
370	SLU 63			-8.84	0.47	30.85	-0.368	-0.2522	-0.0551
370	SLU 64			-8.28	0.44	28.97	-0.3412	-0.2359	-0.0511
370	SLU 65			-8.27	0.43	28.93	-0.3395	-0.2357	-0.0509
370	SLU 66			-8.57	0.46	29.94	-0.3562	-0.2441	-0.0534



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
370	SLU 67			-8.56	0.46	29.92	-0.3552	-0.244	-0.0532
370	SLU 68			-8.51	0.45	29.75	-0.3524	-0.2425	-0.0528
370	SLU 69			-8.8	0.47	30.76	-0.3691	-0.2509	-0.0553
370	SLU 70			-8.8	0.47	30.74	-0.3681	-0.2508	-0.0552
370	SLU 71			-8.76	0.47	30.6	-0.3669	-0.2496	-0.055
370	SLU 72			-8.75	0.47	30.58	-0.366	-0.2495	-0.0549
370	SLU 73			-9.06	0.48	31.61	-0.3789	-0.2589	-0.0568
370	SLU 74			-9.36	0.51	32.61	-0.3955	-0.2673	-0.0593
370	SLU 75			-9.35	0.51	32.59	-0.3946	-0.2671	-0.0591
370	SLU 76			-9.3	0.5	32.42	-0.3918	-0.2657	-0.0587
370	SLU 77			-9.59	0.52	33.43	-0.4084	-0.2741	-0.0612
370	SLU 78			-9.59	0.52	33.41	-0.4075	-0.274	-0.0611
370	SLU 79			-9.55	0.52	33.27	-0.4063	-0.2727	-0.0609
370	SLU 80			-9.54	0.52	33.25	-0.4053	-0.2726	-0.0607
370	SLU 81			-9.41	0.51	32.79	-0.3974	-0.269	-0.0595
370	SLU 82			-9.41	0.51	32.77	-0.3964	-0.2689	-0.0594
370	SLU 83			-9.65	0.53	33.6	-0.4103	-0.2758	-0.0615
370	SLU 84			-9.64	0.52	33.58	-0.4093	-0.2757	-0.0613
370	SLE RA 1			-6.19	0.32	21.68	-0.2533	-0.1763	-0.038
370	SLE RA 2			-6.19	0.32	21.66	-0.2523	-0.1762	-0.0378
370	SLE RA 3			-6.38	0.34	22.33	-0.2634	-0.1818	-0.0395
370	SLE RA 4			-6.38	0.34	22.32	-0.2627	-0.1817	-0.0394
370	SLE RA 5			-6.35	0.33	22.2	-0.2609	-0.1807	-0.0391
370	SLE RA 6			-6.54	0.35	22.87	-0.2719	-0.1863	-0.0408
370	SLE RA 7			-6.54	0.35	22.86	-0.2713	-0.1862	-0.0407
370	SLE RA 8			-6.51	0.35	22.77	-0.2705	-0.1854	-0.0405
370	SLE RA 9			-6.51	0.35	22.76	-0.2699	-0.1853	-0.0404
370	SLE RA 10			-6.72	0.36	23.44	-0.2785	-0.1916	-0.0417
370	SLE RA 11			-6.91	0.37	24.11	-0.2896	-0.1972	-0.0434
370	SLE RA 12			-6.91	0.37	24.1	-0.289	-0.1971	-0.0433
370	SLE RA 13			-6.87	0.37	23.99	-0.2871	-0.1962	-0.043
370	SLE RA 14			-7.07	0.38	24.66	-0.2982	-0.2018	-0.0447
370	SLE RA 15			-7.06	0.38	24.64	-0.2975	-0.2017	-0.0446
370	SLE RA 16			-7.04	0.38	24.55	-0.2968	-0.2009	-0.0445
370	SLE RA 17			-7.03	0.38	24.54	-0.2961	-0.2008	-0.0444
370	SLE RA 18			-6.95	0.37	24.23	-0.2908	-0.1984	-0.0436
370	SLE RA 19			-6.94	0.37	24.21	-0.2902	-0.1983	-0.0435
370	SLE RA 20			-7.11	0.38	24.77	-0.2994	-0.2029	-0.0449
370	SLE RA 21			-7.1	0.38	24.76	-0.2988	-0.2028	-0.0448
370	SLE FR 1			-6.19	0.32	21.68	-0.2533	-0.1763	-0.038
370	SLE FR 2			-6.19	0.32	21.68	-0.2531	-0.1763	-0.0379
370	SLE FR 3			-6.26	0.33	21.9	-0.2568	-0.1782	-0.0385
370	SLE FR 4			-6.42	0.34	22.44	-0.2644	-0.1829	-0.0396
370	SLE FR 5			-6.48	0.34	22.66	-0.268	-0.1848	-0.0402
370	SLE FR 6			-6.57	0.35	22.95	-0.2721	-0.1874	-0.0408
370	SLE QP 1			-6.19	0.32	21.68	-0.2533	-0.1763	-0.038
370	SLE QP 2			-6.42	0.34	22.45	-0.2646	-0.183	-0.0396
370	SLD 1			-2.89	0.31	10.32	-0.2602	-0.0769	-0.0387
370	SLD 2			-2.89	0.31	10.32	-0.2602	-0.0769	-0.0387
370	SLD 3			-3.37	0.47	12.04	-0.3063	-0.0914	-0.046
370	SLD 4			-3.37	0.47	12.04	-0.3063	-0.0914	-0.046
370	SLD 5			-4.63	0.08	16.2	-0.1934	-0.1291	-0.0282
370	SLD 6			-4.63	0.08	16.2	-0.1934	-0.1291	-0.0282
370	SLD 7			-6.24	0.63	21.93	-0.347	-0.1775	-0.0527
370	SLD 8			-6.24	0.63	21.93	-0.347	-0.1775	-0.0527
370	SLD 9			-6.6	0.05	22.96	-0.1822	-0.1884	-0.0266
370	SLD 10			-6.6	0.05	22.96	-0.1822	-0.1884	-0.0266
370	SLD 11			-8.21	0.6	28.69	-0.3358	-0.2368	-0.0511
370	SLD 12			-8.21	0.6	28.69	-0.3358	-0.2368	-0.0511
370	SLD 13			-9.47	0.2	32.85	-0.2228	-0.2745	-0.0333
370	SLD 14			-9.47	0.2	32.85	-0.2228	-0.2745	-0.0333
370	SLD 15			-9.96	0.37	34.57	-0.2689	-0.289	-0.0406
370	SLD 16			-9.96	0.37	34.57	-0.2689	-0.289	-0.0406
370	SLV 1			1.83	0.26	-5.87	-0.2554	0.0645	-0.0375
370	SLV 2			1.83	0.26	-5.87	-0.2554	0.0645	-0.0375
370	SLV 3			0.69	0.65	-1.81	-0.3638	0.0303	-0.0548
370	SLV 4			0.69	0.65	-1.81	-0.3638	0.0303	-0.0548
370	SLV 5			-2.22	-0.28	7.79	-0.0974	-0.0569	-0.0128
370	SLV 6			-2.22	-0.28	7.79	-0.0974	-0.0569	-0.0128
370	SLV 7			-6.01	1.03	21.33	-0.4588	-0.1708	-0.0704
370	SLV 8			-6.01	1.03	21.33	-0.4588	-0.1708	-0.0704
370	SLV 9			-6.83	-0.35	23.56	-0.0704	-0.1951	-0.0089
370	SLV 10			-6.83	-0.35	23.56	-0.0704	-0.1951	-0.0089
370	SLV 11			-10.62	0.95	37.1	-0.4318	-0.309	-0.0665
370	SLV 12			-10.62	0.95	37.1	-0.4318	-0.309	-0.0665
370	SLV 13			-13.53	0.02	46.7	-0.1654	-0.3962	-0.0245
370	SLV 14			-13.53	0.02	46.7	-0.1654	-0.3962	-0.0245
370	SLV 15			-14.67	0.41	50.76	-0.2738	-0.4304	-0.0418
370	SLV 16			-14.67	0.41	50.76	-0.2738	-0.4304	-0.0418
371	SLU 1			-0.02	-11.82	44.9	0.3478	-0.0035	-0.0006
371	SLU 2			-0.02	-11.69	44.47	0.3439	-0.0036	-0.0006
371	SLU 3			-0.02	-12.55	47.66	0.3696	-0.0038	-0.0007
371	SLU 4			-0.02	-12.47	47.4	0.3672	-0.0039	-0.0007
371	SLU 5			-0.02	-12.33	46.89	0.3629	-0.0039	-0.0007
371	SLU 6			-0.02	-13.19	50.07	0.3886	-0.004	-0.0007
371	SLU 7			-0.02	-13.11	49.82	0.3862	-0.0041	-0.0007
371	SLU 8			-0.02	-13.1	49.73	0.3858	-0.004	-0.0007
371	SLU 9			-0.02	-13.02	49.47	0.3834	-0.004	-0.0007
371	SLU 10			-0.02	-13.61	51.59	0.4015	-0.0042	-0.0007
371	SLU 11			-0.02	-14.47	54.77	0.4273	-0.0044	-0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
371	SLU 12	-0.02	-14.4	54.52	0.4249	-0.0044	-0.0008
371	SLU 13	-0.02	-14.25	54.01	0.4205	-0.0044	-0.0008
371	SLU 14	-0.02	-15.11	57.19	0.4462	-0.0046	-0.0008
371	SLU 15	-0.02	-15.04	56.93	0.4439	-0.0047	-0.0008
371	SLU 16	-0.02	-15.02	56.85	0.4434	-0.0046	-0.0008
371	SLU 17	-0.02	-14.94	56.59	0.4411	-0.0046	-0.0008
371	SLU 18	-0.02	-14.57	55.06	0.4302	-0.0044	-0.0008
371	SLU 19	-0.02	-14.49	54.81	0.4278	-0.0044	-0.0008
371	SLU 20	-0.02	-15.21	57.48	0.4492	-0.0046	-0.0008
371	SLU 21	-0.02	-15.13	57.23	0.4468	-0.0047	-0.0008
371	SLU 22	-0.02	-13.83	52.39	0.4081	-0.0042	-0.0007
371	SLU 23	-0.02	-13.71	51.97	0.4041	-0.0043	-0.0007
371	SLU 24	-0.02	-14.57	55.15	0.4298	-0.0044	-0.0008
371	SLU 25	-0.02	-14.49	54.9	0.4275	-0.0045	-0.0008
371	SLU 26	-0.02	-14.35	54.39	0.4231	-0.0045	-0.0008
371	SLU 27	-0.02	-15.21	57.57	0.4488	-0.0046	-0.0008
371	SLU 28	-0.02	-15.13	57.32	0.4464	-0.0047	-0.0008
371	SLU 29	-0.02	-15.11	57.23	0.446	-0.0046	-0.0008
371	SLU 30	-0.02	-15.04	56.97	0.4436	-0.0047	-0.0008
371	SLU 31	-0.02	-15.63	59.09	0.4618	-0.0048	-0.0008
371	SLU 32	-0.02	-16.49	62.27	0.4875	-0.005	-0.0009
371	SLU 33	-0.02	-16.41	62.02	0.4851	-0.0051	-0.0009
371	SLU 34	-0.02	-16.27	61.5	0.4807	-0.0051	-0.0009
371	SLU 35	-0.03	-17.13	64.69	0.5065	-0.0052	-0.0009
371	SLU 36	-0.03	-17.05	64.43	0.5041	-0.0053	-0.0009
371	SLU 37	-0.03	-17.04	64.34	0.5037	-0.0052	-0.0009
371	SLU 38	-0.03	-16.96	64.09	0.5013	-0.0053	-0.0009
371	SLU 39	-0.02	-16.58	62.56	0.4904	-0.005	-0.0009
371	SLU 40	-0.02	-16.5	62.31	0.4881	-0.0051	-0.0009
371	SLU 41	-0.03	-17.22	64.98	0.5094	-0.0052	-0.0009
371	SLU 42	-0.03	-17.14	64.72	0.507	-0.0053	-0.0009
371	SLU 43	-0.02	-14.67	55.79	0.4315	-0.0044	-0.0008
371	SLU 44	-0.02	-14.55	55.37	0.4276	-0.0045	-0.0008
371	SLU 45	-0.02	-15.41	58.55	0.4533	-0.0046	-0.0008
371	SLU 46	-0.02	-15.33	58.3	0.4509	-0.0047	-0.0008
371	SLU 47	-0.02	-15.19	57.79	0.4466	-0.0047	-0.0008
371	SLU 48	-0.02	-16.05	60.97	0.4723	-0.0049	-0.0009
371	SLU 49	-0.02	-15.97	60.72	0.4699	-0.0049	-0.0009
371	SLU 50	-0.02	-15.95	60.63	0.4695	-0.0048	-0.0009
371	SLU 51	-0.02	-15.88	60.37	0.4671	-0.0049	-0.0009
371	SLU 52	-0.03	-16.47	62.49	0.4852	-0.0051	-0.0009
371	SLU 53	-0.03	-17.33	65.67	0.511	-0.0052	-0.0009
371	SLU 54	-0.03	-17.25	65.42	0.5086	-0.0053	-0.0009
371	SLU 55	-0.03	-17.11	64.9	0.5042	-0.0053	-0.0009
371	SLU 56	-0.03	-17.97	68.09	0.5299	-0.0055	-0.001
371	SLU 57	-0.03	-17.89	67.83	0.5276	-0.0055	-0.001
371	SLU 58	-0.03	-17.88	67.74	0.5272	-0.0054	-0.001
371	SLU 59	-0.03	-17.8	67.49	0.5248	-0.0055	-0.001
371	SLU 60	-0.03	-17.42	65.96	0.5139	-0.0052	-0.0009
371	SLU 61	-0.03	-17.34	65.71	0.5115	-0.0053	-0.0009
371	SLU 62	-0.03	-18.06	68.38	0.5329	-0.0054	-0.001
371	SLU 63	-0.03	-17.98	68.12	0.5305	-0.0055	-0.001
371	SLU 64	-0.03	-16.69	63.29	0.4918	-0.005	-0.0009
371	SLU 65	-0.03	-16.56	62.87	0.4878	-0.0051	-0.0009
371	SLU 66	-0.03	-17.42	66.05	0.5135	-0.0053	-0.0009
371	SLU 67	-0.03	-17.34	65.8	0.5112	-0.0053	-0.0009
371	SLU 68	-0.03	-17.2	65.28	0.5068	-0.0053	-0.0009
371	SLU 69	-0.03	-18.06	68.47	0.5325	-0.0055	-0.001
371	SLU 70	-0.03	-17.98	68.21	0.5301	-0.0055	-0.001
371	SLU 71	-0.03	-17.97	68.12	0.5297	-0.0055	-0.001
371	SLU 72	-0.03	-17.89	67.87	0.5274	-0.0055	-0.001
371	SLU 73	-0.03	-18.48	69.98	0.5455	-0.0057	-0.001
371	SLU 74	-0.03	-19.34	73.17	0.5712	-0.0059	-0.001
371	SLU 75	-0.03	-19.27	72.91	0.5688	-0.0059	-0.001
371	SLU 76	-0.03	-19.12	72.4	0.5645	-0.0059	-0.001
371	SLU 77	-0.03	-19.98	75.58	0.5902	-0.0061	-0.0011
371	SLU 78	-0.03	-19.91	75.33	0.5878	-0.0061	-0.0011
371	SLU 79	-0.03	-19.89	75.24	0.5874	-0.006	-0.0011
371	SLU 80	-0.03	-19.81	74.99	0.585	-0.0061	-0.0011
371	SLU 81	-0.03	-19.44	73.46	0.5741	-0.0058	-0.001
371	SLU 82	-0.03	-19.36	73.2	0.5718	-0.0059	-0.001
371	SLU 83	-0.03	-20.08	75.88	0.5931	-0.0061	-0.0011
371	SLU 84	-0.03	-20	75.62	0.5907	-0.0061	-0.0011
371	SLE RA 1	-0.02	-12.39	47.04	0.3651	-0.0037	-0.0007
371	SLE RA 2	-0.02	-12.31	46.76	0.3624	-0.0038	-0.0007
371	SLE RA 3	-0.02	-12.88	48.88	0.3796	-0.0039	-0.0007
371	SLE RA 4	-0.02	-12.83	48.71	0.378	-0.0039	-0.0007
371	SLE RA 5	-0.02	-12.74	48.37	0.3751	-0.0039	-0.0007
371	SLE RA 6	-0.02	-13.31	50.49	0.3922	-0.004	-0.0007
371	SLE RA 7	-0.02	-13.26	50.32	0.3906	-0.0041	-0.0007
371	SLE RA 8	-0.02	-13.25	50.26	0.3904	-0.004	-0.0007
371	SLE RA 9	-0.02	-13.2	50.09	0.3888	-0.0041	-0.0007
371	SLE RA 10	-0.02	-13.59	51.5	0.4009	-0.0042	-0.0007
371	SLE RA 11	-0.02	-14.16	53.62	0.418	-0.0043	-0.0008
371	SLE RA 12	-0.02	-14.11	53.45	0.4164	-0.0043	-0.0008
371	SLE RA 13	-0.02	-14.02	53.11	0.4135	-0.0043	-0.0008
371	SLE RA 14	-0.02	-14.59	55.23	0.4306	-0.0044	-0.0008
371	SLE RA 15	-0.02	-14.54	55.06	0.4291	-0.0045	-0.0008
371	SLE RA 16	-0.02	-14.53	55	0.4288	-0.0044	-0.0008
371	SLE RA 17	-0.02	-14.48	54.84	0.4272	-0.0044	-0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
371	SLE RA 18	-0.02	-14.23	53.82	0.42	-0.0043	-0.0008
371	SLE RA 19	-0.02	-14.17	53.65	0.4184	-0.0043	-0.0008
371	SLE RA 20	-0.02	-14.65	55.43	0.4326	-0.0044	-0.0008
371	SLE RA 21	-0.02	-14.6	55.26	0.431	-0.0045	-0.0008
371	SLE FR 1	-0.02	-12.39	47.04	0.3651	-0.0037	-0.0007
371	SLE FR 2	-0.02	-12.38	46.98	0.3645	-0.0037	-0.0007
371	SLE FR 3	-0.02	-12.57	47.68	0.3701	-0.0038	-0.0007
371	SLE FR 4	-0.02	-12.93	49.01	0.381	-0.0039	-0.0007
371	SLE FR 5	-0.02	-13.11	49.72	0.3866	-0.0039	-0.0007
371	SLE FR 6	-0.02	-13.31	50.43	0.3925	-0.004	-0.0007
371	SLE QP 1	-0.02	-12.39	47.04	0.3651	-0.0037	-0.0007
371	SLE QP 2	-0.02	-12.94	49.07	0.3815	-0.0039	-0.0007
371	SLD 1	-0.15	-12.54	48.24	0.3016	-0.0632	-0.0092
371	SLD 2	-0.15	-12.54	48.24	0.3016	-0.0632	-0.0092
371	SLD 3	-0.18	-15.36	57	0.3943	-0.0727	-0.0106
371	SLD 4	-0.18	-15.36	57	0.3943	-0.0727	-0.0106
371	SLD 5	-0.01	-8.53	35.53	0.2169	-0.0072	-0.0011
371	SLD 6	-0.01	-8.53	35.53	0.2169	-0.0072	-0.0011
371	SLD 7	-0.11	-17.96	64.74	0.526	-0.039	-0.0058
371	SLD 8	-0.11	-17.96	64.74	0.526	-0.039	-0.0058
371	SLD 9	0.08	-7.93	33.41	0.2371	0.0312	0.0044
371	SLD 10	0.08	-7.93	33.41	0.2371	0.0312	0.0044
371	SLD 11	-0.02	-17.36	62.61	0.5461	-0.0005	-0.0003
371	SLD 12	-0.02	-17.36	62.61	0.5461	-0.0005	-0.0003
371	SLD 13	0.14	-10.52	41.14	0.3688	0.065	0.0092
371	SLD 14	0.14	-10.52	41.14	0.3688	0.065	0.0092
371	SLD 15	0.11	-13.35	49.9	0.4615	0.0555	0.0078
371	SLD 16	0.11	-13.35	49.9	0.4615	0.0555	0.0078
371	SLV 1	-0.35	-11.98	47.08	0.192	-0.1456	-0.0211
371	SLV 2	-0.35	-11.98	47.08	0.192	-0.1456	-0.0211
371	SLV 3	-0.43	-18.68	67.85	0.4114	-0.1693	-0.0246
371	SLV 4	-0.43	-18.68	67.85	0.4114	-0.1693	-0.0246
371	SLV 5	0	-2.5	16.97	-0.0081	-0.0106	-0.0015
371	SLV 6	0	-2.5	16.97	-0.0081	-0.0106	-0.0015
371	SLV 7	-0.26	-24.82	86.21	0.7233	-0.0894	-0.0132
371	SLV 8	-0.26	-24.82	86.21	0.7233	-0.0894	-0.0132
371	SLV 9	0.22	-1.07	11.93	0.0398	0.0816	0.0118
371	SLV 10	0.22	-1.07	11.93	0.0398	0.0816	0.0118
371	SLV 11	-0.04	-23.39	81.17	0.7712	0.0028	0.0001
371	SLV 12	-0.04	-23.39	81.17	0.7712	0.0028	0.0001
371	SLV 13	0.39	-7.21	30.29	0.3516	0.1615	0.0233
371	SLV 14	0.39	-7.21	30.29	0.3516	0.1615	0.0233
371	SLV 15	0.31	-13.9	51.06	0.571	0.1379	0.0197
371	SLV 16	0.31	-13.9	51.06	0.571	0.1379	0.0197

1.3 Risposta modale

Modo: identificativo del modo di vibrare.

Periodo: periodo. [s]

Massa X: massa partecipante in direzione globale X. Il valore è adimensionale.

Massa Y: massa partecipante in direzione globale Y. Il valore è adimensionale.

Massa Z: massa partecipante in direzione globale Z. Il valore è adimensionale.

Massa rot. X: massa rotazionale partecipante attorno la direzione globale X. Il valore è adimensionale.

Massa rot. Y: massa rotazionale partecipante attorno la direzione globale Y. Il valore è adimensionale.

Massa rot. Z: massa rotazionale partecipante attorno la direzione globale Z. Il valore è adimensionale.

Massa sX: massa partecipante in direzione Sisma X. Il valore è adimensionale.

Massa sY: massa partecipante in direzione Sisma Y. Il valore è adimensionale.

Totale masse partecipanti:

Traslazione X: 0.902199

Traslazione Y: 0.920554

Traslazione Z: 0

Rotazione X: 0.867143

Rotazione Y: 0.913715

Rotazione Z: 0.730601

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
1	5.015322494	0.032405036	0.000000481	0	0.000000552	0.043188617	0.001549193	0.032405036	0.000000481
2	2.370325008	0.00002053	0.005327819	0	0.0142207	0.000042517	0.012510314	0.00002053	0.005327819
3	2.148723565	0.005322849	0.000005471	0	0.000004446	0.010011056	0.000459147	0.005322849	0.000005471
4	2.067028397	0.005488386	0.000248388	0	0.000430396	0.010281213	0.000001963	0.005488386	0.000248388
5	1.997678936	0.000030329	0.018801955	0	0.032125034	0.000049919	0.015142426	0.000030329	0.018801955
6	1.981708113	0.000399439	0.006756884	0	0.010593785	0.000691298	0.022466096	0.000399439	0.006756884
7	1.951909199	0.000189635	0.01075229	0	0.016719699	0.000327301	0.000145797	0.000189635	0.01075229
8	1.878018462	0.00005664	0.011369952	0	0.010428109	0.00004683	0.02494044	0.00005664	0.011369952
9	1.858333594	0.000002995	0.000124154	0	0.000141795	0.00000334	0.003656259	0.000002995	0.000124154
10	1.837982636	0.000023018	0.011645101	0	0.009845082	0.00002069	0.000497458	0.000023018	0.011645101
11	1.598834881	0.000002639	0.004439555	0	0.0008718747	0.00000321	0.003221645	0.000002639	0.004439555
12	1.504117912	0.000136614	0.021109479	0	0.01934411	0.000010325	0.046392895	0.000136614	0.021109479
13	1.488180616	0.000050448	0.035077496	0	0.040385929	0.000000011	0.005316645	0.000050448	0.035077496
14	1.42389972	0.0002007	0.008678647	0	0.009976568	0.000075163	0.004062277	0.0002007	0.008678647
15	1.378996551	0.000580806	0.003340204	0	0.004686384	0.000002072	0.000001766	0.000580806	0.003340204



Bilancio in condizione di carico: Vento

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	-46.52468	0	404.4175	0	576.8433
Reazioni	0	46.52468	0	-404.4175	0	-576.8433
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	4882.80844	0	0	0	51900.2339	-5684.6556
Reazioni	-4882.80844	0	0	0	-51900.2339	5684.6556
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	4070.85421	0	-43269.8289	0	-50435.2569
Reazioni	0	-4070.85421	0	43269.8289	0	50435.2569
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	2087.8514	0	0	0	22192.1415	-2430.7151
Reazioni	-2087.8514	0	0	0	-22192.1415	2430.7151
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	1766.25731	0	-18773.8612	0	-21882.7884
Reazioni	0	-1766.25731	0	18773.8612	0	21882.7884
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Ux

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	0
Reazioni	0	0	0	0	0	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Uy

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	0
Reazioni	0	0	0	0	0	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Rz

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	0
Reazioni	0	0	0	0	0	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

1.5 Risposta di spettro

Spettro: condizione elementare corrispondente allo spettro.

N.b.: nome breve della condizione elementare.

Fx: componente della forza lungo l'asse X. [kN]

Fy: componente della forza lungo l'asse Y. [kN]

Fz: componente della forza lungo l'asse Z. [kN]

Mx: componente della coppia attorno all'asse X. [kN*m]

My: componente della coppia attorno all'asse Y. [kN*m]

Mz: componente della coppia attorno all'asse Z. [kN*m]

Max X: massima reazione lungo l'asse X.

Valore: valore massimo della reazione. [kN]

Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]

Max Y: massima reazione lungo l'asse Y.

Valore: valore massimo della reazione. [kN]

Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]

Max Z: massima reazione lungo l'asse Z.

Valore: valore massimo della reazione. [kN]

Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]

Spettro	Fx	Fy	Fz	Mx	My	Mz	Max X		Max Y		Max Z	
							Valore	Angolo	Valore	Angolo	Valore	Angolo
N.b.												
SLV X	2768.5437	130.7864	0	1.209E03	2.787E04	3.926E03	2768.5437	0	1568.4447	89	0	0
SLV Y	130.7864	1568.3206	0	1.377E04	1.080E03	1.940E04	2768.5437	0	1568.4447	89	0	0
X SLD	1183.0759	55.8806	0	5.153E02	1.191E04	1.680E03	1183.0759	179	665.9804	89	0	0
Y SLD	55.8806	665.9207	0	5.843E03	4.601E02	8.236E03	1183.0759	179	665.9804	89	0	0



1.6 Annotazioni solutore

Informazioni: informazioni fornite dal solutore al termine del calcolo del modello.

Informazioni

1.7 Statistiche soluzione

Tipo di equazioni	Lineari
Tecnica di soluzione	Intel MKL PARDISO
Numero equazioni	111906
Elemento min. diagonale	407.55537914
Elemento max diagonale	2273372772.30597
Rapporto max/min	5578070.83076918
Elementi non nulli	4403865



SIDEL
INGEGNERIA

TABULATI DI CALCOLO – VERIFICHE
CIVICO 33
STATO DI FATTO



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1 Verifiche

1.1 Verifica regolarità strutturale

Le unità di misura elencate nel capitolo sono in [cm, daN] ove non espressamente specificato.

Livello:

Descr: descrizione livello.

Quota: quota livello. [cm]

Q: quota livello. [cm]

Qinf: quota livello precedente. [cm]

Comb: combinazione.

A1: a1 (Distribuzione masse).

A1n: a1 numeratore (distanza tra centro massa vs. centro rigidità [se presente] o centro dell'ingombro del piano). [cm]

A1d: a1 denominatore (ingombro del piano nella medesima direzione [x o y globale]). [cm]

A1r: a1 rapporto (distanza centro massa/rigidità su ingombro del piano).

A2: a2 (Distribuzione rigidità).

A2n: a2 numeratore (rigidità max [x o y globale]).

A2d: a2 denominatore (rigidità min [x o y globale]).

A2r: a2 rapporto (rigidità max/min).

A3: a3 (Forma compatta).

A3n: a3 numeratore (area convessa). [cm²]

A3d: a3 denominatore (area piano). [cm²]

A3r: a3 rapporto (area convessa/area piano).

B: b (Rapporto lati).

Bn: b numeratore (lato max [x o y globale]). [cm]

Bd: b denominatore (lato min [x o y globale]). [cm]

Br: b rapporto (lato max/min).

C: c (Rapporto rigidità piano).

Cn: c numeratore (rigidità elementi verticali).

Cd: c denominatore (rigidità piano).

Cr: c rapporto (rigidità elementi verticali/rigidità piano).

E1: e1 (Variazione masse).

E1n: e1 numeratore (massa max). [daN]

E1d: e1 denominatore (massa min). [daN]

E1r: e1 rapporto (massa max/min).

E2: e2 (Riduzione rigidità).

E2n: e2 numeratore (rigidità relativa alla traslazione KUmax). [daN/cm]

E2d: e2 denominatore (rigidità relativa alla traslazione KUmin). [daN/cm]

E2r: e2 rapporto (variazione massima in decremento Kmax/Kmin).

E3: e3 (Incremento rigidità).

E3n: e3 numeratore (rigidità relativa alla traslazione KUmax). [daN/cm]

E3d: e3 denominatore (rigidità relativa alla traslazione KUmin). [daN/cm]

E3r: e3 rapporto (variazione massima in incremento Kmax/Kmin).

F: f (Rapporto Capacità/Domanda).

Fn: f numeratore (rapporto capacità/domanda massimo [c/d max]). [daN]

Fd: f denominatore (rapporto capacità/domanda minimo [c/d min]). [daN]

Fr: f rapporto (variazione massima [rapporto (c/d max)/(c/d min)]).

G1: g1 (Rastremazione di piano).

G1n: g1 numeratore (L1). [cm]

G1d: g1 denominatore (L2). [cm]

G1r: g1 rapporto (L1/L2).

G2: g2 (Rastremazione totale).

G2n: g2 numeratore (L0). [cm]

G2d: g2 denominatore (Li). [cm]

G2r: g2 rapporto (L0/Li).

Capacità/Domanda in X:

VrdX: taglio resistente complessivo in direzione X. [daN]

VedX: taglio agente complessivo in direzione X. [daN]

|Rd/Ed|: |Rd/Ed| (rapporto capacità/domanda in termini di resistenza a taglio).

Capacità/Domanda in Y:

VrdY: taglio resistente complessivo in direzione Y. [daN]

VedY: taglio agente complessivo in direzione Y. [daN]

Verifica regolarità strutturale

Controllo regolarità edificio secondo D.M. 17-01-18 (N.T.C.) §7.2.1 - §C7.2.1

Avvertenze



La seguente procedura valuta la regolarità della costruzione secondo quanto indicato nelle NTC 2018 §7.2.1.

Tali valutazioni sono a carattere puramente informativo e vengono condotte sulla base del modello e delle verifiche presenti alla sua generazione, con le limitazioni indicate nella manualistica.

In ogni caso l'impostazione di regolarità della costruzione, in pianta ed elevazione, va indicata nelle preferenze di analisi dall'utente utilizzatore del software.

Sintesi dei risultati

Orizzontamenti considerati nella valutazione

Nessun livello di fondazione trovato

Livelli di elevazione considerati: Rialzato(L3), Primo(L4), Secondo(L5), Terzo(L6), Sottotetto(L7),

Regolarità in pianta - NO

L'edificio risulta NON regolare in pianta, in base alle condizioni indicate in NTC 2018 §7.2.1

N.V. - Criterio A1 (Distribuzione masse) non valutabile al livello Rialzato

N.V. - Criterio A2 (Distribuzione rigidezze) non valutabile al livello Rialzato

No - Criterio A3 (Forma compatta) NON rispettato, con rapporto massimo 2820474.5/2639360.4=1.1 (limite=1,05) al livello Sottotetto

Ok - Criterio B (Rapporto lati) rispettato, con rapporto massimo 2,42 (limite=4) al livello Rialzato

No - Criterio C (Rapporto rigidezze piano) NON rispettato, con rapporto massimo > 999 (limite=0) al livello Rialzato

Regolarità in altezza - NO

L'edificio risulta NON regolare in altezza, in base alle condizioni indicate in NTC 2018 §7.2.1

Ok - Criterio D (Altezza elementi sismoresistenti) rispettato, con rapporto massimo 1 (limite=1,01)

No - Criterio E1 (Variazione masse) NON rispettato, con rapporto massimo 164580.8/126551.5=1.3 (limite=1,25) tra il livello Primo ed il precedente

N.V. - Criterio E2 (Riduzione rigidezze) non valutabile tra il livello Primo ed il precedente

N.V. - Criterio E3 (Incremento rigidezze) non valutabile tra il livello Primo ed il precedente

No - Criterio F (Rapporto Capacità/Domanda) NON rispettato, con rapporto massimo 76/10.3=7.4 (limite=1,3) tra il livello Sottotetto ed il precedente

No - Criterio G1 (Rastremazione di piano) NON rispettato, con rapporto massimo 151.1/1030.1=0.1 (limite=0,1) tra il livello Sottotetto ed il precedente

Ok - Criterio G2 (Rastremazione totale) rispettato, con rapporto massimo 0 (limite=0,3) tra il livello Primo ed il precedente

Valori per piano

Verifiche di regolarità in pianta

Livello	A1			A2			A3			B			C			
Descr	Quota	A1n	A1d	A1r	A2n	A2d	A2r	A3n	A3d	A3r	Bn	Bd	Br	Cn	Cd	Cr
Rialzato	173							2539472	2505518	1.01	2498	1031	2.42	9999	1	9999
Primo	546							2523182	2494932	1.01	2484	1031	2.41	9999	1	9999
Secondo	898							2522292	2497676	1.01	2484	1030	2.41	9999	1	9999
Terzo	1250							2522292	2463984	1.02	2484	1030	2.41	9999	1	9999
Sottotetto	1566							2820475	2639360	1.07	2504	1187	2.11	9999	1	9999

Verifiche di regolarità in elevazione

Rapporto di regolarità per la condizione D (Altezza elementi sismoresistenti): 1393/1393=1.

Livello	E1			E2			E3			F			G1			G2				
Descr	Q	Qinf	E1n	E1d	E1r	E2n	E2d	E2r	E3n	E3d	E3r	Fn	Fd	Fr	G1n	G1d	G1r	G2n	G2d	G2r
Primo	546	173	164581	126551	1.3							7.5	2.5	2.96	9	2498	0	9	2498	0
Secondo	898	546	126551	125337	1.01							3.2	2.5	1.29	0	1031	0	8	2498	0
Terzo	1250	898	125337	122779	1.02							10.6	7.1	1.49	0	2484	0	8	2498	0
Sottotetto	1566	1250	122779	99492	1.23							76	10.3	7.36	151	1030	0.15	0	1	0

Dettaglio delle resistenze di piano a taglio (per valutazione punto F)

Livello	Q	Comb	Capacità/Domanda in X			Capacità/Domanda in Y		
Descr			VrdX	VedX	Rd/Ed	VrdY	VedY	Rd/Ed
Rialzato	173	SLD 1	350624	-120433	2.9	277789	-26507	10.5
Rialzato	173	SLD 2	350624	-120433	2.9	277789	-26507	10.5
Rialzato	173	SLD 3	353537	-130866	2.7	275674	26425	10.4
Rialzato	173	SLD 4	353537	-130866	2.7	275674	26425	10.4
Rialzato	173	SLD 5	345810	-20273	17.1	279910	-88235	3.2
Rialzato	173	SLD 6	345810	-20273	17.1	279910	-88235	3.2
Rialzato	173	SLD 7	355596	-55049	6.5	272996	88205	3.1
Rialzato	173	SLD 8	355596	-55049	6.5	272996	88205	3.1
Rialzato	173	SLD 9	344429	55145	6.2	280319	-88212	3.2
Rialzato	173	SLD 10	344429	55145	6.2	280319	-88212	3.2
Rialzato	173	SLD 11	354604	20370	17.4	273034	88227	3.1
Rialzato	173	SLD 12	354604	20370	17.4	273034	88227	3.1
Rialzato	173	SLD 13	346769	130962	2.6	278484	-26432	10.5
Rialzato	173	SLD 14	346769	130962	2.6	278484	-26432	10.5
Rialzato	173	SLD 15	349980	120529	2.9	277213	26500	10.5
Rialzato	173	SLD 16	349980	120529	2.9	277213	26500	10.5
Rialzato	173	SLV 1	340099	-283662	1.2	273348	-63914	4.3
Rialzato	173	SLV 2	340099	-283662	1.2	273348	-63914	4.3
Rialzato	173	SLV 3	340604	-309386	1.1	261373	62861	4.2
Rialzato	173	SLV 4	340604	-309386	1.1	261373	62861	4.2
Rialzato	173	SLV 5	322070	-46050	7	281300	-211452	1.3
Rialzato	173	SLV 6	322070	-46050	7	281300	-211452	1.3
Rialzato	173	SLV 7	348178	-131797	2.6	255719	211131	1.2
Rialzato	173	SLV 8	348178	-131797	2.6	255719	211131	1.2
Rialzato	173	SLV 9	320782	131894	2.4	280756	-211138	1.3
Rialzato	173	SLV 10	320782	131894	2.4	280756	-211138	1.3
Rialzato	173	SLV 11	347284	46146	7.5	253320	211444	1.2
Rialzato	173	SLV 12	347284	46146	7.5	253320	211444	1.2
Rialzato	173	SLV 13	335495	309483	1.1	271414	-62868	4.3
Rialzato	173	SLV 14	335495	309483	1.1	271414	-62868	4.3
Rialzato	173	SLV 15	336494	283758	1.2	264785	63907	4.1



Livello				Capacità/Domanda in X			Capacità/Domanda in Y		
	Descr	Q	Comb	VrdX	VedX	Rd/Ed	VrdY	VedY	Rd/Ed
	Rialzato	173	SLV 16	336494	283758	1.2	264785	63907	4.1
	Primo	546	SLD 1	230185	-115112	2	153785	-17992	8.5
	Primo	546	SLD 2	230185	-115112	2	153785	-17992	8.5
	Primo	546	SLD 3	230917	-113469	2	153848	18005	8.5
	Primo	546	SLD 4	230917	-113469	2	153848	18005	8.5
	Primo	546	SLD 5	229935	-37026	6.2	152767	-59995	2.5
	Primo	546	SLD 6	229935	-37026	6.2	152767	-59995	2.5
	Primo	546	SLD 7	235177	-31548	7.5	153879	59994	2.6
	Primo	546	SLD 8	235177	-31548	7.5	153879	59994	2.6
	Primo	546	SLD 9	230250	31548	7.3	151982	-60001	2.5
	Primo	546	SLD 10	230250	31548	7.3	151982	-60001	2.5
	Primo	546	SLD 11	234874	37026	6.3	153798	59988	2.6
	Primo	546	SLD 12	234874	37026	6.3	153798	59988	2.6
	Primo	546	SLD 13	229412	113469	2	152558	-18012	8.5
	Primo	546	SLD 14	229412	113469	2	152558	-18012	8.5
	Primo	546	SLD 15	229806	115112	2	152910	17985	8.5
	Primo	546	SLD 16	229806	115112	2	152910	17985	8.5
	Primo	546	SLV 1	204962	-269765	0.8	148759	-42802	3.5
	Primo	546	SLV 2	204962	-269765	0.8	148759	-42802	3.5
	Primo	546	SLV 3	207956	-265706	0.8	151097	42961	3.5
	Primo	546	SLV 4	207956	-265706	0.8	151097	42961	3.5
	Primo	546	SLV 5	214388	-87085	2.5	149712	-142916	1
	Primo	546	SLV 6	214388	-87085	2.5	149712	-142916	1
	Primo	546	SLV 7	217387	-73556	3	152314	142959	1.1
	Primo	546	SLV 8	217387	-73556	3	152314	142959	1.1
	Primo	546	SLV 9	212735	73556	2.9	149630	-142966	1
	Primo	546	SLV 10	212735	73556	2.9	149630	-142966	1
	Primo	546	SLV 11	221742	87085	2.5	151284	142909	1.1
	Primo	546	SLV 12	221742	87085	2.5	151284	142909	1.1
	Primo	546	SLV 13	199645	265706	0.8	148499	-42968	3.5
	Primo	546	SLV 14	199645	265706	0.8	148499	-42968	3.5
	Primo	546	SLV 15	205895	269765	0.8	148220	42794	3.5
	Primo	546	SLV 16	205895	269765	0.8	148220	42794	3.5
	Secondo	898	SLD 1	207490	-95111	2.2	125886	-13324	9.4
	Secondo	898	SLD 2	207490	-95111	2.2	125886	-13324	9.4
	Secondo	898	SLD 3	204619	-95380	2.1	126705	14818	8.6
	Secondo	898	SLD 4	204619	-95380	2.1	126705	14818	8.6
	Secondo	898	SLD 5	210895	-28126	7.5	123442	-46681	2.6
	Secondo	898	SLD 6	210895	-28126	7.5	123442	-46681	2.6
	Secondo	898	SLD 7	206482	-29022	7.1	126396	47124	2.7
	Secondo	898	SLD 8	206482	-29022	7.1	126396	47124	2.7
	Secondo	898	SLD 9	210866	29022	7.3	123477	-47131	2.6
	Secondo	898	SLD 10	210866	29022	7.3	123477	-47131	2.6
	Secondo	898	SLD 11	206478	28126	7.3	125195	46673	2.7
	Secondo	898	SLD 12	206478	28126	7.3	125195	46673	2.7
	Secondo	898	SLD 13	210335	95380	2.2	122790	-14825	8.3
	Secondo	898	SLD 14	210335	95380	2.2	122790	-14825	8.3
	Secondo	898	SLD 15	208630	95111	2.2	122419	13317	9.2
	Secondo	898	SLD 16	208630	95111	2.2	122419	13317	9.2
	Secondo	898	SLV 1	188465	-222818	0.8	124115	-31630	3.9
	Secondo	898	SLV 2	188465	-222818	0.8	124115	-31630	3.9
	Secondo	898	SLV 3	186919	-223501	0.8	126827	35203	3.6
	Secondo	898	SLV 4	186919	-223501	0.8	126827	35203	3.6
	Secondo	898	SLV 5	209313	-65809	3.2	121162	-110854	1.1
	Secondo	898	SLV 6	209313	-65809	3.2	121162	-110854	1.1
	Secondo	898	SLV 7	202122	-68087	3	125844	111921	1.1
	Secondo	898	SLV 8	202122	-68087	3	125844	111921	1.1
	Secondo	898	SLV 9	209326	68087	3.1	120501	-111928	1.1
	Secondo	898	SLV 10	209326	68087	3.1	120501	-111928	1.1
	Secondo	898	SLV 11	202557	65809	3.1	121544	110847	1.1
	Secondo	898	SLV 12	202557	65809	3.1	121544	110847	1.1
	Secondo	898	SLV 13	190105	223501	0.9	119448	-35210	3.4
	Secondo	898	SLV 14	190105	223501	0.9	119448	-35210	3.4
	Secondo	898	SLV 15	187285	222818	0.8	120057	31623	3.8
	Secondo	898	SLV 16	187285	222818	0.8	120057	31623	3.8
	Terzo	1250	SLD 1	177799	-56671	3.1	103337	-10107	10.2
	Terzo	1250	SLD 2	177799	-56671	3.1	103337	-10107	10.2
	Terzo	1250	SLD 3	175599	-56478	3.1	105069	9792	10.7
	Terzo	1250	SLD 4	175599	-56478	3.1	105069	9792	10.7
	Terzo	1250	SLD 5	179720	-17295	10.4	102499	-33214	3.1
	Terzo	1250	SLD 6	179720	-17295	10.4	102499	-33214	3.1
	Terzo	1250	SLD 7	176324	-16650	10.6	105495	33114	3.2
	Terzo	1250	SLD 8	176324	-16650	10.6	105495	33114	3.2
	Terzo	1250	SLD 9	180010	16650	10.8	102185	-33121	3.1
	Terzo	1250	SLD 10	180010	16650	10.8	102185	-33121	3.1
	Terzo	1250	SLD 11	177763	17295	10.3	105237	33206	3.2
	Terzo	1250	SLD 12	177763	17295	10.3	105237	33206	3.2
	Terzo	1250	SLD 13	178953	56478	3.2	103640	-9799	10.6
	Terzo	1250	SLD 14	178953	56478	3.2	103640	-9799	10.6
	Terzo	1250	SLD 15	178785	56671	3.2	104282	10099	10.3
	Terzo	1250	SLD 16	178785	56671	3.2	104282	10099	10.3
	Terzo	1250	SLV 1	146679	-132794	1.1	103707	-24074	4.3
	Terzo	1250	SLV 2	146679	-132794	1.1	103707	-24074	4.3
	Terzo	1250	SLV 3	146632	-132345	1.1	105831	23316	4.5
	Terzo	1250	SLV 4	146632	-132345	1.1	105831	23316	4.5
	Terzo	1250	SLV 5	176460	-40520	4.4	101828	-79100	1.3
	Terzo	1250	SLV 6	176460	-40520	4.4	101828	-79100	1.3
	Terzo	1250	SLV 7	168483	-39021	4.3	105194	78867	1.3



Livello	Capacità/Domanda in X			Capacità/Domanda in Y				
	Descr	Q	Comb	VrdX	VedX	Rd/Ed	VrdY	VedY
Terzo	1250	SLV 8	168483	-39021	4.3	105194	78867	1.3
Terzo	1250	SLV 9	175808	39021	4.5	101143	-78874	1.3
Terzo	1250	SLV 10	175808	39021	4.5	101143	-78874	1.3
Terzo	1250	SLV 11	170490	40520	4.2	104442	79093	1.3
Terzo	1250	SLV 12	170490	40520	4.2	104442	79093	1.3
Terzo	1250	SLV 13	154915	132345	1.2	102640	-23323	4.4
Terzo	1250	SLV 14	154915	132345	1.2	102640	-23323	4.4
Terzo	1250	SLV 15	150169	132794	1.1	103954	24067	4.3
Terzo	1250	SLV 16	150169	132794	1.1	103954	24067	4.3
Sottotetto	1566	SLD 1	88810	-13373	6.6	68310	-1757	38.9
Sottotetto	1566	SLD 2	88810	-13373	6.6	68310	-1757	38.9
Sottotetto	1566	SLD 3	88171	-13799	6.4	66111	2614	25.3
Sottotetto	1566	SLD 4	88171	-13799	6.4	66111	2614	25.3
Sottotetto	1566	SLD 5	99063	-3378	29.3	55843	-7458	7.5
Sottotetto	1566	SLD 6	99063	-3378	29.3	55843	-7458	7.5
Sottotetto	1566	SLD 7	98258	-4796	20.5	71578	7113	10.1
Sottotetto	1566	SLD 8	98258	-4796	20.5	71578	7113	10.1
Sottotetto	1566	SLD 9	99694	4764	20.9	54805	-7973	6.9
Sottotetto	1566	SLD 10	99694	4764	20.9	54805	-7973	6.9
Sottotetto	1566	SLD 11	99353	3346	29.7	69003	6597	10.5
Sottotetto	1566	SLD 12	99353	3346	29.7	69003	6597	10.5
Sottotetto	1566	SLD 13	99629	13767	7.2	64969	-3474	18.7
Sottotetto	1566	SLD 14	99629	13767	7.2	64969	-3474	18.7
Sottotetto	1566	SLD 15	99403	13341	7.5	68191	897	76
Sottotetto	1566	SLD 16	99403	13341	7.5	68191	897	76
Sottotetto	1566	SLV 1	68315	-31191	2.2	64622	-3333	19.4
Sottotetto	1566	SLV 2	68315	-31191	2.2	64622	-3333	19.4
Sottotetto	1566	SLV 3	67015	-32228	2.1	60877	6729	9
Sottotetto	1566	SLV 4	67015	-32228	2.1	60877	6729	9
Sottotetto	1566	SLV 5	86280	-7796	11.1	43531	-16562	2.6
Sottotetto	1566	SLV 6	86280	-7796	11.1	43531	-16562	2.6
Sottotetto	1566	SLV 7	96446	-11252	8.6	49385	16979	2.9
Sottotetto	1566	SLV 8	96446	-11252	8.6	49385	16979	2.9
Sottotetto	1566	SLV 9	94674	11220	8.4	35149	-17839	2
Sottotetto	1566	SLV 10	94674	11220	8.4	35149	-17839	2
Sottotetto	1566	SLV 11	94584	7764	12.2	47607	15702	3
Sottotetto	1566	SLV 12	94584	7764	12.2	47607	15702	3
Sottotetto	1566	SLV 13	69408	32195	2.2	56186	-7589	7.4
Sottotetto	1566	SLV 14	69408	32195	2.2	56186	-7589	7.4
Sottotetto	1566	SLV 15	78335	31159	2.5	63069	2473	25.5
Sottotetto	1566	SLV 16	78335	31159	2.5	63069	2473	25.5

1.2 Verifiche aste in legno

Le unità di misura elencate nel capitolo sono in [cm] ove non espressamente specificato.

Descrizione: descrizione della sezione.

Tipo: tipo di sezione.

Base: base della sezione. [cm]

Altezza: altezza della sezione. [cm]

Area: area inerziale nel sistema geometrico centrato nel baricentro. [cm²]

Jx: momento d'inerzia attorno all'asse orizzontale baricentrico di definizione della sezione. [cm⁴]

Jy: momento d'inerzia attorno all'asse verticale baricentrico di definizione della sezione. [cm⁴]

Wx: modulo di resistenza elastico minimo relativo all'asse x. [cm³]

Wy: modulo di resistenza elastico minimo relativo all'asse y. [cm³]

Asta 11: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 34.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

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$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(7.7/85.3)^2 + 0.7^3/74.7 + 33.4/74.7 = 0.48 \leq 1$ [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $M_x = 4023.8$; $M_y = -44556.7$; $N = -3085.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{(1.51^2 + 0.11^2)} = 1.52 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $T_x = -269$; $T_y = 20.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.59 + 0 + 0 \leq 1$ Comb: SLU, 29; Durata minima del carico nella combinazione: media
 $T_x = 96.6$; $T_y = 37$; $M_t = 18111.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 34.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$
 $10.88 \leq 18.4$ Comb: SLU, 29; Durata minima del carico nella combinazione: media
 $M_t = 18111.8$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 17.4
 $K_{def} = 0$
 $U_{inst,tot} \text{ in } x = 0$
 $U_{inst,tot} \text{ in } y = 0$
 $U_{inst,tot} = 0$
 $Luce/U_{inst,tot} > \text{limite}$
 $34.8/0 = 7492.7 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 17.4
 $K_{def} = 0$
 $U_{inst,var} \text{ in } x = 0$
 $U_{inst,var} \text{ in } y = 0$
 $U_{inst,var} = 0$
 $Luce/U_{inst,var} > \text{limite}$
 $34.8/0 = 10825.1 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 17.4
 $K_{def} = 0.6$
 $U_{fin} \text{ in } x = -0.01$
 $U_{fin} \text{ in } y = 0$
 $U_{fin} = 0.01$
 $Luce/U_{fin} > \text{limite}$
 $34.8/0.01 = 6324.5 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Neve = $0,500 + 0,500 = 1,000$

Asta 12: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.6/85.3)^2 + 0.7 \cdot 15/74.7 + 29.7/74.7 = 0.54 \leq 1$ [4.4.7b] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = 20046$; $M_y = -39539.4$; $N = -1845.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{2.5^2 + 1.11^2} = 2.74 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 444.9$; $T_y = 197.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0.02 + 0 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 444.9$; $T_y = 197.2$; $M_t = -2483.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.22 \leq 25.3$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

$M_t = -3695$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

$33.8/0 = 10253.8 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 15.8

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$

$33.8/0 = 15558.1 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$Luce/U_{fin} > \text{limite}$

$33.8/0 = 8512.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Asta 13: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.7/102.7 + 25.5/102.7 = 0.25 \leq 1$ (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = -992$; $M_y = -33974.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{3.77^2 + 0.22^2} = 3.78 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 670.1$; $T_y = 39.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.37 + 0.05 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 664.3$; $T_y = 37.5$; $M_t = 11247.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$6.75 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 11247.6$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} >$ limite

$33.8/0 = 26295 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} >$ limite

$33.8/0 = 41608.7 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 14.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

Luce/ $U_{fin} >$ limite

$33.8/0 = 21538.7 > 200$

Coefficienti combinatori impiegati:



Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000

Asta 14: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $0.7 \cdot 0.1/102.7 + 28.2/102.7 = 0.28 \leq 1$ (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = 67.4$; $M_y = 37618.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{1.3^2 + 0.04^2} = 1.3 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $T_x = 231.3$; $T_y = -7.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.18 + 0 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 91.1$; $T_y = 24.8$; $M_t = -5635.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $3.38 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = -5635.5$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18
 $K_{def} = 0$
 $U_{inst,tot} \text{ in } x = 0$
 $U_{inst,tot} \text{ in } y = 0$
 $U_{inst,tot} = 0$
 $Luce/U_{inst,tot} > \text{limite}$
 $33.8/0 = 105232.6 > 300$ Comb: SLE rara, 13

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9
 $K_{def} = 0$
 $U_{inst,var} \text{ in } x = 0$
 $U_{inst,var} \text{ in } y = 0$
 $U_{inst,var} = 0$
 $Luce/U_{inst,var} > \text{limite}$
 $33.8/0 = 119339.4 > 300$ Comb: SLE rara, 13



Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$Luce/U_{fin} > \text{limite}$

$33.8/0=97920.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,000 = 0,500$

Vento = $0,600 + 0,400 = 1,000$

Asta 15: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(1/117.3)^2 + 0.7 * 0.2 / 102.7 + 35.8 / 102.7 = 0.35 \leq 1$ [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 322.6$; $M_y = 47723.6$; $N = -382.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{2.2^2 + 0.17^2} = 2.21 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 390.9$; $T_y = 30.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.33 + 0.02 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 385.4$; $T_y = 29.9$; $M_t = 9991.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$6 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 9991.2$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18

$K_{def} = 0$

$U_{inst} \text{ tot in } x = 0$

$U_{inst} \text{ tot in } y = 0$

$U_{inst} \text{ tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$



33.8/0=28348.9 > 300 Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=42357.5 > 300 Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=23654.9 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Asta 16: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1/117.3)^2 + 0.7 * 0.9 / 102.7 + 36.8 / 102.7 = 0.36 \leq 1$ [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mx = -1226.2; My = 49094.2; N = -383.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(5.03^2 + 0.13^2)} = 5.04 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Tx = -895; Ty = -23.4

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{,tor,d}/(k_{sh} * f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.22 + 0.02 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -419.8; Ty = -8.1; Mt = -6645.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$3.99 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media



Mt = -6645.9

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 14.6

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=30154.2 > 300 Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=46875.3 > 300 Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 14.6

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=24838.1 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Asta 17: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$0.7 \cdot 0.5/102.7 + 14.1/102.7 = 0.14 \leq 1$ (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = 721.7; My = 18782.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{4.29^2 + 0.04^2} = 4.29 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Tx = -761.8; Ty = -7.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$



0.31+0+0 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = -136.5; Ty = 15; Mt = 9647

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
5.79 <= 18.4 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = 9647

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 23.6
Kdef = 0
Uinst tot in x = 0
Uinst tot in y = 0
Uinst tot = 0
Luce/Uinst,tot > limite
33.8/0=579854.9 > 300 Comb: SLE rara, 15

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 21.4
Kdef = 0
Uinst var in x = 0
Uinst var in y = 0
Uinst var = 0
Luce/Uinst,var > limite
33.8/0=421375.2 > 300 Comb: SLE rara, 21

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 10.1
Kdef = 0.6
Ufin in x = 0
Ufin in y = 0
Ufin = 0
Luce/Ufin > limite
33.8/0=593357.6 > 200
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000

Asta 18: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1/117.3)^2 + 0.7 * 0.4/102.7 + 28.4/102.7 = 0.28 \leq 1$ [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
Mx = -535.2; My = -37850.1; N = -400.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$



$\sqrt{4.54^2+0.08^2} = 4.54 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $T_x = -807.5$; $T_y = -13.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.17+0.03+0 \leq 1$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $T_x = 688.7$; $T_y = 10.8$; $M_t = -7112.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $3.53 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = -5885.1$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 19.1
 $K_{def} = 0$
 $U_{inst,tot} \text{ in } x = 0$
 $U_{inst,tot} \text{ in } y = 0$
 $U_{inst,tot} = 0$
 $Luce/U_{inst,tot} > \text{limite}$
 $33.8/0=49130.6 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18
 $K_{def} = 0$
 $U_{inst,var} \text{ in } x = 0$
 $U_{inst,var} \text{ in } y = 0$
 $U_{inst,var} = 0$
 $Luce/U_{inst,var} > \text{limite}$
 $33.8/0=65419.1 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 19.1
 $K_{def} = 0.6$
 $U_{fin} \text{ in } x = 0$
 $U_{fin} \text{ in } y = 0$
 $U_{fin} = 0$
 $Luce/U_{fin} > \text{limite}$
 $33.8/0=42010.7 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Asta 19: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$



$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(1/117.3)^2 + 0.7*0.7/102.7 + 46.9/102.7 = 0.46 \leq 1$ [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
Mx = 867; My = -62486; N = -415.3

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1; kcr = 0.67
 $\tau,d \leq f_{v,d}$
 $\sqrt{4.15^2 + 0.12^2} = 4.15 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
Tx = 737.4; Ty = 20.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.32 + 0 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = 54.5; Ty = 12.8; Mt = 9758.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $5.86 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = 9758.3

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9
Kdef = 0
Uinst tot in x = 0
Uinst tot in y = 0
Uinst tot = 0
Luce/Uinst,tot > limite
 $33.8/0 = 31873.3 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9
Kdef = 0
Uinst var in x = 0
Uinst var in y = 0
Uinst var = 0
Luce/Uinst,var > limite
 $33.8/0 = 43175.1 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9
Kdef = 0.6
Ufin in x = 0
Ufin in y = 0
Ufin = 0
Luce/Ufin > limite
 $33.8/0 = 27161.6 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Variabile A = 0,700 + 0,180 = 0,880
Neve = 0,500 + 0,500 = 1,000
Vento = 0,600 + 0,000 = 0,600

Asta 20: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33



Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(1.1/117.3)^2 + 0.7 \cdot 0.3/102.7 + 46.4/102.7 = 0.45 \leq 1$ [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -339.6$; $M_y = -61840.8$; $N = -434$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(1.09^2 + 0.05^2)} = 1.09 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -194.3$; $T_y = -9.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.2 + 0 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -194.3$; $T_y = -9.7$; $M_t = -6245.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq k_{sh} \cdot f_{v,d}$

$3.75 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -6245.1$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} >$ limite

$33.8/0 = 27899.8 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} >$ limite

$33.8/0 = 37606.1 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

Luce/ $U_{fin} >$ limite

$33.8/0 = 23896.8 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$



Asta 21: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.2/117.3)^2 + 0.7 \cdot 0.1/102.7 + 44.5/102.7 = 0.43 \leq 1$ [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 154.7$; $M_y = -59289.8$; $N = -466.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{1.28^2 + 0.03^2} = 1.28 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 226.7$; $T_y = -5.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.27 + 0 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 117.3$; $T_y = 11$; $M_t = 8360.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$5.02 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 8360.8$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} >$ limite

$33.8/0 = 26004.1 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} >$ limite

$33.8/0 = 35190.8 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$



Luce/Ufin > limite

$33.8/0=22371.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 22: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.3/117.3)^2 + 0.7 \cdot 0.1/102.7 + 40.8/102.7 = 0.4 \leq 1$ [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -199.9$; $M_y = -54426.8$; $N = -509.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.25^2 + 0.02^2)} = 2.25 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -400.1$; $T_y = 3.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.26 + 0 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -133.6$; $T_y = -6.5$; $M_t = -8025.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.82 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -8025.1$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot}$ > limite

$33.8/0=26936.5 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$



Uinst var = 0
 Luce/Uinst,var > limite
 $33.8/0=35759.2 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9
 $K_{def} = 0.6$
 U_{fin} in $x = 0$
 U_{fin} in $y = 0$
 $U_{fin} = 0$
 Luce/ U_{fin} > limite
 $33.8/0=23463.2 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Asta 23: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $0.7 \cdot 0.2/102.7 + 32.4/102.7 = 0.32 \leq 1$ (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = 279.9$; $M_y = -43261.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{2.72^2 + 0.04^2} = 2.72 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $T_x = 484.2$; $T_y = -6.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.2 + 0 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 179.8$; $T_y = 10.9$; $M_t = 6234.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$
 $3.74 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 6234.7$

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8
 $K_{def} = 0$
 U_{inst} tot in $x = 0$
 U_{inst} tot in $y = 0$



Uinst tot = 0
 Luce/Uinst,tot > limite
 $33.8/0=29624 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 15.8
 Kdef = 0
 Uinst var in x = 0
 Uinst var in y = 0
 Uinst var = 0
 Luce/Uinst,var > limite
 $33.8/0=38129.7 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8
 Kdef = 0.6
 Ufin in x = 0
 Ufin in y = 0
 Ufin = 0
 Luce/Ufin > limite
 $33.8/0=26127.1 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Asta 24: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $0.7*0.4/102.7+23/102.7=0.23 \leq 1$ (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 Mx = -569.7; My = -30723

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; kcr = 0.67
 $\tau_{,d} \leq f_{v,d}$
 $Sqrt(2.77^2+0.03^2) = 2.77 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 Tx = -492.7; Ty = -6.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{,tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.33+0+0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -121.5; Ty = 11.1; Mt = -10010.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8



$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

6.01 \leq 18.4 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = -10010.9

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=31857 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=38898.5 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=28731.8 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Asta 25: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$S_{m,y,d}/f_{m,y,d} + K_m * (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m * (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 * 1.8/102.7 + 14/102.7 = 0.15 \leq 1$ (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = 2390.4; My = -18669.3

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.97^2 + 0.29^2)} = 2.98 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Tx = 527.8; Ty = -51.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67



$\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 $0.17+0.01+0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 207.5; T_y = -23.1; M_t = 5347.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $3.21 \leq 18.4$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 5347.7$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8
 $K_{def} = 0$
 $U_{inst,tot} \text{ in } x = 0$
 $U_{inst,tot} \text{ in } y = 0$
 $U_{inst,tot} = 0$
 $Luce/U_{inst,tot} > \text{limite}$
 $33.8/0 = 36228.4 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 15.8
 $K_{def} = 0$
 $U_{inst,var} \text{ in } x = 0$
 $U_{inst,var} \text{ in } y = 0$
 $U_{inst,var} = 0$
 $Luce/U_{inst,var} > \text{limite}$
 $33.8/0 = 41781.4 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8
 $K_{def} = 0.6$
 $U_{fin} \text{ in } x = 0$
 $U_{fin} \text{ in } y = 0$
 $U_{fin} = 0$
 $Luce/U_{fin} > \text{limite}$
 $33.8/0 = 33552.7 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Neve = $0,500 + 0,500 = 1,000$

Asta 26: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.6/117.3)^2 + 0.7 * 2/102.7 + 9.6/102.7 = 0.11 \leq 1$ [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_x = -2718.4; M_y = 12832.9; N = -631.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1; k_{cr} = 0.67$



$\tau_{,d} \leq f_{v,d}$

$\sqrt{1.54^2 + 0.2^2} = 1.55 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = 273.4$; $T_y = -35.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.27 + 0 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 144.7$; $T_y = -11.1$; $M_t = -8403.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$5.05 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -8403.3$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,tot}$ in $x = 0$

$U_{inst,tot}$ in $y = 0$

$U_{inst,tot} = 0$

$L_{uce} / U_{inst,tot} > \text{limite}$

$33.8 / 0 = 100879.6 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst,var}$ in $x = 0$

$U_{inst,var}$ in $y = 0$

$U_{inst,var} = 0$

$L_{uce} / U_{inst,var} > \text{limite}$

$33.8 / 0 = 131544 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9

$K_{def} = 0.6$

U_{fin} in $x = 0$

U_{fin} in $y = 0$

$U_{fin} = 0$

$L_{uce} / U_{fin} > \text{limite}$

$33.8 / 0 = 79092.7 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 27: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8
 $St,0,d/ft,0,d + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $St,0,d/ft,0,d + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $0.8/38.4+0.7*8.3/74.7+18.7/74.7=0.35 \leq 1$ [4.4.6b] Comb: SLU, 30; Durata minima del carico nella combinazione: media
 Mx = 11099; My = 24954.1; N = 302

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau,d \leq f_{v,d}$
 $\sqrt{3.58^2+0.75^2} = 3.66 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 636.3; Ty = -134.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.34+0.05+0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 636.3; Ty = -134.1; Mt = 10275.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq k_{sh} * f_{v,d}$
 $6.17 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = 10275.2

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 19.1
 Kdef = 0
 Uinst tot in x = 0
 Uinst tot in y = 0
 Uinst tot = 0
 Luce/Uinst,tot > limite
 $33.8/0=22605.2 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 19.1
 Kdef = 0
 Uinst var in x = 0
 Uinst var in y = 0
 Uinst var = 0
 Luce/Uinst,var > limite
 $33.8/0=32669.2 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 19.1
 Kdef = 0.6
 Ufin in x = 0
 Ufin in y = 0
 Ufin = 0
 Luce/Ufin > limite
 $33.8/0=18999.6 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = 1,000 + 0,600 = 1,600
 Permanenti portati = 1,000 + 0,600 = 1,600
 Variabile A = 0,700 + 0,180 = 0,880
 Neve = 0,500 + 0,500 = 1,000
 Vento = 0,600 + 0,000 = 0,600

Asta 28: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

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Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.1/85.3)^2 + 0.7 \cdot 9.3/74.7 + 20.8/74.7 = 0.37 \leq 1$ [4.4.7b] Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_x = -12343.4$; $M_y = 27702.1$; $N = -447.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(2.23^2 + 0.65^2)} = 2.33 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -396.8$; $T_y = -116.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.57 + 0.02 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -396.8$; $T_y = -116.3$; $M_t = -17584.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{t,d} \leq k_{sh} \cdot f_{v,d}$

$10.56 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -17584.2$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

$33.8/0 = 15802.3 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 15.8

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$

$33.8/0 = 21882.6 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$Luce/U_{fin} > \text{limite}$

$33.8/0 = 13544.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$



Asta 29: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1/117.3)^2 + 0.7 \cdot 0.8/102.7 + 20.2/102.7 = 0.2 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 1078.1$; $M_y = 26998.1$; $N = -402.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(1.66^2 + 0.06^2)} = 1.66 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -295.6$; $T_y = -10$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.17 + 0 + 0 \leq 1$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -205.4$; $T_y = -12.4$; $M_t = 7088.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.26 \leq 25.3$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 7088.5$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

$33.8/0 = 26367 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$

$33.8/0 = 33261.9 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$



Luce/Ufin > limite

$33.8/0=23450.3 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 30: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.1/102.7 + 22.6/102.7 = 0.22 \leq 1$ (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = 121.4$; $M_y = -30074.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(3.71^2 + 0.13^2)} = 3.71 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = -659.6$; $T_y = -23.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.51 + 0.01 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -327.8$; $T_y = -10$; $M_t = -15593$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$9.36 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -15593$

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 12.4

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot}$ > limite

$33.8/0=95800.5 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$



Luce/Uinst,var > limite
 $33.8/0=84337.2 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 12.4

$K_{def} = 0.6$

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

$33.8/0=103242.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 31: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.2/117.3)^2 + 0.7 \cdot 0/102.7 + 27.4/102.7 = 0.27 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 30.1$; $M_y = 36527.8$; $N = -475.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(1.71^2 + 0.02^2)} = 1.71 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 303.3$; $T_y = 3.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.21 + 0.01 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 300.4$; $T_y = 4.2$; $M_t = 6389.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.84 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 6389.4$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 21.4

$K_{def} = 0$

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0



Luce/Uinst,tot > limite
 $33.8/0=115646.2 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 19.1
 $K_{def} = 0$
 $U_{inst\ var\ in\ x} = 0$
 $U_{inst\ var\ in\ y} = 0$
 $U_{inst\ var} = 0$

Luce/Uinst,var > limite
 $33.8/0=100076.8 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 22.5
 $K_{def} = 0.6$
 $U_{fin\ in\ x} = 0$
 $U_{fin\ in\ y} = 0$
 $U_{fin} = 0$

Luce/Ufin > limite
 $33.8/0=125803.7 > 200$

Coefficienti combinatori impiegati:
 Pesì strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Neve = $0,500 + 0,500 = 1,000$

Asta 32: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $0.7 \cdot 0.1/102.7 + 31.7/102.7 = 0.31 \leq 1$ (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $M_x = -76.3$; $M_y = -42245.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{1.8^2 + 0.04^2} = 1.8 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -320.3$; $T_y = -6.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.43 + 0.01 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -315.2$; $T_y = -6.7$; $M_t = -13202.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$
 $7.93 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media



Mt = -13202.7

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 11.3

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=142830.4 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 13.5

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=122326.3 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 10.1

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=155959.2 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Asta 33: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 25.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.4/52.8+0.7*0.3/102.7+29.8/102.7=0.32 \leq 1$ [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

Mx = 360.6; My = -39747.1; N = 567.5

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.76^2+0.04^2)} = 1.76 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = 313.6; Ty = 7.8

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.29+0.01+0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media



Tx = 311.6; Ty = 7.6; Mt = 8733.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 5.24 \leq 18.4 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = 8733.7

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 22.5
 $K_{def} = 0$
 Uinst tot in x = 0
 Uinst tot in y = 0
 Uinst tot = 0
 Luce/Uinst,tot > limite
 33.8/0=152271.2 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 20.3
 $K_{def} = 0$
 Uinst var in x = 0
 Uinst var in y = 0
 Uinst var = 0
 Luce/Uinst,var > limite
 33.8/0=134557.2 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 23.6
 $K_{def} = 0.6$
 Ufin in x = 0
 Ufin in y = 0
 Ufin = 0
 Luce/Ufin > limite
 33.8/0=162426.5 > 200
 Coefficienti combinatori impiegati:
 Pesi strutturali = 1,000 + 0,600 = 1,600
 Permanenti portati = 1,000 + 0,600 = 1,600
 Neve = 0,500 + 0,500 = 1,000

Asta 34: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m} * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m} * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.6/117.3)^2 + 0.7 * 0.4/102.7 + 31.3/102.7 = 0.31 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 Mx = 503.8; My = 41716.8; N = -634.7

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\text{Sqrt}(2.42^2 + 0.04^2) = 2.42 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media



Tx = -430.6; Ty = -6.5

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.35+0.02+0 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -430.6; Ty = -6.5; Mt = -10762

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh \cdot f_{v,d}$

6.46 <= 18.4 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = -10764.4

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 20.3

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=159854.6 > 300 Comb: SLE rara, 10

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 10.1

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=255470.7 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 20.3

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=114545.6 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Vento = 0,600 + 0,400 = 1,000

Asta 35: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$



$1.4/52.8+0.7*0.5/102.7+25.6/102.7=0.28 \leq 1$ [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $M_x = 609$; $M_y = -34144.1$; $N = 544.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{3.45^2+0.06^2} = 3.45 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 613.5$; $T_y = 10.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.37+0.01+0 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 208.3$; $T_y = 5.1$; $M_t = 11312.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$6.79 \leq 18.4$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 11312.3$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = 0$

$U_{inst\ tot} = 0$

$Luce/U_{inst,tot} > limite$

$33.8/0=67979.5 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = 0$

$U_{inst\ var} = 0$

$Luce/U_{inst,var} > limite$

$33.8/0=141548.9 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 14.6

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0$

$U_{fin\ in\ y} = 0$

$U_{fin} = 0$

$Luce/U_{fin} > limite$

$33.8/0=51110.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 36: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.3/52.8 + 0.7*0/102.7 + 22.4/102.7 = 0.24 \leq 1$ [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = 9.4$; $M_y = -29868$; $N = 514.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{3.27^2 + 0.04^2} = 3.27 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -581.4$; $T_y = 7.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.26 + 0.01 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -281.6$; $T_y = 14.4$; $M_t = -8016.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$4.81 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -8016.5$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 19.1

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = 0$

$U_{inst\ tot} = 0$

$Luce/U_{inst,tot} > limite$

$33.8/0 = 55497.8 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 20.3

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = 0$

$U_{inst\ var} = 0$

$Luce/U_{inst,var} > limite$

$33.8/0 = 113325.2 > 300$ Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 19.1

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0$

$U_{fin\ in\ y} = 0$

$U_{fin} = 0$

$Luce/U_{fin} > limite$

$33.8/0 = 41875.8 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Asta 37: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

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Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.1/52.8 + 0.7 \cdot 0.1/102.7 + 34.5/102.7 = 0.36 \leq 1$ [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$Mx = -75.3$; $My = -46027.5$; $N = 457.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{4.47^2 + 0.03^2} = 4.47 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 794.9$; $T_y = 6.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.5 + 0.01 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 325.6$; $T_y = -60.3$; $M_t = 15296.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$9.19 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 15296.2$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

$33.8/0 = 62927.7 > 300$ Comb: SLE rara, 14

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$

$33.8/0 = 101724.7 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 14.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$Luce/U_{fin} > \text{limite}$

$33.8/0 = 46532.7 > 200$

Coefficienti combinatori impiegati:



Pesi strutturali = 1,000 + 0,600 = 1,600
 Permanenti portati = 1,000 + 0,600 = 1,600
 Variabile A = 0,700 + 0,180 = 0,880
 Neve = 0,500 + 0,000 = 0,500
 Variabile H = 0,000 + 1,000 = 1,000

Asta 38: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 49.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 49.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(2.1/85.3)^2 + 0.7 * 8.7/74.7 + 30.3/74.7 = 0.49 \leq 1$ [4.4.7b] Comb: SLU, 38; Durata minima del carico nella combinazione: media
 $M_x = -11627.5$; $M_y = 40438$; $N = -844.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{4.45^2 + 0.75^2} = 4.51 \leq 16$ Comb: SLU, 38; Durata minima del carico nella combinazione: media
 $T_x = 790.3$; $T_y = 133.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{,tor,d}/(k_{sh} * f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.14 + 0.08 + 0 \leq 1$ Comb: SLU, 38; Durata minima del carico nella combinazione: media
 $T_x = 790.3$; $T_y = 133.8$; $M_t = 4231.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 49.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{,tor,d} \leq K_{sh} * f_{v,d}$
 $3.82 \leq 25.3$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_t = 6364.9$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 28.1
 $K_{def} = 0$
 $U_{inst,tot} \text{ in } x = 0$
 $U_{inst,tot} \text{ in } y = 0$
 $U_{inst,tot} = 0$
 Luce/ $U_{inst,tot} >$ limite
 $49.6/0 = 10581.3 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 28.1
 $K_{def} = 0$
 $U_{inst,var} \text{ in } x = 0$
 $U_{inst,var} \text{ in } y = 0$
 $U_{inst,var} = 0$
 Luce/ $U_{inst,var} >$ limite
 $49.6/0 = 14180.3 > 300$ Comb: SLE rara, 9



Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 28.1

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0.01$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0.01$

Luce/ $U_{fin} >$ limite

$49.6/0.01=9182.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 39: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 18

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$1.3/38.4 + 0.7 * 12.2/74.7 + 29.6/74.7 = 0.54 \leq 1$ [4.4.6b] Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_x = 16251$; $M_y = 39497.4$; $N = 515$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(3.69^2 + 1^2)} = 3.83 \leq 16$ Comb: SLU, 29; Durata minima del carico nella combinazione: media

$T_x = -656.7$; $T_y = 177.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} * f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.25 + 0.05 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -645.6$; $T_y = 181.9$; $M_t = 7507.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 18

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$4.51 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 7507.5$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 9

$K_{def} = 0$

$U_{inst \text{ tot in } x} = 0$

$U_{inst \text{ tot in } y} = 0$

$U_{inst \text{ tot}} = 0$

Luce/ $U_{inst,tot} >$ limite

$18/0=18666.7 > 300$ Comb: SLE rara, 17



Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 9

$K_{def} = 0$

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

$18/0=26290 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 9

$K_{def} = 0.6$

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

$18/0=15895.4 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 40: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$0.7*1.3/74.7+20.7/74.7=0.29 \leq 1$ (formula 4.4.5b) Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_x = 1785.1$; $M_y = 27619$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(3.65^2+0.05^2)} = 3.65 \leq 16$ Comb: SLU, 29; Durata minima del carico nella combinazione: media

$T_x = -648.5$; $T_y = 9.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.38+0.05+0 \leq 1$ Comb: SLU, 29; Durata minima del carico nella combinazione: media

$T_x = -648.5$; $T_y = 9.6$; $M_t = -11568.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$6.95 \leq 18.4$ Comb: SLU, 29; Durata minima del carico nella combinazione: media



Mt = -11568.1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=19407.7 > 300 Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=28161.3 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=16266.3 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Asta 41: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.6/117.3)^2 + 0.7 \cdot 1.5/102.7 + 16.9/102.7 = 0.18 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = -1953.2; My = 22586; N = -1056.5

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(2.61^2 + 0.18^2)} = 2.62 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Tx = -464.8; Ty = 31.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67



$\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 $0.27+0.01+0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -209.7$; $T_y = 35$; $M_t = 8409.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * fv,d$
 $5.05 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 8409.3$

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9
 $K_{def} = 0$
 $U_{inst\ tot\ in\ x} = 0$
 $U_{inst\ tot\ in\ y} = 0$
 $U_{inst\ tot} = 0$
 $Luce/U_{inst,tot} > limite$
 $33.8/0 = 79753.3 > 300$ Comb: SLE rara, 10

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9
 $K_{def} = 0$
 $U_{inst\ var\ in\ x} = 0$
 $U_{inst\ var\ in\ y} = 0$
 $U_{inst\ var} = 0$
 $Luce/U_{inst,var} > limite$
 $33.8/0 = 152044.6 > 300$ Comb: SLE rara, 10

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8
 $K_{def} = 0.6$
 $U_{fin\ in\ x} = 0$
 $U_{fin\ in\ y} = 0$
 $U_{fin} = 0$
 $Luce/U_{fin} > limite$
 $33.8/0 = 59558.6 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Vento = $0,600 + 0,400 = 1,000$

Asta 42: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.2/117.3)^2 + 0.7 * 1.2/102.7 + 13.1/102.7 = 0.14 \leq 1$ [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_x = 1546$; $M_y = -17531.1$; $N = -480.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{3.24^2 + 0.24^2} = 3.25 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = -576.2$; $T_y = 43$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.17 + 0.01 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -271.8$; $T_y = 32.3$; $M_t = -5356.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$3.22 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -5356.2$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 20.3

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = 0$

$U_{inst\ tot} = 0$

$Luce / U_{inst,tot} > limite$

$33.8 / 0 = 95596.8 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 19.1

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = 0$

$U_{inst\ var} = 0$

$Luce / U_{inst,var} > limite$

$33.8 / 0 = 80191.2 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 14.6

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0$

$U_{fin\ in\ y} = 0$

$U_{fin} = 0$

$Luce / U_{fin} > limite$

$33.8 / 0 = 103919.1 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,480 = 1,180$

Vento = $0,600 + 0,000 = 0,600$

Asta 43: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 1.1$
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $0.8/52.8 + 0.7*0.1/102.7 + 23.8/102.7 = 0.25 \leq 1$ [4.4.6b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $M_x = -131.9$; $M_y = 31789.1$; $N = 316.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{t,d} \leq f_{v,d}$
 $\sqrt{2.77^2 + 0.03^2} = 2.77 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $T_x = 492.1$; $T_y = 4.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.27 + 0 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 70.8$; $T_y = -3.5$; $M_t = 8201.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq k_{sh} * f_{v,d}$
 $4.92 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = 8201.1$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9
 $K_{def} = 0$
 $U_{inst\ tot\ in\ x} = 0$
 $U_{inst\ tot\ in\ y} = 0$
 $U_{inst\ tot} = 0$
 $Luce/U_{inst,tot} > limite$
 $33.8/0 = 50483.6 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9
 $K_{def} = 0$
 $U_{inst\ var\ in\ x} = 0$
 $U_{inst\ var\ in\ y} = 0$
 $U_{inst\ var} = 0$
 $Luce/U_{inst,var} > limite$
 $33.8/0 = 56963.6 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9
 $K_{def} = 0.6$
 $U_{fin\ in\ x} = 0$
 $U_{fin\ in\ y} = 0$
 $U_{fin} = 0$
 $Luce/U_{fin} > limite$
 $33.8/0 = 47258.1 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Asta 44: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33



Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(2.4/117.3)^2 + 0.7 \cdot 102.7 + 34/102.7 = 0.33 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = -33.4$; $M_y = -45343.5$; $N = -953.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{(2.71^2 + 0.03^2)} = 2.71 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $T_x = -481.1$; $T_y = -4.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.22 + 0.01 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -209.2$; $T_y = -10.1$; $M_t = -6663.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$
 $4 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = -6663.2$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18
 $K_{def} = 0$
 $U_{inst,tot} \text{ in } x = 0$
 $U_{inst,tot} \text{ in } y = 0$
 $U_{inst,tot} = 0$
 $Luce/U_{inst,tot} > \text{limite}$
 $33.8/0 = 39585 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18
 $K_{def} = 0$
 $U_{inst,var} \text{ in } x = 0$
 $U_{inst,var} \text{ in } y = 0$
 $U_{inst,var} = 0$
 $Luce/U_{inst,var} > \text{limite}$
 $33.8/0 = 50151.7 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18
 $K_{def} = 0.6$
 $U_{fin} \text{ in } x = 0$
 $U_{fin} \text{ in } y = 0$
 $U_{fin} = 0$
 $Luce/U_{fin} > \text{limite}$
 $33.8/0 = 35142.4 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$



Asta 45: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.4/117.3)^2 + 0.7 \cdot 0.2/102.7 + 43.2/102.7 = 0.42 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -317.9$; $M_y = -57545$; $N = -940.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{2.19^2 + 0.04^2} = 2.19 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 389$; $T_y = 7.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.19 + 0 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 78.9$; $T_y = 5.4$; $M_t = 5761.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.46 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 5761.9$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

$33.8/0 = 30040 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$

$33.8/0 = 41043.4 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$



Luce/Ufin > limite

$33.8/0=25855.4 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 46: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.2/117.3)^2 + 0.7 \cdot 0/102.7 + 46.5/102.7 = 0.45 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 18.9$; $M_y = -62011.2$; $N = -881.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.83^2 + 0.07^2} = 0.83 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -147.1$; $T_y = -11.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.27 + 0 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -147.1$; $T_y = -11.8$; $M_t = -8258.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.96 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -8258.9$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot}$ > limite

$33.8/0=26599.2 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$



Uinst var = 0
Luce/Uinst,var > limite
 $33.8/0=37597.6 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18
Kdef = 0.6
Ufin in x = 0
Ufin in y = 0
Ufin = 0
Luce/Ufin > limite
 $33.8/0=22495.4 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Asta 47: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(2.1/117.3)^2 + 0.7*0.3/102.7 + 48.6/102.7 = 0.48 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
Mx = -440; My = -64837; N = -848.1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1; kcr = 0.67
 $\tau,d \leq fv,d$
 $\text{Sqrt}(1.27^2 + 0.05^2) = 1.27 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
Tx = 226.4; Ty = 9.6

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1; kcr = 0.67
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 $0.14 + 0 + 0 \leq 1$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
Tx = -141.5; Ty = -7.1; Mt = 5964.6

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1
 $\tau_{tor,d} \leq Ksh * fv,d$
 $3.58 \leq 25.3$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
Mt = 5964.6

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9
Kdef = 0
Uinst tot in x = 0



Uinst tot in y = 0
 Uinst tot = 0
 Luce/Uinst,tot > limite
 $33.8/0=25318.9 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9
 Kdef = 0
 Uinst var in x = 0
 Uinst var in y = 0
 Uinst var = 0
 Luce/Uinst,var > limite
 $33.8/0=36253.9 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9
 Kdef = 0.6
 Ufin in x = 0
 Ufin in y = 0
 Ufin = 0
 Luce/Ufin > limite
 $33.8/0=21225.7 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Asta 48: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(1.9/117.3)^2 + 0.7*0.6/102.7 + 48.9/102.7 = 0.48 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 Mx = 752.8; My = -65138.7; N = -768

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; kcr = 0.67
 $\tau_d \leq f_{v,d}$
 $\sqrt{4.1^2 + 0.12^2} = 4.1 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 Tx = -729.2; Ty = -21.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.29 + 0 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -49.4; Ty = -13.9; Mt = -8810.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8



Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$5.29 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -8810.2$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = 0$

$U_{inst\ tot} = 0$

$Luce/U_{inst,tot} > limite$

$33.8/0 = 27877.6 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = 0$

$U_{inst\ var} = 0$

$Luce/U_{inst,var} > limite$

$33.8/0 = 40567.4 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0$

$U_{fin\ in\ y} = 0$

$U_{fin} = 0$

$Luce/U_{fin} > limite$

$33.8/0 = 23178.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 49: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.8/117.3)^2 + 0.7 \cdot 0.5/102.7 + 30.5/102.7 = 0.3 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -679.7$; $M_y = -40684.3$; $N = -725.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{4.36^2 + 0.06^2} = 4.36 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = 774.4$; $T_y = 10.2$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.17 + 0.02 + 0 \leq 1$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $T_x = -602$; $T_y = -12$; $M_t = 7078.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $4.25 \leq 25.3$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $M_t = 7078.9$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8
 $K_{def} = 0$
 $U_{inst\ tot\ in\ x} = 0$
 $U_{inst\ tot\ in\ y} = 0$
 $U_{inst\ tot} = 0$
 $Luce/U_{inst,tot} > limite$
 $33.8/0 = 38481 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 15.8
 $K_{def} = 0$
 $U_{inst\ var\ in\ x} = 0$
 $U_{inst\ var\ in\ y} = 0$
 $U_{inst\ var} = 0$
 $Luce/U_{inst,var} > limite$
 $33.8/0 = 57006 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8
 $K_{def} = 0.6$
 $U_{fin\ in\ x} = 0$
 $U_{fin\ in\ y} = 0$
 $U_{fin} = 0$
 $Luce/U_{fin} > limite$
 $33.8/0 = 31707.1 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Asta 50: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$



$(1.6/117.3)^2 + 0.7 \cdot 0.6 / 102.7 + 13.4 / 102.7 = 0.13 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = 754.1$; $M_y = -17914.5$; $N = -659.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{4.24^2 + 0.05^2} = 4.24 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 753.2$; $T_y = 9.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

$0.26 + 0 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 102.4$; $T_y = -17.4$; $M_t = -8056.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.84 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -8056.8$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = 0$

$U_{inst\ tot} = 0$

$Luce / U_{inst,tot} > limite$

$33.8 / 0 = 117574.6 > 300$ Comb: SLE rara, 15

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = 0$

$U_{inst\ var} = 0$

$Luce / U_{inst,var} > limite$

$33.8 / 0 = 189569.2 > 300$ Comb: SLE rara, 15

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0$

$U_{fin\ in\ y} = 0$

$U_{fin} = 0$

$Luce / U_{fin} > limite$

$33.8 / 0 = 91705.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,000 = 0,500$

Variabile H = $0,000 + 1,000 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 51: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $0.7 \cdot 0.7 / 102.7 + 31.7 / 102.7 = 0.31 \leq 1$ (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_x = -975.5$; $M_y = 42215.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{t,d} \leq f_{v,d}$
 $\sqrt{4.8^2 + 0.11^2} = 4.8 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $T_x = 853.1$; $T_y = 19.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$
 $0.16 + 0.02 + 0 \leq 1$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $T_x = -592.3$; $T_y = -17.8$; $M_t = 6654.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $4 \leq 25.3$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $M_t = 6654.4$

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 19.1
 $K_{def} = 0$
 $U_{inst,tot} \text{ in } x = 0$
 $U_{inst,tot} \text{ in } y = 0$
 $U_{inst,tot} = 0$
 $Luce / U_{inst,tot} > \text{limite}$
 $33.8 / 0 = 48714.2 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 19.1
 $K_{def} = 0$
 $U_{inst,var} \text{ in } x = 0$
 $U_{inst,var} \text{ in } y = 0$
 $U_{inst,var} = 0$
 $Luce / U_{inst,var} > \text{limite}$
 $33.8 / 0 = 66504.6 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 19.1
 $K_{def} = 0.6$
 $U_{fin} \text{ in } x = 0$
 $U_{fin} \text{ in } y = 0$
 $U_{fin} = 0$
 $Luce / U_{fin} > \text{limite}$
 $33.8 / 0 = 41976.8 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$



Asta 52: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.5/117.3)^2 + 0.7 \cdot 0.2/102.7 + 30.5/102.7 = 0.3 \leq 1$ [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 226.6$; $M_y = 40639.4$; $N = -596.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{2.04^2 + 0.18^2} = 2.05 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -363.2$; $T_y = -32.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.26 + 0.02 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -355.5$; $T_y = -31.8$; $M_t = -8054.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.84 \leq 18.4$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -8054.4$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

$33.8/0 = 46634.4 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$

$33.8/0 = 60273.7 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 14.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$



Luce/Ufin > limite

$33.8/0=41059.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 53: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$

$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$

$(0.7/117.3)^2 + 0.7*0.9/102.7 + 27.1/102.7 = 0.27 \leq 1$ [4.4.7b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$Mx = 1173.3; My = -36122.7; N = -270.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(0.98^2 + 0.04^2)} = 0.98 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$Tx = -173.5; Ty = 7.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.13 + 0 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$Tx = -102.3; Ty = -40.4; Mt = 4075.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

$2.45 \leq 18.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$Mt = 4075.6$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

$33.8/0=107312.5 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0



Luce/Uinst,var > limite
 $33.8/0=147365.7 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18

$K_{def} = 0.6$

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

$33.8/0=79967.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Asta 54: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2/85.3)^2 + 0.7 \cdot 0.4/74.7 + 21.3/74.7 = 0.29 \leq 1$ [4.4.7b] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -468.9$; $M_y = -28439.4$; $N = -807.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(3.93^2 + 0.2^2)} = 3.94 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -698.9$; $T_y = -35.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.28 + 0.06 + 0 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -698.9$; $T_y = -35.9$; $M_t = -8577.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$5.18 \leq 18.4$ Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = -8619$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 19.1

$K_{def} = 0$

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0



Luce/Uinst,tot > limite
 $33.8/0=19058.5 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 19.1

Kdef = 0
 Uinst var in x = 0
 Uinst var in y = 0
 Uinst var = 0

Luce/Uinst,var > limite
 $33.8/0=30826.6 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 19.1

Kdef = 0.6
 Ufin in x = 0
 Ufin in y = 0
 Ufin = 0

Luce/Ufin > limite
 $33.8/0=15506.7 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Neve = $0,500 + 0,500 = 1,000$

Asta 55: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 33.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.8/85.3)^2 + 0.7 \cdot 10.9/74.7 + 33.1/74.7 = 0.55 \leq 1$ [4.4.7b] Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mx = 14467.8; My = -44076.3; N = -3102.2

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(2.37^2 + 0.26^2)} = 2.39 \leq 16$ Comb: SLU, 30; Durata minima del carico nella combinazione: media

Tx = -421.7; Ty = -45.4

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0.02 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -402.9; Ty = -42.8; Mt = 1963.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.95 \leq 25.3$ Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo



Mt = 3241.8

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=8870.1 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=13314.4 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=7389 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Asta 56: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 18.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 18.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$

$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$

$(8.7/85.3)^2 + 0.7*3.7/74.7 + 42.9/74.7 = 0.62 \leq 1$ [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mx = 4903.5; My = -57200.5; N = -3489.6

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau,d \leq fv,d$

$\sqrt{3.7^2 + 0.29^2} = 3.71 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -658; Ty = 51.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau,tor,d/(ksh*fv,d) + (\tau,y,d/fv,d)^2 + (\tau,z,d/fv,d)^2 \leq 1$

0.59 + 0.05 + 0 <= 1 Comb: SLU, 30; Durata minima del carico nella combinazione: media



Tx = -644.3; Ty = 48.5; Mt = -18037.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 18.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh \cdot f_{v,d}$

10.9 <= 18.4 Comb: SLU, 29; Durata minima del carico nella combinazione: media

Mt = -18146.3

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 9.5

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

18.9/0=11549.3 > 300 Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 9.5

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

18.9/0=16777.5 > 300 Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 9.5

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

18.9/0=9730 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Asta 57: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 13.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$Sm_{y,d}/f_{m,y,d} + Km \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$

$Km \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

99.1/74.7+0.7*85.5/74.7=2.13 > 1 (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 157347.6; My = 106157.9

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$



$\text{Sqrt}(5.98^2+9.56^2) = 11.27 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -1100$; $T_y = -1758.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 13.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$
 $3.93+0.15+0.34 > 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $T_x = -1124.9$; $T_y = -1714.5$; $M_t = 124101.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 13.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} > K_{sh} \cdot f_{v,d}$
 $74.9 > 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_t = 124101.1$

Asta 58: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 57.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\text{Sqrt}(1.38^2+15.27^2) = 15.33 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = 253.3$; $T_y = 2809.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.1/85.3)^2 + 155.4/74.7 + 0.7 \cdot 19.9/74.67 = 2.27 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = 246627.1$; $M_y = 24687.8$; $N = -469.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$
 $0.29+0.01+0.91 > 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $T_x = 253.3$; $T_y = 2809.3$; $M_t = 9042.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 57.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $5.49 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = 9093.7$

Asta 59: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 12.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.98^2 + 12.81^2)} = 12.85 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 179.5$; $T_y = 2357$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.4/85.3)^2 + 62.9/74.7 + 0.7 \cdot 32.5/74.67 = 1.15 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 99755.2$; $M_y = 40386.8$; $N = -568.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.27 + 0 + 0.64 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 179.5$; $T_y = 2357$; $M_t = 8443.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 12.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$5.15 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 8534.8$

Asta 60: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 87

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.03^2 + 10.49^2)} = 10.54 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -189.5$; $T_y = 1930.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

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Kmod = 0.8

$$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$$

$$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$$

$$(2.8/85.3)^2 + 48.6/74.7 + 0.7*27.7/74.67 = 0.91 \leq 1 \text{ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media}$$

$$Mx = 77191.5; My = 34433; N = -1148.4$$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$$\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$$

$$0.23 + 0 + 0.43 \leq 1 \text{ Comb: SLU, 72; Durata minima del carico nella combinazione: media}$$

$$Tx = -189.5; Ty = 1930.9; Mt = 7239.5$$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 87

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$$\tau_{tor,d} \leq Ksh * fv,d$$

$$4.37 \leq 19.07 \text{ Comb: SLU, 72; Durata minima del carico nella combinazione: media}$$

$$Mt = 7239.5$$

Asta 61: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 99.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$$\tau_{d} \leq fv,d$$

$$\sqrt{(1.89^2 + 5.36^2)} = 5.68 \leq 16 \text{ Comb: SLU, 72; Durata minima del carico nella combinazione: media}$$

$$Tx = -348; Ty = 986.4$$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 99.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$$

$$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$$

$$(5.2/85.3)^2 + 79.3/74.7 + 0.7*16.7/74.67 = 1.22 > 1 \text{ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA}$$

$$Mx = -125860.9; My = -20682.4; N = -2137.9$$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$$\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$$

$$0.06 + 0.01 + 0.11 \leq 1 \text{ Comb: SLU, 72; Durata minima del carico nella combinazione: media}$$

$$Tx = -348; Ty = 986.4; Mt = 1839.8$$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 99.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$$\tau_{tor,d} \leq Ksh * fv,d$$

$$1.59 \leq 26.22 \text{ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo}$$

$$Mt = 2637.8$$



Asta 62: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 59

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 59

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.3^2 + 1.17^2)} = 2.58 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -423.8$; $T_y = -215.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 59

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.6/85.3)^2 + 68.1/74.7 + 0.7 \cdot 36.6/74.67 = 1.26 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -108076.4$; $M_y = -45467.7$; $N = -2751.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0 \leq 1$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -208.3$; $T_y = 45.7$; $M_t = 1788.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 59

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.1 \leq 26.22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = -1818.5$

Asta 63: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 42

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 42

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.36^2 + 2.37^2)} = 2.4 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 66.6$; $T_y = -436.7$



Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$$

$$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$$

$(5.9/85.3)^2 + 74.6/74.7 + 0.7*17.4/74.67 = 1.17 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -118406.9$; $M_y = -21668.4$; $N = -2453$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 42

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$$\tau_{tor,d}/(k_{sh}*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$$

$0.39 + 0 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 136.5$; $T_y = -410.6$; $M_t = -12289$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 42

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$$\tau_{tor,d} \leq K_{sh} * fv,d$$

$7.42 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -12289$

Asta 64: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 98.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 98.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$$\tau_{d} \leq fv,d$$

$\sqrt{0.06^2 + 3.61^2} = 3.61 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 11.5$; $T_y = -663.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$$

$$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$$

$(5.9/85.3)^2 + 59.2/74.7 + 0.7*10.1/74.67 = 0.89 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = -93955$; $M_y = -12553$; $N = -2432.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 98.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$$\tau_{tor,d}/(k_{sh}*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$$

$0.21 + 0 + 0.05 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 37.2$; $T_y = -656.9$; $M_t = -6622.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 98.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$$\tau_{tor,d} \leq K_{sh} * fv,d$$



4 <= 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = -6622.8

Asta 65: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 99.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 99.4
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau, d \leq f_{v,d}$
 $\text{Sqrt}(0.04^2 + 3.88^2) = 3.88 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = 7.6; Ty = -714.7

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(5.4/85.3)^2 + 21.8/74.7 + 0.7 * 6.8/74.67 = 0.36 \leq 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media
Mx = -34603; My = -8443.4; N = -2220.4

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 99.4
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.1 + 0 + 0.06 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = 7.6; Ty = -714.7; Mt = -3302.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 99.4
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
2 <= 19.07 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mt = -3306.1

Asta 66: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 110.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 110.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(0.22^2 + 2.15^2)} = 2.16 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -40.4$; $T_y = -395.8$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 110.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(5.1/85.3)^2 + 46.6/74.7 + 0.7 \cdot 7.4/74.67 = 0.7 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 74017.8$; $M_y = -9149.8$; $N = -2121.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 110.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.02 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -37.8$; $T_y = -395.3$; $M_t = -1693.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 110.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.02 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -1693.6$

Asta 67: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 74.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(0.98^2 + 15.84^2)} = 15.87 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 179.7$; $T_y = 2914$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(3.5/85.3)^2 + 163/74.7 + 0.7 \cdot 52.4/74.67 = 2.68 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 258634.3$; $M_y = -65061.8$; $N = -1448.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 > 1$

$0.54 + 0 + 0.98 > 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 179.7$; $T_y = 2914$; $M_t = -16970.1$



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 74.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

10.25 \leq 19.07 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = -16982.9

Asta 68: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 103.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.72^2 + 11.25^2)} = 11.57 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = 499.7; Ty = 2069.2

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 103.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.3/85.3)^2 + 68/74.7 + 0.7 * 4.5/74.67 = 0.96 \leq 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mx = -107857.2; My = 5626.7; N = -2208

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.2 + 0.03 + 0.49 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = 499.7; Ty = 2069.2; Mt = -6219.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 103.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

3.75 \leq 19.07 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = -6219.3

Asta 69: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 104.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.34^2 + 6.76^2} = 6.89 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 247.4$; $T_y = 1243.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 104.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.1/85.3)^2 + 123.4/74.7 + 0.7 \cdot 23.4/74.67 = 1.88 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -195832.6$; $M_y = 29008.8$; $N = -2127$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0.01 + 0.18 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 246.8$; $T_y = 1242.7$; $M_t = 431.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.6 \leq 26.22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = 994.6$

Asta 70: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 116.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.62^2 + 2.76^2} = 2.83 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 114.5$; $T_y = 507.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 116.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5/85.3)^2 + 130.9/74.7 + 0.7 \cdot 30.7/74.67 = 2.04 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -207659.1$; $M_y = 38151.6$; $N = -2064.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 0.19+0+0.03 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 110.8; Ty = 507.6; Mt = 5905.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 116.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot fv,d$
 3.56 <= 19.07 Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Mt = 5906.5

Asta 71: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 90.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 90.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq fv,d$
 $\sqrt{0.86^2 + 7.19^2} = 7.24 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -158.3; Ty = -1323.6

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$
 $(Sc_{0,d}/fc_{0,d})^2 + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $(7.1/85.3)^2 + 119.4/74.7 + 0.7 \cdot 35/74.67 = 1.93 \ngtr 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -189448.3; My = 43461.3; N = -2931.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 90.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 0.08+0+0.2 <= 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Tx = -164.5; Ty = -1321.6; Mt = 2663.6

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 90.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot fv,d$
 1.62 <= 19.07 Comb: SLU, 29; Durata minima del carico nella combinazione: media
 Mt = 2689.1

Asta 72: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.41^2 + 6.72^2)} = 6.74 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -75.8$; $T_y = -1237.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(6.7/85.3)^2 + 39.9/74.7 + 0.7 * 19.7/74.67 = 0.73 \leq 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_x = -63359.5$; $M_y = 24468.8$; $N = -2793$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.06 + 0 + 0.18 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -80.9$; $T_y = -1235.2$; $M_t = 1770.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $1.08 \leq 19.07$ Comb: SLU, 29; Durata minima del carico nella combinazione: media
 $M_t = 1797.4$

Asta 73: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 118.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 118.2
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.05^2 + 3.33^2)} = 3.33 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -9.3$; $T_y = -613.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 118.2
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(5.8/85.3)^2 + 88.1/74.7 + 0.7 * 10.3/74.67 = 1.28 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = 139776.1$; $M_y = 12747.5$; $N = -2410.9$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 118.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05+0+0.04 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -16.5$; $T_y = -610.2$; $M_t = 1732.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 118.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.05 \leq 19.07$ Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = 1735.4$

Asta 74: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 127.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 127.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$2.8/52.8+0.7 \cdot 11.1/102.7+20.4/102.7=0.33 \leq 1$ [4.4.6b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = -17652.8$; $M_y = 25360.9$; $N = 1144.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.41^2+1.41^2} = 1.47 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 76.4$; $T_y = 259.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02+0+0.01 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 76.4$; $T_y = 259.8$; $M_t = 601.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 127.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.57 \leq 26.22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 946$

Asta 75: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 104.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.9/38.4 + 35.9/74.7 + 0.7*14.4/74.7 = 0.67 \leq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$Mx = -56967.9$; $My = 17917.9$; $N = 800.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.03^2 + 2.36^2} = 2.36 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 4.7$; $T_y = 435.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.18 + 0 + 0.02 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 5.2$; $T_y = 434.3$; $M_t = 5654.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

$3.41 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 5654.9$

Asta 76: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 104.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) > 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$2.1/38.4 + 64.3/74.7 + 0.7*11.7/74.7 = 1.03 > 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$Mx = -102005.8$; $My = 14528.1$; $N = 885.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.35^2 + 2.47^2} = 2.49 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -65.3$; $T_y = 453.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.41 + 0 + 0.02 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -61.9$; $T_y = 453.6$; $M_t = 12872.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$7.77 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 12872.3$

Asta 77: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 63.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 63.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$St_{,0,d}/ft_{,0,d} + Sm_{,y,d}/fm_{,y,d} + Km \cdot (Sm_{,z,d}/fm_{,z,d}) \geq 1$

$St_{,0,d}/ft_{,0,d} + Km \cdot (Sm_{,y,d}/fm_{,y,d}) + Sm_{,z,d}/fm_{,z,d} \leq 1$

$2.6/38.4 + 84.1/74.7 + 0.7 \cdot 3/74.7 = 1.22 \geq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -133428.7$; $M_y = 3682.8$; $N = 1076.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{1.27^2 + 2.2^2} = 2.54 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -234.4$; $T_y = 404.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.72 + 0.01 + 0.02 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -219.2$; $T_y = 402.8$; $M_t = 22650.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 63.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$13.67 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 22650.3$



Asta 78: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 40.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$3.7/38.4 + 100.7/74.7 + 0.7*13.9/74.7 = 1.58 \leq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -159786.1$; $M_y = 17310.2$; $N = 1549.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 40.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.57^2 + 4.42^2} = 4.45 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 104.2$; $T_y = -813$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 40.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.27 + 0 + 0.08 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 104.2$; $T_y = -813$; $M_t = -8506.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 40.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$5.14 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -8521.5$

Asta 79: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 104.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$4.4/38.4 + 87.3/74.7 + 0.7*20.2/74.7 = 1.47 \leq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Mx = -138469.6; My = 25070.2; N = 1832.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.59^2 + 4.09^2} = 4.13 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -108.9; Ty = -751.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.06+0+0.07 ≤ 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -109.9; Ty = -751.3; Mt = 2000.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

1.21 ≤ 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = 2000.8

Asta 80: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 104.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

4.1/38.4+39.4/74.7+0.7*4.3/74.7=0.67 ≤ 1 [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mx = 62494.8; My = -5337.9; N = 1691.6

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.84^2 + 6.59^2} = 6.65 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -155.4; Ty = -1213.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.21+0+0.17 ≤ 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -154.7; Ty = -1212.6; Mt = -6491.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



3.92 <= 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = -6492.1

Asta 81: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 71.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 71.2
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $3.8/38.4 + 114.3/74.7 + 0.7 \cdot 20.7/74.7 = 1.82 \leq 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = 181427.5; My = -25676.6; N = 1567.6

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 71.2
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{t,d} \leq f_{v,d}$
 $\sqrt{(1.04^2 + 8.51^2)} = 8.57 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
Tx = -191.8; Ty = -1565.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 71.2
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.59 + 0 + 0.28 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
Tx = -199.6; Ty = -1562.5; Mt = -18568.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 71.2
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$
 $11.21 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
Mt = -18568.8

Asta 82: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 129.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(1.19^2 + 11.84^2)} = 11.9 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 219.6$; $T_y = 2178$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 129.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.8/85.3)^2 + 102.4/74.7 + 0.7 \cdot 21.3/74.67 = 1.58 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -162552.5$; $M_y = 26503.8$; $N = -2835.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,y,d}/f_{v,d})^2 + (\tau_{t,z,d}/f_{v,d})^2 \leq 1$

$0.19 + 0.01 + 0.55 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 219.6$; $T_y = 2178$; $M_t = -6040.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 129.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.69 \leq 19.07$ Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = -6106.4$

Asta 83: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(1.46^2 + 8^2)} = 8.13 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 268.4$; $T_y = 1471.8$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.4/85.3)^2 + 194.7/74.7 + 0.7 \cdot 45.9/74.67 = 3.04 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -308956.6$; $M_y = 56968.6$; $N = -3084$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,y,d}/f_{v,d})^2 + (\tau_{t,z,d}/f_{v,d})^2 \leq 1$

$0.15 + 0.01 + 0.25 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 268.2$; $T_y = 1471.7$; $M_t = 4728.4$



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

2.85 \leq 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 4728.4$

Asta 84: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.43^2 + 4.1^2} = 4.12 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 80$; $T_y = 754.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(7.4/85.3)^2 + 239.4/74.7 + 0.7 * 53.5/74.67 = 3.71 \ngtr 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -379862$; $M_y = 66434.2$; $N = -3074$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.34 + 0 + 0.07 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 79.9$; $T_y = 754.5$; $M_t = 10632.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

6.42 \leq 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 10632.2$

Asta 85: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 59.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 59.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.74^2 + 1.53^2} = 1.7 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -135.9$; $T_y = -281.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(7.4/85.3)^2 + 237.4/74.7 + 0.7 \cdot 52.7/74.67 = 3.68 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -376797.2$; $M_y = 65392.4$; $N = -3045.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 59.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.28 + 0 + 0.01 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -135.9$; $T_y = -281.2$; $M_t = 8810.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 59.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $5.32 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = 8810.8$

Asta 86: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 42.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 42.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.48^2 + 5.6^2} = 5.62 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -88.5$; $T_y = -1030.8$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(7.5/85.3)^2 + 206.5/74.7 + 0.7 \cdot 40.7/74.67 = 3.15 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -327682.2$; $M_y = 50505.7$; $N = -3095.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 42.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

1.24+0+0.12 > 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Tx = -88.5; Ty = -1030.8; Mt = 39249.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 42.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} > Ksh \cdot f_{v,d}$

23.69 > 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mt = 39249.3

Asta 87: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.55^2 + 7.98^2} = 8 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -101.1; Ty = -1469.2

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.5/85.3)^2 + 169.6/74.7 + 0.7 \cdot 32.1/74.67 = 2.58 ! > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -269183.2; My = 39825; N = -3115.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.62+0+0.25 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -99.2; Ty = -1469.3; Mt = 19673.6

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh \cdot f_{v,d}$

11.87 <= 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = 19673.6

Asta 88: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.75^2 + 9.58^2)} = 9.61 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -138.5$; $T_y = -1762.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(7.5/85.3)^2 + 84.4/74.7 + 0.7 \cdot 19.3/74.67 = 1.32 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -133885.7$; $M_y = 24030.8$; $N = -3107.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.18 + 0 + 0.36 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -136.8$; $T_y = -1761.9$; $M_t = 5714.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $3.45 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = 5714.6$

Asta 89: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.81^2 + 10.17^2)} = 10.2 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -148.6$; $T_y = -1871.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(8/85.3)^2 + 133.1/74.7 + 0.7 \cdot 8.7/74.67 = 1.87 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = 211257.7$; $M_y = -10815.6$; $N = -3325.3$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.18+0+0.4 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -148.6$; $T_y = -1871.6$; $M_t = -5752.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.47 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -5752.1$

Asta 90: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 60.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 60.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.58^2 + 7.51^2} = 7.54 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -107.2$; $T_y = -1382.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 60.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + k_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + k_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.5/85.3)^2 + 194.3/74.7 + 0.7 \cdot 19.8/74.67 = 2.8 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 308344.2$; $M_y = -24552.3$; $N = -3111.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 60.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.76+0+0.22 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -107.1$; $T_y = -1382$; $M_t = -24136.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 60.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$14.58 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -24156.6$

Asta 91: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 18.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) > 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} > 1$

$104.2/74.7 + 0.7 \cdot 41.3/74.7 = 1.78 > 1$ (formula 4.4.5a) Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 165366.9$; $M_y = 51349.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} > f_{v,d}$

$\sqrt{6.35^2 + 19.9^2} = 20.89 > 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -1169.2$; $T_y = 3661.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 > 1$

$4.23 + 0.16 + 1.55 > 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -1169.2$; $T_y = 3661.7$; $M_t = 133563$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 18.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} > K_{sh} \cdot f_{v,d}$

$80.61 > 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_t = 133563$

Asta 92: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 10.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$St_{,0,d} \leq f_{t,0,d}$

$0.08 \leq 52.8$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

$N = 34.3$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

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Kmod = 0.8
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $0.1/74.7 + 0.7 \cdot 0/74.7 = 0 \leq 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mx = 88.6; My = 0

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{0^2 + 0.09^2} = 0.09 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 0; Ty = 16.6

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; kcr = 0.67
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0 + 0 + 0 \leq 1$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 Tx = 5.7; Ty = 5.2; Mt = 5.1

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 10.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0 \leq 26.22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 Mt = 5.1

Asta 93: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 123.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{1.13^2 + 12.06^2} = 12.11 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -207.4; Ty = 2218.7

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 123.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(5.2/85.3)^2 + 113.7/74.7 + 0.7 \cdot 19.4/74.67 = 1.71 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -180446.4; My = -24083.7; N = -2138

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.06 + 0 + 0.57 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -207.4; Ty = 2218.7; Mt = 1976.4



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 123.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

1.24 \leq 19.07 Comb: SLU, 38; Durata minima del carico nella combinazione: media

Mt = 2055.5

Asta 94: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.7^2 + 8.28^2)} = 8.46 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -312.6; Ty = 1524.2

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(5.9/85.3)^2 + 208.5/74.7 + 0.7 * 47.5/74.67 = 3.24 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -330842.9; My = -59014.7; N = -2461

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.23 + 0.01 + 0.27 \leq 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -312.4; Ty = 1524.1; Mt = -7416

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

4.48 \leq 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = -7416

Asta 95: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.54^2 + 4.44^2} = 4.47 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -99.8$; $T_y = 817.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.9/85.3)^2 + 255.4/74.7 + 0.7 \cdot 56.7/74.67 = 3.96 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -405394.6$; $M_y = -70428.9$; $N = -2432.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.39 + 0 + 0.08 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -99.9$; $T_y = 817.1$; $M_t = -12358.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$7.46 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -12358.2$

Asta 96: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 65.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 65.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.62^2 + 1.42^2} = 1.55 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 114.8$; $T_y = -260.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.8/85.3)^2 + 253.5/74.7 + 0.7 \cdot 56.7/74.67 = 3.92 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -402232.1$; $M_y = -69504.9$; $N = -2413$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 65.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 0.33+0+0.01 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 114.8; Ty = -260.5; Mt = -10484.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 65.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh * fv,d$
 6.33 <= 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = -10484.3

Asta 97: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 36.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 36.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq fv,d$
 $\sqrt{0.44^2 + 5.77^2} = 5.78 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Tx = 80.3; Ty = -1061

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $(5.8/85.3)^2 + 223.9/74.7 + 0.7*43.2/74.67 = 3.41 ! > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -355356.6; My = -53626.9; N = -2401.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 36.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 > 1$
 1.31+0+0.13 > 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Tx = 78.4; Ty = -1061.1; Mt = -41367.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 36.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} > Ksh * fv,d$
 24.97 > 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mt = -41367.7

Asta 98: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.53^2 + 8.24^2)} = 8.26 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 97.4$; $T_y = -1516.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(5.8/85.3)^2 + 188.6/74.7 + 0.7 \cdot 35.1/74.67 = 2.86 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -299314.1$; $M_y = -43613.1$; $N = -2400.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.66 + 0 + 0.27 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 96.1$; $T_y = -1516.6$; $M_t = -20841.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $12.58 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = -20841.5$

Asta 99: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.69^2 + 9.92^2)} = 9.95 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 127$; $T_y = -1825.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(6/85.3)^2 + 100.4/74.7 + 0.7 \cdot 22.5/74.67 = 1.56 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -159407.9$; $M_y = -28002.2$; $N = -2488.9$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.2+0+0.38 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 126$; $T_y = -1825$; $M_t = -6215.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.75 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -6215.5$

Asta 100: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.81^2+10.56^2} = 10.59 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 148.5$; $T_y = -1943.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.6/85.3)^2 + 124.9/74.7 + 0.7 \cdot 4.8/74.67 = 1.72 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 198169.2$; $M_y = 6019.7$; $N = -2751.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.17+0+0.44 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 148.5$; $T_y = -1943.1$; $M_t = 5485.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.31 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 5485.6$

Asta 101: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 66.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 66.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.47^2 + 8.47^2} = 8.48 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 86.3$; $T_y = -1558.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 66.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.2/85.3)^2 + 196.6/74.7 + 0.7 \cdot 15.1/74.67 = 2.78 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 312051$; $M_y = 18791$; $N = -2585.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 66.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.69 + 0 + 0.28 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 86.1$; $T_y = -1557.5$; $M_t = 21926$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 66.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$13.24 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 21931.3$

Asta 102: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 18.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$2.8/38.4 + 122.7/74.7 + 0.7 \cdot 40.3/74.7 = 2.09 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 194731$; $M_y = -50027.1$; $N = 1163.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} > f_{v,d}$

$\sqrt{5.1^2 + 34.81^2} = 35.18 > 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 938$; $T_y = 6405.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 > 1$

$4.29 + 0.1 + 4.73 > 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 938$; $T_y = 6405.2$; $M_t = -135579.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 18.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} > k_{sh} \cdot f_{v,d}$

$81.84 > 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_t = -135590.1$

Asta 103: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 10.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 10.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$1.1/52.8 + 0.7 \cdot 102.7 + 0.1/102.7 = 0.02 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 45.8$; $M_y = -64.7$; $N = 444.8$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 9.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0 \leq 38.4$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$N = 0.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0^2 + 0.09^2} = 0.09 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 0$; $T_y = 16.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0 \leq 1$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -11.1$; $T_y = 5.1$; $M_t = 3.8$



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 10.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0 \leq 26.22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = -3.8$

Asta 104: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 25.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 25.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.65^2 + 4.52^2} = 4.56 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 119.6$; $T_y = -831.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 25.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.5/85.3)^2 + 88.3/74.7 + 0.7 * 9.4/74.67 = 1.27 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 140119.9$; $M_y = 11644.4$; $N = -2264.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 25.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.2 + 0 + 0.08 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 119.6$; $T_y = -831.3$; $M_t = 6361.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 25.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$3.84 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 6361.7$

Asta 105: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 105.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.1^2 + 4.6^2} = 4.6 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 19.3$; $T_y = 846.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(8.1/85.3)^2 + 82.5/74.7 + 0.7 \cdot 7.7/74.67 = 1.19 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = 130901.7$; $M_y = 9622.7$; $N = -3360.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.08 + 0 + 0.08 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 19.9$; $T_y = 845.9$; $M_t = -2412$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 105.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $1.46 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = -2413.9$

Asta 106: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 105.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.65^2 + 7.67^2} = 7.69 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 119.3$; $T_y = 1410.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 105.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(8.8/85.3)^2 + 60.4/74.7 + 0.7 \cdot 20.4/74.67 = 1.01 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -95892.4$; $M_y = 25348.7$; $N = -3630.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03 + 0 + 0.23 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 119.3; Ty = 1410.7; Mt = -825.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 105.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$
 $1.25 \leq 26.22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Mt = -2079

Asta 107: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 80

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.15^2 + 6.9^2)} = 6.99 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 211.6; Ty = 1268.9

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 80
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + Km \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$
 $(Sc_{0,d}/f_{c,0,d})^2 + Km \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$
 $(8.9/85.3)^2 + 125.4/74.7 + 0.7 \cdot 36.7/74.67 = 2.03 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -199069.2; My = 45567.8; N = -3682.5

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0 + 0.01 + 0.19 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 211.6; Ty = 1268.9; Mt = 118.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 80
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$
 $1.11 \leq 26.22$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo
 Mt = -1833.7

Asta 108: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 25.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 25.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.98^2 + 1.9^2)} = 2.74 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -363.5$; $T_y = -348.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(6.7/85.3)^2 + 123.4/74.7 + 0.7 \cdot 35.2/74.67 = 1.99 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -195877.1$; $M_y = 43710.9$; $N = -2774.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 25.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.18 + 0.01 + 0.01 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -354.9$; $T_y = -350.9$; $M_t = -5805.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 25.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $3.51 \leq 19.07$ Comb: SLU, 38; Durata minima del carico nella combinazione: media
 $M_t = -5808.3$

Asta 109: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 106.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 106.1
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.02^2 + 3.86^2)} = 4 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -188.5$; $T_y = -711.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(7/85.3)^2 + 134/74.7 + 0.7 \cdot 33/74.67 = 2.11 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -212616.5$; $M_y = 40981.3$; $N = -2914$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 106.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.17 + 0 + 0.06 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -185$; $T_y = -711.6$; $M_t = -5497$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.32 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -5499.2$

Asta 110: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 105.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 105.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.47^2 + 8.54^2)} = 8.67 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -270.7$; $T_y = -1572$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.9/85.3)^2 + 114.9/74.7 + 0.7 \cdot 20.1/74.67 = 1.73 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -182324.9$; $M_y = 249666.5$; $N = -2862.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 105.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0.01 + 0.29 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -270.7$; $T_y = -1572$; $M_t = 732.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 105.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.8 \leq 26.22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_t = 1318.4$

Asta 111: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 105.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 105.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.75^2 + 14.32^2)} = 14.58 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -506$; $T_y = -2634.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 105.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.3/85.3)^2 + 100.2/74.7 + 0.7 \cdot 44/74.67 = 1.76 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 159049.8$; $M_y = -54702.7$; $N = -2626.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 105.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.24 + 0.03 + 0.8 > 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -500.3$; $T_y = -2635.4$; $M_t = 7723.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 105.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.66 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 7723.2$

Asta 112: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 51.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 51.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{(0.73^2 + 18.99^2)} = 19.01 > 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -134.2$; $T_y = -3494.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 51.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

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Kmod = 0.8

$$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$$

$$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$$

$$(4/85.3)^2 + 207.1/74.7 + 0.7*54.1/74.67 = 3.28 > 1 \text{ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA}$$

Mx = 328736.5; My = -67162.5; N = -1655.8

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 51.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$$\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 > 1$$

$$0.58 + 0 + 1.41 > 1 \text{ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA}$$

Tx = -134.2; Ty = -3494.9; Mt = 18201.6

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 51.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$$\tau_{tor,d} \leq Ksh * fv,d$$

$$11 \leq 19.07 \text{ Comb: SLU, 79; Durata minima del carico nella combinazione: media}$$

Mt = 18228.2

Asta 113: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 13.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$$\tau_{d} \leq fv,d$$

$$\text{Sqrt}(1.98^2 + 1.5^2) = 2.48 \leq 22 \text{ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo}$$

Tx = -363.8; Ty = 276.8

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$$

$$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$$

$$(6.1/85.3)^2 + 145.4/74.7 + 0.7*88/74.67 = 2.78 > 1 \text{ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA}$$

Mx = 230753.5; My = -109309.8; N = -2545.6

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$$\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 > 1$$

$$3.35 + 0 + 0 > 1 \text{ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA}$$

Tx = -160.1; Ty = -133.7; Mt = -105845.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$$\tau_{tor,d} > Ksh * fv,d$$

$$63.88 > 19.07 \text{ Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA}$$

Mt = -105845.8



Asta 114: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 35

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{1.41^2 + 18.49^2} = 18.54 > 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -259.8$; $T_y = 3402.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.6/85.3)^2 + 184.9/74.7 + 0.7 \cdot 20.9/74.67 = 2.67 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 293379.9$; $M_y = -25905$; $N = -1891.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.49 + 0.01 + 1.34 > 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -259.8$; $T_y = 3402.3$; $M_t = -15544.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 35

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$9.48 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -15699.1$

Asta 115: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 12.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{1.68^2 + 16.77^2} = 16.85 > 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -308.6$; $T_y = 3085.9$



Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5/85.3)^2 + 112.9/74.7 + 0.7 \cdot 29.4/74.67 = 1.79 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 179205.8$; $M_y = -36457.8$; $N = -2073.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.52 + 0.01 + 1.1 > 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -308.6$; $T_y = 3085.9$; $M_t = -16567.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 12.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$10.12 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -16766$

Asta 116: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 87.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.32^2 + 14^2} = 14.01 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 58.7$; $T_y = 2576.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.5/85.3)^2 + 89/74.7 + 0.7 \cdot 24.4/74.67 = 1.43 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 141302.3$; $M_y = -30247.3$; $N = -2689.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.33 + 0 + 0.77 > 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 58.7$; $T_y = 2576.6$; $M_t = -10290.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 87.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



6.21 <= 19.07 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mt = -10290.6

Asta 117: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 100.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau, d \leq f_{v,d}$
 $\text{Sqrt}(2.05^2 + 7.73^2) = 8 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
Tx = 376.6; Ty = 1422.3

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 100.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(9.7/85.3)^2 + 102.3/74.7 + 0.7 \cdot 14.4/74.67 = 1.52 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = -162390.7; My = 17908.6; N = -4036.2

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.16 + 0.02 + 0.23 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
Tx = 376.6; Ty = 1422.3; Mt = -4981.1

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 100.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $3.01 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mt = -4981.1

Asta 118: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 73.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.77^2 + 1.57^2)} = 3.18 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 509.7; Ty = 288.3

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 73.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(11.9/85.3)^2 + 96.4/74.7 + 0.7 \cdot 46/74.67 = 1.74 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -152954.6; My = 57082.1; N = -4909.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0.03 + 0.01 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 509.7; Ty = 288.3; Mt = -2383.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 73.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.44 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = -2383.7

Asta 119: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 29.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 29.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.62^2 + 3.7^2)} = 3.75 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -113.2; Ty = -680.7

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(10.6/85.3)^2 + 102/74.7 + 0.7 \cdot 20.3/74.67 = 1.57 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -161819.8; My = 25254.8; N = -4407.6

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 29.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.69 + 0 + 0.05 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -193.1; Ty = -652; Mt = 21702.4



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 29.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

13.1 \leq 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 21702.4$

Asta 120: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 100.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.13^2 + 4.89^2} = 4.89 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -24$; $T_y = -899.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(10.5/85.3)^2 + 82.4/74.7 + 0.7 * 11.9/74.67 = 1.23 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -130784.8$; $M_y = 14725.7$; $N = -4364.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.37 + 0 + 0.09 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -55.7$; $T_y = -891.2$; $M_t = 11576.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

6.99 \leq 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 11576.4$

Asta 121: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 100.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.22^2 + 4.94^2} = 4.94 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -39.8$; $T_y = -908.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(9.6/85.3)^2 + 29.3/74.7 + 0.7 \cdot 6.8/74.67 = 0.47 \leq 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -46548.7$; $M_y = 8473.4$; $N = -3959$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.2 + 0 + 0.1 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -39.8$; $T_y = -908.9$; $M_t = 6161.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.72 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 6161.9$

Asta 122: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 101.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 101.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.11^2 + 2.92^2} = 2.92 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 21.1$; $T_y = -536.4$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 101.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(9.6/85.3)^2 + 59.2/74.7 + 0.7 \cdot 3/74.67 = 0.83 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 93974.6$; $M_y = 3700.1$; $N = -3960$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 101.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67
 $\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$
 0.09+0+0.03 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 21.1; Ty = -536.4; Mt = 2991.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 101.1
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$
 1.81 <= 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Mt = 2991.2

Asta 123: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 20.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{\text{d}} \leq f_{\text{v,d}}$
 $\text{Sqrt}(0.19^2 + 3.63^2) = 3.64 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -35; Ty = 668.2

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $(S_{\text{c},0,\text{d}} / f_{\text{c},0,\text{d}})^2 + S_{\text{m},\text{y},\text{d}} / f_{\text{m},\text{y},\text{d}} + K_{\text{m}} \cdot (S_{\text{m},\text{z},\text{d}} / f_{\text{m},\text{z},\text{d}}) \leq 1$
 $(S_{\text{c},0,\text{d}} / f_{\text{c},0,\text{d}})^2 + K_{\text{m}} \cdot (S_{\text{m},\text{y},\text{d}} / f_{\text{m},\text{y},\text{d}}) + S_{\text{m},\text{z},\text{d}} / f_{\text{m},\text{z},\text{d}} \leq 1$
 $(6.9/85.3)^2 + 60.2/74.7 + 0.7 \cdot 4.9/74.67 = 0.86 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Mx = 95522.5; My = 6074.9; N = -2868.4

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$
 0.11+0+0.05 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -35; Ty = 668.2; Mt = -3455.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 20.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$
 2.09 <= 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = -3455.4

Asta 124: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 37.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$9.1/57.3 + 0.7 \cdot 0.6/111.3 + 44.9/111.3 = 0.57 \leq 1$ [4.4.6b] Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

$M_x = 78.5$; $M_y = -4789.1$; $N = 731.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(2.33^2 + 0.29^2)} = 2.35 \leq 22$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$T_x = -82.9$; $T_y = -10.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{t,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,y,d}/f_{v,d})^2 + (\tau_{t,z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0.01 + 0 \leq 1$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -66.8$; $T_y = -13.2$; $M_t = 196.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{t,tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.39 \leq 26.13$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = 196.5$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 19.8

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

$37.2/0 = 19724.5 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 19.8

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$

$37.2/0 = 35897.4 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 19.8

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$Luce/U_{fin} > \text{limite}$

$37.2/0 = 15527.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$



Asta 125: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 37.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 9.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.9/57.3 + 0.7 \cdot 0.5/111.3 + 21.2/111.3 = 0.28 \leq 1$ [4.4.6b] Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$M_x = 66.3$; $M_y = -2262.8$; $N = 393.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(2.21^2 + 0.14^2)} = 2.21 \leq 22$ Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

$T_x = 78.5$; $T_y = -5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0.01 + 0 \leq 1$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$T_x = -76.8$; $T_y = 6.2$; $M_t = -73.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.53 \leq 26.13$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = -74.5$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18.6

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} >$ limite

$37.2/0 = 13287.4 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18.6

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} >$ limite

$37.2/0 = 21011.1 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$



Luce/Ufin > limite

$37.2/0=10886.3 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Asta 126: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 37.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$6.6/57.3 + 0.7 \cdot 2.2/111.3 + 30.9/111.3 = 0.41 \leq 1$ [4.4.6b] Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$M_x = -289.4$; $M_y = -3294.2$; $N = 527.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(1.97^2 + 0.08^2)} = 1.97 \leq 22$ Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo

$T_x = 70$; $T_y = -2.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0 \leq 1$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$T_x = -42.6$; $T_y = 10.8$; $M_t = -127.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.9 \leq 26.13$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$M_t = -127.4$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 17.3

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot}$ > limite

$37.2/0=14551.4 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18.6

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var}$ > limite



37.2/0=21139.1 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 17.3

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

37.2/0=12255 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Asta 127: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 38.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 38.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$8.9/57.3 + 0.7*0.6/111.3 + 28.6/111.3 = 0.42 \leq 1$ [4.4.6b] Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

Mx = 84.4; My = -3045.4; N = 709.1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.77^2 + 0.5^2} = 1.84 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Tx = 62.9; Ty = 17.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0.01 + 0 \leq 1$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

Tx = 59.1; Ty = 14.9; Mt = -255.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 38.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.81 \leq 26.13$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

Mt = -255.8

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 20.7

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

38.9/0=23379.4 > 300 Comb: SLE rara, 9



Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 20.7

$K_{def} = 0$

$U_{inst, var} \text{ in } x = 0$

$U_{inst, var} \text{ in } y = 0$

$U_{inst, var} = 0$

$Luce/U_{inst, var} > \text{limite}$

$38.9/0 = 35600.9 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 20.7

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$Luce/U_{fin} > \text{limite}$

$38.9/0 = 19386.3 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 128: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 277.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 277.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(27.8/85.3)^2 + 307.8/81 + 0.7 \cdot 4.6/80.97 = 3.95 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -41042.8$; $M_y = -492.5$; $N = -2225.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.12^2 + 8.02^2} = 8.02 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -4.3$; $T_y = 285$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.25 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -4.1$; $T_y = 285$; $M_t = -51.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 277.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.37 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -51.7$



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 212.9

Kdef = 0

Uinst tot in x = 0.03

Uinst tot in y = -0.92

Uinst tot = 0.92

Luce/Uinst,tot > limite

277.6/0.92=300.8 > 300 Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 212.9

Kdef = 0

Uinst var in x = 0.02

Uinst var in y = -0.59

Uinst var = 0.59

Luce/Uinst,var > limite

277.6/0.59=467.3 > 300 Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 212.9

Kdef = 0.6

Ufin in x = 0.04

Ufin in y = -1.12

Ufin = 1.12

Luce/Ufin > limite

277.6/1.12=247.8 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Asta 129: Trave in legno a falda Falda 1 fili 170-171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 165.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.16^2 + 2.93^2)} = 2.94 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -5.7; Ty = -104.3

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(1.2/85.3)^2 + 115.3/81 + 0.7 \cdot 5.1/80.97 = 1.47 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 15372.8; My = -541.3; N = -96.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0+0+0.03 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media



Tx = -6.2; Ty = -104.1; Mt = 3.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq Ksh * f_{v,d}$

0.2 <= 26.13 Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

Mt = 28.7

Asta 130: Trave in legno a falda Falda 1 fili 170-171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.09^2 + 6.77^2)} = 6.78 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -3.2; Ty = 240.9

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + Km*(Sm_{z,d}/f_{m,z,d}) \leq 1$

$(Sc_{0,d}/f_{c,0,d})^2 + Km*(Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$(6.6/85.3)^2 + 268.6/81 + 0.7*2.8/80.97 = 3.35 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -35812; My = -303.5; N = -531.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.02+0+0.18 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -3.1; Ty = 240.7; Mt = -66.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

0.47 <= 19 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = -66.8

Asta 131: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 94.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.88^2 + 4.54^2)} = 4.91 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 345.2$; $T_y = 835.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.8/85.3)^2 + 22.8/74.7 + 0.7 \cdot 18.6/74.67 = 0.48 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_x = 36232.6$; $M_y = -23144.9$; $N = -756.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.07 + 0.01 + 0.08 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 345.2$; $T_y = 832.4$; $M_t = -2148.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 94.1
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $1.32 \leq 19.07$ Comb: SLU, 37; Durata minima del carico nella combinazione: media
 $M_t = -2180$

Asta 132: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.3^2 + 4.84^2)} = 5.01 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 239.2$; $T_y = 889.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.8/85.3)^2 + 42.8/74.7 + 0.7 \cdot 20/74.67 = 0.76 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_x = -67976.1$; $M_y = 24834.1$; $N = -760.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0



Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.11 + 0.01 + 0.09 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 239.2$; $T_y = 889.9$; $M_t = -3342.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.03 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = -3361$

Asta 133: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\text{Sqrt}(1.89^2 + 4.25^2) = 4.65 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 348.3$; $T_y = 781.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.8/85.3)^2 + 65.3/74.7 + 0.7 \cdot 38.8/74.67 = 1.24 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -103620.6$; $M_y = 48145.7$; $N = -765.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.12 + 0.01 + 0.07 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 348.3$; $T_y = 781.7$; $M_t = -3709.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.24 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = -3709.5$

Asta 134: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.84^2 + 4.54^2} = 4.61 \leq 16$ Comb: SLU, 29; Durata minima del carico nella combinazione: media
 $T_x = -154.5$; $T_y = 834.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 54
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.9/85.3)^2 + 81.1/74.7 + 0.7 \cdot 34.4/74.67 = 1.41 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -128779.3$; $M_y = 42781.1$; $N = -787.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.2 + 0 + 0.08 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -125.3$; $T_y = 822.2$; $M_t = -6273.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $3.81 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = -6306.4$

Asta 135: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{2.85^2 + 2.34^2} = 3.68 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -523.9$; $T_y = -430.4$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$



$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(1.9/85.3)^2 + 80.4/74.7 + 0.7*35.4/74.67 = 1.41 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $Mx = -127612.4; My = 43921.6; N = -778.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8; kcr = 0.67$
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 $0.11 + 0.03 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $Tx = -523.9; Ty = -430.4; Mt = -3476.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8$
 $\tau_{tor,d} \leq Ksh * fv,d$
 $2.11 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $Mt = -3491.6$

Asta 136: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8; kcr = 0.67$
 $\tau_{d} \leq fv,d$
 $\sqrt{0.8^2 + 5.5^2} = 5.56 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $Tx = -147; Ty = -1011.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8$
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(1.8/85.3)^2 + 79.2/74.7 + 0.7*8.1/74.67 = 1.14 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $Mx = -125690.9; My = 10019.8; N = -759.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8; kcr = 0.67$
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 $0.08 + 0 + 0.12 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $Tx = -147; Ty = -1011.6; Mt = -2457.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8$
 $\tau_{tor,d} \leq Ksh * fv,d$
 $1.48 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $Mt = -2457.8$



Asta 137: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 75.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 75.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.78^2 + 7.7^2)} = 7.74 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 144$; $T_y = -1416.8$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.8/85.3)^2 + 51.3/74.7 + 0.7 * 1.6/74.67 = 0.7 \leq 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_x = -81410.8$; $M_y = -2008.1$; $N = -752.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 75.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.23 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 144$; $T_y = -1416.8$; $M_t = -1433.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 75.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.87 \leq 19.07$ Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = -1442.7$

Asta 138: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 49.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 * 0.7/74.7 + 33.2/74.7 = 0.45 \leq 1$ (formula 4.4.5b) Comb: SLU, 71; Durata minima del carico nella combinazione: media



Mx = 1178.3; My = 41225.1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 49.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(5.32^2 + 1.17^2)} = 5.45 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -979.1; Ty = -216

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 49.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.02 + 0.11 + 0.01 ≤ 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -979.1; Ty = -216; Mt = -559.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 49.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

1.05 ≤ 26.22 Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mt = -1740.8

Asta 139: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(3.28^2 + 3.71^2)} = 4.95 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -603.1; Ty = 682.8

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(1/85.3)^2 + 0.7 \cdot 18.9/74.7 + 30.8/74.7 = 0.59 \leq 1$ [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mx = -30011; My = -38194; N = -411.2

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.01 + 0.04 + 0.05 ≤ 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -603.1; Ty = 682.8; Mt = 391

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



0.68 <= 26.22 Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo
Mt = 1120.8

Asta 140: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau, d \leq f_{v,d}$
 $\text{Sqrt}(0.5^2 + 4.63^2) = 4.66 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
Tx = -92.7; Ty = 852.8

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.3/85.3)^2 + 40.2/74.7 + 0.7 \cdot 31.1/74.67 = 0.83 \leq 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mx = -63847.3; My = -38633.9; N = -526.5

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.09 + 0 + 0.08 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = -97.5; Ty = 848.2; Mt = -2849.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $1.72 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = -2849.7

Asta 141: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.29^2 + 4.33^2)} = 4.9 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 422.2$; $T_y = 796.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 31.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.4/85.3)^2 + 51.7/74.7 + 0.7 \cdot 19.7/74.67 = 0.88 \leq 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -82004.6$; $M_y = -24468$; $N = -559.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12 + 0.02 + 0.07 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 411$; $T_y = 778.6$; $M_t = -3818.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.3 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -3818.7$

Asta 142: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.02^2 + 2.84^2)} = 3.02 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -187.2$; $T_y = -522.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.4/85.3)^2 + 55.6/74.7 + 0.7 \cdot 13/74.67 = 0.87 \leq 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -88217.6$; $M_y = -16153.3$; $N = -568.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.1 + 0 + 0.03 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -187.2$; $T_y = -522.9$; $M_t = -3020.1$



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

1.82 \leq 19.07 Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = -3022.6$

Asta 143: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(2.05^2 + 2.46^2)} = 3.2 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 377.9$; $T_y = -452.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(1.4/85.3)^2 + 48.1/74.7 + 0.7 * 17.9/74.67 = 0.81 \leq 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -76335.2$; $M_y = -22248.4$; $N = -568.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.13 + 0.02 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 371.9$; $T_y = -454.6$; $M_t = -4224$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

2.55 \leq 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -4224$

Asta 144: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 84

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.09^2 + 6.32^2} = 6.32 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -16.8$; $T_y = 1163.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 84

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.9/85.3)^2 + 48.7/74.7 + 0.7 \cdot 2.4/74.67 = 0.67 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = -77280.4$; $M_y = 2953.9$; $N = -778$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.16 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -16.8$; $T_y = 1163.5$; $M_t = 1007.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 84

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.15 \leq 26.22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = 1906.9$

Asta 145: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.92^2 + 4^2} = 4.1 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 168.8$; $T_y = 735.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.9/85.3)^2 + 67.2/74.7 + 0.7 \cdot 12/74.67 = 1.01 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -106629.3$; $M_y = 14870$; $N = -806.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67
 $\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$
 $0.05 + 0 + 0.06 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 168.8; Ty = 735.3; Mt = 1469.6

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$
 $0.89 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = 1469.6

Asta 146: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{\text{d}} \leq f_{\text{v,d}}$
 $\sqrt{(2.61^2 + 2.25^2)} = 3.44 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 479.9; Ty = -413.3

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $(S_{\text{c},0,\text{d}} / f_{\text{c},0,\text{d}})^2 + S_{\text{m},\text{y},\text{d}} / f_{\text{m},\text{y},\text{d}} + K_{\text{m}} \cdot (S_{\text{m},\text{z},\text{d}} / f_{\text{m},\text{z},\text{d}}) \leq 1$
 $(S_{\text{c},0,\text{d}} / f_{\text{c},0,\text{d}})^2 + K_{\text{m}} \cdot (S_{\text{m},\text{y},\text{d}} / f_{\text{m},\text{y},\text{d}}) + S_{\text{m},\text{z},\text{d}} / f_{\text{m},\text{z},\text{d}} \leq 1$
 $(2/85.3)^2 + 64.6/74.7 + 0.7 \cdot 36.5/74.67 = 1.21 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -102490.1; My = 45393.3; N = -820.6

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$
 $0.07 + 0.03 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 479.9; Ty = -413.3; Mt = 2129.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$
 $1.29 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Mt = 2137

Asta 147: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.62^2 + 3.17^2)} = 3.23 \leq 16$ Comb: SLU, 29; Durata minima del carico nella combinazione: media
 $T_x = -114.7$; $T_y = -583.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(2/85.3)^2 + 65.1/74.7 + 0.7 \cdot 35.1/74.67 = 1.2 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -103339.2$; $M_y = 43644.6$; $N = -825.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.15 + 0.01 + 0.03 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -213.5$; $T_y = -535.9$; $M_t = 4762.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.87 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 4762.4$

Asta 148: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.38^2 + 4.44^2)} = 4.46 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -69.1$; $T_y = -817.8$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(2/85.3)^2 + 57.6/74.7 + 0.7 \cdot 24.4/74.67 = 1 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -91464.2$; $M_y = 30262.1$; $N = -835.7$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12 + 0 + 0.08 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -69.1$; $T_y = -817.8$; $M_t = 3894.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.35 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 3894.5$

Asta 149: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\text{Sqrt}(1.21^2 + 4.47^2) = 4.63 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -223.5$; $T_y = -822.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2/85.3)^2 + 34.1/74.7 + 0.7 \cdot 19.2/74.67 = 0.64 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = -54181.4$; $M_y = 23793.7$; $N = -812$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0.01 + 0.08 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -223.5$; $T_y = -822.2$; $M_t = 3595.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.19 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 3624.7$

Asta 150: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 81.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 81.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.93^2 + 3.93^2)} = 4.38 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -355$; $T_y = -723.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 81.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2/85.3)^2 + 19.6/74.7 + 0.7 \cdot 16.4/74.67 = 0.42 \leq 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_x = 31182$; $M_y = -20358.7$; $N = -824.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 81.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0.01 + 0.06 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -353.9$; $T_y = -720.2$; $M_t = 2651.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 81.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.62 \leq 19.07$ Comb: SLU, 37; Durata minima del carico nella combinazione: media

$M_t = 2681.1$

Asta 151: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 43.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$27/74.7 + 0.7 \cdot 13.9/74.7 = 0.49 \leq 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = 42830.5$; $M_y = -17203.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.65^2 + 2.78^2} = 2.85 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 120$; $T_y = 510.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d} / (k_{sh} * f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

$0.18 + 0 + 0.03 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 120.1$; $T_y = 510.6$; $M_t = 5766.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 43.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$3.48 \leq 19.07$ Comb: SLU, 37; Durata minima del carico nella combinazione: media

$M_t = 5773$

Asta 152: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d} / f_{m,y,d} + K_m * (S_{m,z,d} / f_{m,z,d}) \leq 1$

$K_m * (S_{m,y,d} / f_{m,y,d}) + S_{m,z,d} / f_{m,z,d} \leq 1$

$19.3 / 74.7 + 0.7 * 9.6 / 74.7 = 0.35 \leq 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = 30562.6$; $M_y = -11941.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.61^2 + 5.65^2} = 5.87 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 296.9$; $T_y = 1038.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d} / (k_{sh} * f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

$0.16 + 0.01 + 0.12 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 296.9$; $T_y = 1038.8$; $M_t = 4998.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$3.02 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 4998.1$



Asta 153: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$47.1/74.7 + 0.7 \cdot 7.4/74.7 = 0.7 \leq 1$ (formula 4.4.5a) Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -74700.1$; $M_y = 9192.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2 + 6.74^2} = 6.74 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 8$; $T_y = 1239.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.24 + 0 + 0.18 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 8$; $T_y = 1239.9$; $M_t = 7474$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.51 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 7476$

Asta 154: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) > 1$

$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$69/74.7 + 0.7 \cdot 47.8/74.7 = 1.37 > 1$ (formula 4.4.5a) Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Mx = -109465.7; My = 59411.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{4.15^2 + 4.99^2} = 6.5 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 764.4; Ty = 918.8

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.03 + 0.07 + 0.1 ≤ 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 764.4; Ty = 918.8; Mt = -1069.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

0.65 ≤ 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = -1069.8

Asta 155: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$Sm_{y,d} / f_{m,y,d} + Km \cdot (Sm_{z,d} / f_{m,z,d}) \leq 1$

$Km \cdot (Sm_{y,d} / f_{m,y,d}) + Sm_{z,d} / f_{m,z,d} \leq 1$

95.4/74.7 + 0.7 * 38.2/74.7 = 1.64 ≤ 1 (formula 4.4.5a) Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -151467; My = 47476.8

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.99^2 + 5.78^2} = 5.87 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -181.9; Ty = 1063.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.21 + 0 + 0.13 ≤ 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -181.9; Ty = 1063.9; Mt = -6719.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



4.06 <= 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = -6719.7

Asta 156: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 54
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $111.5/74.7 + 0.7 \cdot 31.6/74.7 = 1.79 \leq 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = -176960.4; My = 39194

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{(1.07^2 + 4.6^2)} = 4.72 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = -197.6; Ty = 845.7

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.14 + 0 + 0.08 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = -197.6; Ty = 845.7; Mt = -4432.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.68 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mt = -4435.4

Asta 157: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 38.3
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8
 $Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) > 1$
 $Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} > 1$
 $118.8/74.7+0.7*29/74.7=1.86 > 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $Mx = -188516.6$; $My = 36050.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{t,d} \leq f_{v,d}$
 $\sqrt{(0.38^2+3^2)} = 3.03 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -69.9$; $T_y = 552.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.05+0+0.04 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -66.8$; $T_y = 551.1$; $M_t = -1698.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $1.03 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $M_t = -1698.6$

Asta 158: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 22.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) > 1$
 $Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} > 1$
 $118.2/74.7+0.7*28/74.7=1.85 > 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $Mx = -187597.1$; $My = 34728.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{t,d} \leq f_{v,d}$
 $\sqrt{(0.08^2+3.23^2)} = 3.23 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 14.7$; $T_y = -594.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.01+0+0.04 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 14.7$; $T_y = -594.8$; $M_t = 409.7$



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.46 \leq 26.22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_t = 755.9$

Asta 159: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 4.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $S_{m,y,d}/f_{m,y,d} + K_m * (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m * (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $109.9/74.7 + 0.7 * 27.9/74.7 = 1.73 \leq 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -174412.1$; $M_y = 34652.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.34^2 + 4.69^2} = 4.7 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 62.9$; $T_y = -862.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.05 + 0 + 0.09 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 62.9$; $T_y = -862.3$; $M_t = 1465.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.89 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 1468.2$

Asta 160: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) > 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} > 1$

$92.2/74.7 + 0.7 \cdot 30.4/74.7 = 1.52 > 1$ (formula 4.4.5a) Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -146369.5$; $M_y = 37727.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.74^2 + 5.87^2} = 5.91 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 136.1$; $T_y = -1079.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.16 + 0 + 0.13 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 136.1$; $T_y = -1079.2$; $M_t = 4964.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 4964.2$

Asta 161: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) > 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} > 1$

$65.4/74.7 + 0.7 \cdot 36.7/74.7 = 1.22 > 1$ (formula 4.4.5a) Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -103861.6$; $M_y = 45560.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.84^2 + 5.41^2} = 6.11 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -522.5$; $T_y = -996$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.07+0.03+0.11 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -522.5; Ty = -996; Mt = 2123.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$
 $1.28 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Mt = 2123.4

Asta 162: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $40.5/74.7+0.7 \cdot 8.7/74.7=0.62 \leq 1$ (formula 4.4.5a) Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Mx = -64250.3; My = 10796.2

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.15^2+6.5^2} = 6.5 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Tx = -27.2; Ty = -1195.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.22+0+0.17 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Tx = -27.2; Ty = -1195.9; Mt = -7014.5

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$
 $4.23 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = -7016.4

Asta 163: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $22/74.7 + 0.7 \cdot 9.6/74.7 = 0.38 \leq 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_x = 34963.6$; $M_y = -11899.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.62^2 + 5.39^2)} = 5.62 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -297.7$; $T_y = -991.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.16 + 0.01 + 0.11 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -297.8$; $T_y = -991.1$; $M_t = -4932.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.98 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = -4932.1$

Asta 164: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 39.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 39.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $27.4/74.7 + 0.7 \cdot 12.9/74.7 = 0.49 \leq 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_x = 43497.6$; $M_y = -16023.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 39.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.58^2 + 2.33^2)} = 2.4 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -106.3$; $T_y = -428$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 39.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.21 + 0 + 0.02 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -106.6$; $T_y = -427.6$; $M_t = -6598.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 39.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.99 \leq 19.07$ Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = -6606.3$

Asta 165: Trave in legno a falda Falda 1 fili 178-179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 165.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$0.7/41.6 + 120.7/81 + 0.7 \cdot 7.6/81 = 1.57 \leq 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 16092$; $M_y = 811.9$; $N = 56.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.29^2 + 3.06^2} = 3.07 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 10.3$; $T_y = -108.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.04 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 10.3$; $T_y = -108.7$; $M_t = -1.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.15 \leq 26.13$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 21.4$

Asta 166: Trave in legno a falda Falda 1 fili 178-179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.07^2 + 6.22^2)} = 6.22 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.3$; $T_y = 221.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.6/85.3)^2 + 248.4/81 + 0.7 \cdot 3.9/80.97 = 3.1 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -33116.5$; $M_y = 417.8$; $N = -131.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.15 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 2.3$; $T_y = 220.9$; $M_t = -70.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.5 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -70.2$

Asta 167: Trave in legno a falda Falda 1 fili 184-185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 165.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$0.6/41.6 + 117.9/81 + 0.7 \cdot 7.7/81 = 1.54 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 15718.6$; $M_y = 824.5$; $N = 50.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.29^2 + 3.06^2} = 3.07 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 10.4$; $T_y = -108.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0 + 0 + 0.04 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 10.4$; $T_y = -108.8$; $M_t = -3.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$0.14 \leq 26.13$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 19.1$

Asta 168: Trave in legno a falda Falda 1 fili 184-185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.07^2 + 5.88^2} = 5.88 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.4$; $T_y = 209$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d} / f_{c,0,d})^2 + S_{m,y,d} / f_{m,y,d} + K_m * (S_{m,z,d} / f_{m,z,d}) \leq 1$

$(S_{c,0,d} / f_{c,0,d})^2 + K_m * (S_{m,y,d} / f_{m,y,d}) + S_{m,z,d} / f_{m,z,d} \leq 1$

$(1.2/85.3)^2 + 234.4/81 + 0.7 * 4.1/80.97 = 2.93 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -31251.4$; $M_y = 439.1$; $N = -98.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.13 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 2.4$; $T_y = 208.7$; $M_t = -64.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$0.46 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -64.5$



Asta 169: Trave in legno a falda Falda 1 fili 191-192

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 165.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.3/41.6 + 105.6/81 + 0.7*7.9/81 = 1.41 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 14081.9$; $M_y = 846.3$; $N = 107.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.24^2 + 2.93^2} = 2.94 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 8.5$; $T_y = -104.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.03 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 7.2$; $T_y = -104.1$; $M_t = 1.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.13 \leq 26.13$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = 18.5$

Asta 170: Trave in legno a falda Falda 1 fili 191-192

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 5.79^2} = 5.79 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 1.7$; $T_y = 206$



Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(2.4/85.3)^2 + 227.4/81 + 0.7 \cdot 2.2/80.97 = 2.83 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -30315.8$; $M_y = 229.5$; $N = -192.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.13 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 1.7$; $T_y = 206$; $M_t = -60.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.44 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -62$

Asta 171: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 41.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/f_{t,0,d} + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$St_{0,d}/f_{t,0,d} + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$4.3/57.3 + 0.7 \cdot 11.8/111.3 + 30.8/111.3 = 0.42 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 1574.1$; $M_y = 3282.1$; $N = 340.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{4.28^2 + 1.42^2} = 4.51 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 152.2$; $T_y = -50.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0.04 + 0 \leq 1$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 152.2$; $T_y = -50.4$; $M_t = -84.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



0.59 <= 26.13 Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
Mt = -84.1

Asta 172: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 41.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1; Kh = 1.084 (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
15.8/57.3+0.7*4.7/111.3+30.9/111.3=0.58 <= 1 [4.4.6b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
Mx = 631.7; My = 3296.7; N = 1267.6

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{4.31^2 + 0.24^2} = 4.32 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
Tx = 153.4; Ty = -8.5

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
0.01+0.04+0 <= 1 Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
Tx = -151.9; Ty = 6.6; Mt = 29.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$
0.21 <= 26.13 Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
Mt = 29.7

Asta 173: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 41.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 1.1; Kh = 1.084 (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $19.2/57.3+0.7*3.3/111.3+31.5/111.3=0.64 \leq 1$ [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 Mx = -443.1; My = 3363.4; N = 1534.6

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(3.59^2+0.54^2)} = 3.63 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Tx = -127.8; Ty = -19.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.02+0.03+0 \leq 1$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Tx = -127.8; Ty = -19.1; Mt = -77.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
 $0.74 \leq 26.13$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 Mt = -104.7

Asta 174: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 41.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; Kh = 1.084 (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $30.9/57.3+0.7*0.1/111.3+27.2/111.3=0.78 \leq 1$ [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 Mx = -18.9; My = 2896.4; N = 2472.2

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.95^2+1.29^2)} = 2.34 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Tx = -69.3; Ty = -46

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.05+0+0.01 \leq 1$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 Tx = -37; Ty = -64.5; Mt = -168



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $1.19 \leq 26.13$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_t = -168$

Asta 175: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 278.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 278.2
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$
 $2.1/41.6+227.3/81+0.7*2.1/81=2.88 \geq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -30311.7$; $M_y = -228.9$; $N = 171$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.08^2+6.06^2)} = 6.06 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -2.8$; $T_y = 215.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.02+0+0.14 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -2.8$; $T_y = 215.6$; $M_t = -43.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 278.2
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.33 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = -46.2$

Asta 176: Trave in legno a falda Falda 1 fili 210-211

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.16^2 + 4.62^2} = 4.62 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -5.6$; $T_y = 164.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.5/85.3)^2 + 195.3/81 + 0.7 \cdot 7.3/80.97 = 2.48 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -26037.4$; $M_y = -781.5$; $N = -437$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.08 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -5.6$; $T_y = 164.2$; $M_t = -61.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.45 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -64.3$

Asta 177: Trave in legno a falda Falda 1 fili 216-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$16.9/41.6 + 230.9/81 + 0.7 \cdot 9.4/81 = 3.34 > 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -30784$; $M_y = -1007.5$; $N = 1353.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.26^2 + 6.36^2} = 6.36 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -9.2$; $T_y = 226$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03 + 0 + 0.16 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -9.2$; $T_y = 226$; $M_t = -67.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.51 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = -71.7$

Asta 178: Trave in legno a falda Falda 1 fili 225-226

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.1^2 + 3.77^2} = 3.77 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -3.7$; $T_y = 134.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(2.2/85.3)^2 + 171.3/81 + 0.7 \cdot 4.2/80.97 = 2.15 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -22839.5$; $M_y = -451.7$; $N = -173.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.04 + 0 + 0.06 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -3.7$; $T_y = 134.2$; $M_t = -99.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.7 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = -99.7$

Asta 179: Trave in legno a falda Falda 1 fili 236-237

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.03^2 + 3.29^2)} = 3.29 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 1.1$; $T_y = 116.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.6/85.3)^2 + 156.6/81 + 0.7 \cdot 1.4/80.97 = 1.95 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -20878$; $M_y = 146.4$; $N = -131.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.05 + 0 + 0.04 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 1.1$; $T_y = 116.9$; $M_t = -134.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.95 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = -134.9$

Asta 180: Trave in legno a falda Falda 1 fili 242-243

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.02^2 + 2.91^2)} = 2.91 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 0.6$; $T_y = 103.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(0.7/85.3)^2 + 144.8/81 + 0.7 \cdot 0.6/80.97 = 1.79 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -19311.1$; $M_y = 62.2$; $N = -56.2$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.03 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 0.6$; $T_y = 103.6$; $M_t = -160.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.16 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -163.7$

Asta 181: Trave in legno a falda Falda 1 fili 248-249

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$127.9/81 + 0.7 \cdot 4.5/81 = 1.62 \leq 1$ (formula 4.4.5a) Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -17058.1$; $M_y = -483.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.09^2 + 2.47^2} = 2.48 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.1$; $T_y = 88$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.02 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.1$; $T_y = 88$; $M_t = -178.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.3 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -183.7$

Asta 182: Trave in legno a falda Falda 1 fili 254-255

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 262.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$106.6/81 + 0.7 \cdot 6.9/81 = 1.38 \leq 1$ (formula 4.4.5a) Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -14212.8$; $M_y = -741.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.16^2 + 1.99^2} = 2 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -5.7$; $T_y = 70.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.02 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -5.7$; $T_y = 70.8$; $M_t = -176$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.3 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -183.6$

Asta 183: Trave in legno a falda Falda 1 fili 261-262

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 230.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.1^2 + 2.03^2} = 2.03 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.5$; $T_y = 72.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 230.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

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Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) <= 1
(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d <= 1
(0.7/85.3)^2 + 91.9/81 + 0.7*2.4/80.97 = 1.16 !> 1 [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = -12257.2; My = -258.9; N = -58.2

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 <= 1$
0.06+0+0.02 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media
Tx = -3.5; Ty = 72.1; Mt = -173.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 230.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} <= Ksh * fv,d$
1.29 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = -182.6

Asta 184: Trave in legno a falda Falda 1 fili 266-267

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 158.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{d} <= fv,d$
 $\text{Sqrt}(0.22^2 + 2.92^2) = 2.93 <= 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
Tx = 7.7; Ty = 103.8

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 158.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) <= 1
(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d <= 1
(1.5/85.3)^2 + 84/81 + 0.7*7.3/80.97 = 1.1 !> 1 [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = -11206.3; My = 778; N = -119.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 <= 1$
0.09+0+0.03 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media
Tx = 7.7; Ty = 103.8; Mt = -240.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 158.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} <= Ksh * fv,d$
1.78 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = -251.6



Asta 185: Trave in legno a falda Falda 1 fili 270-271

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 87

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.03^2 + 5.69^2)} = 5.78 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 36.5$; $T_y = 202.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 87

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(2.9/85.3)^2 + 86.4/81 + 0.7 \cdot 15.4/80.97 = 1.2 \ngtr 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -11524.2$; $M_y = 1640.2$; $N = -230.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12 + 0 + 0.13 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 36.5$; $T_y = 202.3$; $M_t = -331$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 87

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.42 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -343.3$

Asta 186: Trave in legno a falda Falda 1 fili 277-275

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 30

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 12

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq f_{t,0,d}$

$0.17 \leq 57.26$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$N = 13.6$



Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 30

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.6$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.1/60.7 + 0.7 \cdot 0/60.7 = 0 \leq 1$ (formula 4.4.5a) Comb: SLU, 43; Durata minima del carico nella combinazione: permanente

$M_x = 14.9$; $M_y = 0$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 9

$K_{def} = 0$

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

$30/0 = 10679991.3 > 300$ Comb: SLE rara, 3

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 29

$K_{def} = 0$

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

$30/0 = 11713114139.4 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 9

$K_{def} = 0.6$

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

$30/0 = 6675010.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile H = $0,000 + 1,000 = 1,000$

Asta 187: Trave in legno a falda Falda 5 fili 275-280

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 24.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

$0.01 \leq 57.26$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$N = 0.7$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.1/111.3 + 0.7 \cdot 0.1/111.3 = 0 \leq 1$ (formula 4.4.5a) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo



Mx = 16.1; My = 6.8

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_d \leq f_{v,d}$

$\sqrt{(0.02^2 + 0.04^2)} = 0.04 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Tx = -0.6; Ty = 1.3

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.3

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

$24.2/0 = 7808687.8 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 15.3

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

$24.2/0 = 11273736510.6 > 300$ Comb: SLE rara, 7

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.3

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

$24.2/0 = 4881016.1 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Asta 188: Trave in legno a falda Falda 1 fili 132-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 49.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$5.8/57.3 + 0.7*1.8/111.3 + 30.7/111.3 = 0.39 \leq 1$ [4.4.6b] Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo

Mx = -245.7; My = -3272.1; N = 460.2

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 49.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_d \leq f_{v,d}$

$\sqrt{(2.32^2 + 0.32^2)} = 2.34 \leq 22$ Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo



Tx = 82.4; Ty = -11.4

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 49.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.04+0.01+0 <= 1 Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

Tx = 73.9; Ty = -16.9; Mt = -157.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 49.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq Ksh \cdot f_{v,d}$

1.11 <= 26.13 Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

Mt = -157.4

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 26.6

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

49.9/0=18463.2 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 25

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

49.9/0=22489.5 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 26.6

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

49.9/0=16640.5 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Asta 189: Trave in legno a falda Falda 1 fili 132-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 49.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 49.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

4.9/57.3+0.7*2.5/111.3+27.6/111.3=0.35 <= 1 [4.4.6b] Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo



Mx = -329.4; My = 2943.1; N = 392.3

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 49.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.42^2 + 0.11^2)} = 2.42 \leq 22$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

Tx = -86.1; Ty = -4

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 49.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.01+0.01+0 ≤ 1 Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

Tx = -86.1; Ty = -4; Mt = -36.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 49.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

0.41 ≤ 26.13 Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

Mt = -58

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 23.3

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

49.9/0=19338.2 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 21.6

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

49.9/0=28675.2 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 23.3

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

49.9/0=16159.4 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Asta 190: Trave in legno a falda Falda 1 fili 132-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 51.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 51.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$13.3/57.3+0.7*0.3/111.3+24.9/111.3=0.46 \leq 1$ [4.4.6b] Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

$M_x = 34.3$; $M_y = 2656.6$; $N = 1062$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$Sqrt(1.96^2+0.44^2) = 2.01 \leq 22$ Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo

$T_x = -69.9$; $T_y = 15.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06+0.01+0 \leq 1$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -67.6$; $T_y = 18.4$; $M_t = 220.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 51.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.56 \leq 26.13$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 220.7$

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 27.4

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = 0$

$U_{inst\ tot} = 0$

$Luce/U_{inst,tot} > limite$

$51.3/0=15635.1 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 27.4

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = 0$

$U_{inst\ var} = 0$

$Luce/U_{inst,var} > limite$

$51.3/0=23697 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 27.4

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0$

$U_{fin\ in\ y} = 0$

$U_{fin} = 0$

$Luce/U_{fin} > limite$

$51.3/0=12976 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 191: Trave in legno a falda Falda 1 fili 132-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 276.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 276.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(16.9/85.3)^2 + 320.2/81 + 0.7 \cdot 1.8/80.97 = 4.01 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -42691.9$; $M_y = -195.1$; $N = -1355.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.02^2 + 8.37^2} = 8.37 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -0.8$; $T_y = 297.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.27 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -0.8$; $T_y = 297.5$; $M_t = 5.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 276.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.22 \leq 26.13$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$M_t = 30.7$

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 212.2

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = -0.02$

$U_{inst,tot} \text{ in } y = -0.95$

$U_{inst,tot} = 0.95$

Luce/ $U_{inst,tot} < \text{limite}$

$276.8/0.95 = 291.8 < 300$ Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 212.2

$K_{def} = 0$

$U_{inst,var} \text{ in } x = -0.02$

$U_{inst,var} \text{ in } y = -0.61$

$U_{inst,var} = 0.61$

Luce/ $U_{inst,var} > \text{limite}$

$276.8/0.61 = 451.7 > 300$ Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 212.2

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.02$

$U_{fin} \text{ in } y = -1.15$

$U_{fin} = 1.15$

Luce/ $U_{fin} > \text{limite}$

$276.8/1.15 = 240.6 > 200$

Coefficienti combinatori impiegati:



Pesi strutturali = 1,000 + 0,600 = 1,600
 Permanenti portati = 1,000 + 0,600 = 1,600
 Variabile A = 0,700 + 0,180 = 0,880
 Neve = 0,500 + 0,500 = 1,000

Asta 192: Trave in legno a falda Falda 1 fili 121-122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 165.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$127.2/81 + 0.7 \cdot 1.3/81 = 1.58 \leq 1$ (formula 4.4.5a) Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 16960.5$; $M_y = -135.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{(0.08^2 + 3.34^2)} = 3.35 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -3$; $T_y = -118.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.04 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -3$; $T_y = -118.9$; $M_t = 7.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.19 \leq 26.13$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = 27.4$

Asta 193: Trave in legno a falda Falda 1 fili 121-122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.05^2 + 7.19^2)} = 7.19 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1.8$; $T_y = 255.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.4/85.3)^2 + 285.2/81 + 0.7 \cdot 3.6/80.97 = 3.56 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -38024$; $M_y = -379.9$; $N = -432.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.2 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -1.9$; $T_y = 255.5$; $M_t = 5.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.14 \leq 26.13$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_t = 20.1$

Asta 194: Trave in legno a falda Falda 1 fili 113-114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 165.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$0.8/41.6 + 136.8/81 + 0.7 \cdot 8.8/81 = 1.78 > 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 18235.6$; $M_y = -933.5$; $N = 67.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.34^2 + 3.5^2)} = 3.52 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -12.1$; $T_y = -124.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$



0+0+0.05 <= 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Tx = -12.1; Ty = -124.5; Mt = 4.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

0.19 <= 26.13 Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mt = 26.9

Asta 195: Trave in legno a falda Falda 1 fili 113-114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.16^2 + 6.83^2} = 6.84 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -5.5; Ty = 243

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$(1.5/85.3)^2 + 273.5/81 + 0.7*7.9/80.97 = 3.45 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -36469.3; My = -840.3; N = -122.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0+0+0.18 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -5.5; Ty = 243; Mt = -4.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

0.13 <= 26.13 Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mt = 17.8

Asta 196: Trave in legno a falda Falda 1 fili 104-105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 165.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) > 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} > 1$

$0.8/41.6+137.9/81+0.7*5.7/81=1.77 > 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 18384.4$; $M_y = -605.9$; $N = 61.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.24^2+3.56^2} = 3.57 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -8.6$; $T_y = -126.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0+0+0.05 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -8.6$; $T_y = -126.5$; $M_t = 7.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.19 \leq 26.13$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = 26.6$

Asta 197: Trave in legno a falda Falda 1 fili 104-105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.11^2+6.77^2} = 6.77 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -3.9$; $T_y = 240.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$(1.4/85.3)^2+270.5/81+0.7*5.9/80.97=3.39 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -36071.6$; $M_y = -633.6$; $N = -111.5$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.18 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -3.9$; $T_y = 240.6$; $M_t = -21.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.16 \leq 19$ Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_t = -22.7$

Asta 198: Trave in legno a falda Falda 1 fili 97-98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 165.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$1.7/41.6 + 129.4/81 + 0.7 \cdot 5.4/81 = 1.68 \geq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 17252.3$; $M_y = -571.7$; $N = 134.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.14^2 + 3.52^2} = 3.53 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -5$; $T_y = -125.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.05 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -3.6$; $T_y = -125.1$; $M_t = -1.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.14 \leq 26.13$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = -20.3$

Asta 199: Trave in legno a falda Falda 1 fili 97-98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.08^2 + 7^2} = 7 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -2.9$; $T_y = 249$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.8/85.3)^2 + 275.9/81 + 0.7 \cdot 3.5/80.97 = 3.44 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -36786.2$; $M_y = -371.3$; $N = -221.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.19 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -2.9$; $T_y = 249$; $M_t = -27.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.21 \leq 19$ Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_t = -29.2$

Asta 200: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 41.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$5.4/57.3 + 0.7 \cdot 10.7/111.3 + 23.9/111.3 = 0.38 \leq 1$ [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 1425.1$; $M_y = -2546.1$; $N = 428.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(2.81^2 + 1.17^2)} = 3.05 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 100$; $T_y = 41.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0.01 + 0 \leq 1$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -92.7$; $T_y = -36.5$; $M_t = 96.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.68 \leq 26.13$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 96.6$

Asta 201: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 41.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$16.6/57.3 + 0.7 \cdot 5.1/111.3 + 20.3/111.3 = 0.5 \leq 1$ [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = 675.8$; $M_y = -2161.5$; $N = 1330.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(2.77^2 + 0.11^2)} = 2.78 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 98.7$; $T_y = 4.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0.02 + 0 \leq 1$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 98.7$; $T_y = 4.1$; $M_t = -25.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.26 \leq 26.13$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = -37.4$



Asta 202: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 41.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$23.4/57.3 + 0.7*5.1/111.3 + 23.7/111.3 = 0.65 \leq 1$ [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = -676.6$; $M_y = -2531.4$; $N = 1871.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.27^2 + 0.2^2} = 2.28 \leq 22$ Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

$T_x = 80.7$; $T_y = 7.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0 \leq 1$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 38.2$; $T_y = -18.6$; $M_t = 146.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.04 \leq 26.13$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = -146.7$

Asta 203: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 41.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$26.9/57.3 + 0.7*1.8/111.3 + 26.1/111.3 = 0.72 \leq 1$ [4.4.6b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo



Mx = 236.2; My = -2779; N = 2153.9

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.43^2 + 1.41^2)} = 1.47 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -15.3; Ty = -50.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.05+0+0 ≤ 1 Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Tx = -35.9; Ty = -41.4; Mt = 169.5

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

1.2 ≤ 26.13 Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mt = 169.5

Asta 204: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 278.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 278.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

4/41.6+291.5/81+0.7*1.3/81=3.71 > 1 [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -38868.5; My = 140; N = 321.7

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.07^2 + 7.76^2)} = 7.76 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 2.4; Ty = 275.8

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.01+0+0.23 ≤ 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 2.4; Ty = 275.8; Mt = -34.5

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 278.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



0.25 <= 19 Comb: SLU, 30; Durata minima del carico nella combinazione: media
Mt = -35.8

Asta 205: Trave in legno a falda Falda 1 fili 81-82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau, d \leq f_{v,d}$
 $\text{Sqrt}(0.14^2 + 6.38^2) = 6.38 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = 5.1; Ty = 226.9

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(8.4/85.3)^2 + 266.7/81 + 0.7 \cdot 6.3/80.97 = 3.36 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = -35566.4; My = 675.2; N = -676

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0 + 0 + 0.16 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = 5.1; Ty = 226.9; Mt = -3.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.22 \leq 26.13$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo
Mt = 31.1

Asta 206: Trave in legno a falda Falda 1 fili 72-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 262.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $20.2/41.6+310.9/81+0.7*3.3/81=4.35 \leq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -41458.1; My = 353.4; N = 1619.3

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.07^2+8.31^2} = 8.31 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 2.5; Ty = 295.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.02+0+0.27 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 2.5; Ty = 295.3; Mt = 48.6

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
 $0.37 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Mt = 52

Asta 207: Trave in legno a falda Falda 1 fili 65-66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.02^2+5.28^2} = 5.28 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Tx = 0.7; Ty = 187.6

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $(3.7/85.3)^2+243/81+0.7*0.4/80.97=3.01 \leq 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -32395.3; My = -43.4; N = -295.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.04+0+0.11 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Tx = 0.7; Ty = 187.6; Mt = 106



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.75 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 106$

Asta 208: Trave in legno a falda Falda 1 fili 56-57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.14^2 + 4.83^2} = 4.83 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -5$; $T_y = 171.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.5/85.3)^2 + 229.2/81 + 0.7 * 6.5/80.97 = 2.89 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -30560.6$; $M_y = -698.5$; $N = -201.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.09 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -5$; $T_y = 171.6$; $M_t = 182.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.29 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 182.2$

Asta 209: Trave in legno a falda Falda 1 fili 49-50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.17^2 + 4.15^2} = 4.16 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -6$; $T_y = 147.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.9/85.3)^2 + 209.3/81 + 0.7 \cdot 7.2/80.97 = 2.65 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -27912.8$; $M_y = -770.8$; $N = -75.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.09 + 0 + 0.07 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -6$; $T_y = 147.6$; $M_t = 250$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.78 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 252.5$

Asta 210: Trave in legno a falda Falda 1 fili 43-44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.03^2 + 3.56^2} = 3.56 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 1$; $T_y = 126.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.6/85.3)^2 + 187.4/81 + 0.7 \cdot 2/80.97 = 2.33 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -24983.5$; $M_y = 216.4$; $N = -50.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.11 + 0 + 0.05 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 1$; $T_y = 126.5$; $M_t = 294.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.12 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 299.8$

Asta 211: Trave in legno a falda Falda 1 fili 37-38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 262.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 262.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $155.5/81 + 0.7 \cdot 8.7/81 = 2 \leq 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -20737.8$; $M_y = 923.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.18^2 + 2.82^2} = 2.82 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 6.5$; $T_y = 100.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.11 + 0 + 0.03 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 6.5$; $T_y = 100.1$; $M_t = 307$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.22 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 314.9$

Asta 212: Trave in legno a falda Falda 1 fili 32-33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 239.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.19^2 + 2.61^2)} = 2.62 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 6.8$; $T_y = 92.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 239.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(0.5/85.3)^2 + 128.6/81 + 0.7 * 5.3/80.97 = 1.63 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -17149.1$; $M_y = 570.3$; $N = -42.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.11 + 0 + 0.03 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 6.6$; $T_y = 92.9$; $M_t = 292.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 239.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $2.14 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 302.8$

Asta 213: Trave in legno a falda Falda 1 fili 27-28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 165.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.06^2 + 3.77^2)} = 3.77 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -2.3$; $T_y = 134.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 165.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(2.2/85.3)^2 + 113.5/81 + 0.7 * 5/80.97 = 1.45 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -15139.5$; $M_y = -537.6$; $N = -174.5$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.14 + 0 + 0.06 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -2.3$; $T_y = 134.1$; $M_t = 374.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.73 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 386.3$

Asta 214: Trave in legno a falda Falda 1 fili 23-24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 91.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.84^2 + 6.9^2} = 6.95 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -30$; $T_y = 245.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 91.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(3.1/85.3)^2 + 109.5/81 + 0.7 \cdot 15.7/80.97 = 1.49 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -14602.2$; $M_y = -1673.7$; $N = -249.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.21 + 0 + 0.19 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -30$; $T_y = 245.3$; $M_t = 562.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 91.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.07 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 576.6$

Asta 215: Trave in legno a falda Falda 1 fili 18-19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 17

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 17

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(10.2/85.3)^2 + 72/81 + 0.7 \cdot 32.2/80.97 = 1.18 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -9596.2$; $M_y = 3431.3$; $N = -819.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} > f_{v,d}$

$\sqrt{7.41^2 + 24.44^2} = 25.54 > 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 263.3$; $T_y = 868.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 > 1$

$0.81 + 0.21 + 2.33 > 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 263.3$; $T_y = 868.9$; $M_t = 2178.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 17

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$15.38 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 2178.4$

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 11.4

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} > \text{limite}$

$17/0 = 12148.1 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 11.4

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} > \text{limite}$

$17/0 = 17851.2 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 11.4

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

Luce/ $U_{fin} > \text{limite}$

$17/0 = 10194 > 200$

Coefficienti combinatori impiegati:



Pesi strutturali = 1,000 + 0,600 = 1,600
 Permanenti portati = 1,000 + 0,600 = 1,600
 Neve = 0,500 + 0,500 = 1,000
 Vento = 0,600 + 0,000 = 0,600

Asta 216: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 79.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$4.4/38.4 + 97.5/74.7 + 0.7*10.4/74.7 = 1.52 \leq 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 154720.9$; $M_y = -12959.1$; $N = 1811.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(0.44^2 + 7.81^2)} = 7.82 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 81.1$; $T_y = 1437$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.41 + 0 + 0.24 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 81.4$; $T_y = 1435.7$; $M_t = 13086.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 79.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$7.9 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 13086.6$

Asta 217: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 106.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$5.2/38.4+43.5/74.7+0.7*11.9/74.7=0.83 \leq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -68990.5$; $M_y = 14811.7$; $N = 2133.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.82^2+5.79^2)} = 5.84 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 151.1$; $T_y = 1064.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12+0+0.13 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 150.1$; $T_y = 1063.9$; $M_t = 3908.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$2.36 \leq 19.07$ Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = 3913.9$

Asta 218: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 106.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) !> 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} !> 1$

$5.2/38.4+88.6/74.7+0.7*18.8/74.7=1.5 !> 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -140529.6$; $M_y = 23359.1$; $N = 2149.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.34^2+3.53^2)} = 3.54 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 62.4$; $T_y = 649.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$



0.07+0+0.05 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media
Tx = 63.2; Ty = 649; Mt = -2125.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

1.28 <= 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = -2125.4

Asta 219: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 22.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 22.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

4.4/38.4+91.6/74.7+0.7*12.5/74.7=1.46 > 1 [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -145355.5; My = 15586.8; N = 1804.3

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.02^2+4.01^2)} = 4.13 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -187.6; Ty = 737.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.26+0+0.06 <= 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -187.5; Ty = 737.1; Mt = 8133.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 22.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

4.92 <= 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 8149.3

Asta 220: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 83.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $3.1/38.4 + 77.1/74.7 + 0.7*3.1/74.7 = 1.14 \leq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -122329.9$; $M_y = 3836.1$; $N = 1274.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 83.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.04^2 + 2.29^2)} = 2.51 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 191.4$; $T_y = -420.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 83.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.6 + 0 + 0.02 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = 176.4$; $T_y = -419.7$; $M_t = -18871$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 83.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $11.39 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $M_t = -18871$

Asta 221: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 106.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $2.6/38.4 + 53.7/74.7 + 0.7*13.1/74.7 = 0.91 \leq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_x = -85166.5$; $M_y = 16257.2$; $N = 1080.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 106.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.07^2 + 2.45^2)} = 2.45 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 12.3$; $T_y = -450.2$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.32 + 0 + 0.02 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 13.6$; $T_y = -449.3$; $M_t = -10246.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$6.18 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -10246.3$

Asta 222: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 106.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$2.4/38.4 + 24.9/74.7 + 0.7 \cdot 12.2/74.7 = 0.51 \leq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -39559.5$; $M_y = 15154.2$; $N = 985.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.27^2 + 2.15^2} = 2.17 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -49.5$; $T_y = -396$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12 + 0 + 0.02 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -50.9$; $T_y = -394.8$; $M_t = -3868.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.33 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -3868.4$

Asta 223: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 95.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.2/52.8 + 0.7 \cdot 14.5/102.7 + 18.5/102.7 = 0.36 \leq 1$ [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = -23037.5$; $M_y = 22980.4$; $N = 1737$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 95.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{1.52^2 + 0.43^2} = 1.58 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -279.2$; $T_y = -79.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 95.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0 \leq 1$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = 210.6$; $T_y = -13$; $M_t = 1289.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 95.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.78 \leq 26.22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = 1289.4$

Asta 224: Trave in legno a falda Falda 5 fili 271-281

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 85.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 85.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.64^2 + 5.81^2} = 5.85 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -22.8$; $T_y = -206.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 85.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

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Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(3.9/85.3)^2 + 65.9/81 + 0.7*11.6/80.97 = 0.92 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Mx = 8789.1; My = -1234; N = -310.8

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 85.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 $0.08 + 0 + 0.13 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -22.8; Ty = -206.7; Mt = 215.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 85.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh * fv,d$
 $1.59 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Mt = 225

Asta 225: Trave in legno a falda Falda 5 fili 271-281

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 11.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; Kh = 1.084 (formula 11.7.1)
 $St,0,d \leq ft,0,d$
 $0.09 \leq 57.26$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo
 N = 7.5

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; Kh = 1.084 (formula 11.7.1)
 $Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $0.7*0.1/111.3 + 0.1/111.3 = 0 \leq 1$ (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Mx = 11.8; My = 12.7

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; kcr = 0.67
 $\tau_{,d} \leq fv,d$
 $\sqrt{(0.03^2 + 0.03^2)} = 0.04 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Tx = -1; Ty = 1

Asta 226: Trave in legno a falda Falda 5 fili 267-282

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 163.3



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 163.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.13^2 + 2.32^2} = 2.32 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 4.7$; $T_y = -82.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 163.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.5/85.3)^2 + 54.8/81 + 0.7 * 2.4/80.97 = 0.7 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_x = 7301.8$; $M_y = 256.4$; $N = -123.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 163.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03 + 0 + 0.02 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 6.4$; $T_y = -77.9$; $M_t = 68.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 163.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.48 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 68.4$

Asta 227: Trave in legno a falda Falda 5 fili 267-282

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 13.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{t,0,d} \leq f_{t,0,d}$
 $0.08 \leq 57.26$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo
 $N = 6.2$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$



$Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $0.2/111.3+0.7*0/111.3=0 \leq 1$ (formula 4.4.5a) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $Mx = 27.2$; $My = 4.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 1.1$; $kcr = 0.67$
 $\tau,d \leq f_{v,d}$
 $\sqrt{0.01^2+0.05^2} = 0.05 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $Tx = -0.3$; $Ty = 1.8$

Asta 228: Trave in legno a falda Falda 5 fili 262-283

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 239.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 239.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8$; $kcr = 0.67$
 $\tau,d \leq f_{v,d}$
 $\sqrt{0.43^2+1.3^2} = 1.37 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $Tx = 15.2$; $Ty = -46.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 239.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8$; $Kh = 1.084$ (formula 11.7.1)
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(1.8/85.3)^2+48.3/81+0.7*15.6/80.97=0.73 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $Mx = 6433.6$; $My = 1661.9$; $N = -143.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 239.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8$; $Kh = 1.084$ (formula 11.7.1); $kcr = 0.67$
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.04+0+0.01 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $Tx = 15.1$; $Ty = -46.2$; $Mt = -101.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 239.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8$
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
 $0.72 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $Mt = -101.5$

Asta 229: Trave in legno a falda Falda 5 fili 262-283

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 11.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{t,0,d} \leq f_{t,0,d}$
 $0.01 \leq 57.26$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo
 $N = 0.8$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $0.7 \cdot 0.1/111.3 + 0.1/111.3 = 0 \leq 1$ (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $M_x = 9.3$; $M_y = -14.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{0.03^2 + 0.02^2} = 0.04 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $T_x = 1.1$; $T_y = 0.7$

Asta 230: Trave in legno a falda Falda 5 fili 256-284

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 315.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 315.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{0.61^2 + 0.78^2} = 1 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 21.8$; $T_y = -27.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 315.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.7/85.3)^2 + 36.6/81 + 0.7 \cdot 29.4/80.97 = 0.71 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_x = 4883.2$; $M_y = 3138.7$; $N = -137.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 315.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.07 + 0 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 21.8$; $T_y = -27.9$; $M_t = -200.8$



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 315.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

1.42 \leq 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -200.8$

Asta 231: Trave in legno a falda Falda 5 fili 256-284

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 17

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq f_{t,0,d}$

0.13 \leq 57.26 Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$N = 10.3$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.6$; $K_h = 1.084$ (formula 11.7.1)

$Sm_{y,d}/f_{m,y,d} + Km*(Sm_{z,d}/f_{m,z,d}) \leq 1$

$Km*(Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

0.1/60.7+0.7*0/60.7=0 \leq 1 (formula 4.4.5a) Comb: SLU, 43; Durata minima del carico nella combinazione: permanente

$M_x = 8.7$; $M_y = 0$

Asta 232: Trave in legno a falda Falda 5 fili 250-285

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 392

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 392

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$Sm_{y,d}/f_{m,y,d} + Km*(Sm_{z,d}/f_{m,z,d}) \leq 1$

$Km*(Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

0.7*21.8/81+28.3/81=0.54 \leq 1 (formula 4.4.5b) Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 2903.8$; $M_y = 3018.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 392

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$



$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.46^2 + 0.52^2} = 0.7 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 16.5$; $T_y = -18.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 392

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.08 + 0 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 16.5$; $T_y = -18.5$; $M_t = -204.9$

Verifica compressione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.3

Sezione ad ascissa 209.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$Sc_{,0,d} \leq fc_{,0,d}$

$|-0.25| \leq 85.33$ Comb: SLU, 57; Durata minima del carico nella combinazione: media

$N = -19.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 392

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$1.45 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -204.9$

Asta 233: Trave in legno a falda Falda 5 fili 250-285

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 11.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{,0,d} \leq ft_{,0,d}$

$0.14 \leq 57.26$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$N = 10.9$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$Sm_{,y,d} / f_{m,y,d} + Km * (Sm_{,z,d} / f_{m,z,d}) \leq 1$

$Km * (Sm_{,y,d} / f_{m,y,d}) + Sm_{,z,d} / f_{m,z,d} \leq 1$

$0.7 * 0.1 / 111.3 + 0.2 / 111.3 = 0 \leq 1$ (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 10.8$; $M_y = 21.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.05^2 + 0.03^2} = 0.06 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -1.8$; $T_y = 1$



Asta 234: Trave in legno a falda Falda 5 fili 244-286

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 468.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 468.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.18^2 + 0.38^2)} = 0.42 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 6.4$; $T_y = -13.4$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 468.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(1.6/85.3)^2 + 0.7 * 11.8/81 + 15.1/81 = 0.29 \leq 1$ [4.4.7b] Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_x = 1578.1$; $M_y = 1608$; $N = -126.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 468.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 6.7$; $T_y = -13.1$; $M_t = -126.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 468.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.89 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -126.3$

Asta 235: Trave in legno a falda Falda 5 fili 244-286

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 9.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq f_{t,0,d}$

$0.08 \leq 57.26$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$N = 6.4$



Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.1/111.3 + 0.3/111.3 = 0 \leq 1$ (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 10.7$; $M_y = 28.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.07^2 + 0.02^2)} = 0.07 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -2.5$; $T_y = 0.9$

Asta 236: Trave in legno a falda Falda 2 fili 19-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 15.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(9.5/85.3)^2 + 12.7/81 + 0.7 \cdot 10/80.97 = 0.26 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 1695.6$; $M_y = -1068.4$; $N = -761.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 15.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.66^2 + 0.74^2)} = 1.82 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 59.1$; $T_y = -26.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 15.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.13 + 0.01 + 0 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 59.1$; $T_y = -26.2$; $M_t = -348.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 15.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.47 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -350.1$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 7.6

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = 0$



Uinst tot = 0
Luce/Uinst,tot > limite
15.1/0=19475.5 > 300 Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 7.6
Kdef = 0
Uinst var in x = 0
Uinst var in y = 0
Uinst var = 0
Luce/Uinst,var > limite
15.1/0=29663.2 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 7.6
Kdef = 0.6
Ufin in x = 0
Ufin in y = 0
Ufin = 0
Luce/Ufin > limite
15.1/0=16090.3 > 200
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Variabile A = 0,700 + 0,180 = 0,880
Neve = 0,500 + 0,500 = 1,000
Vento = 0,600 + 0,000 = 0,600

Asta 237: Trave in legno a falda Falda 2 fili 24-2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 92.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 92.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_d \leq f_{v,d}$
 $\sqrt{1.03^2 + 5.88^2} = 5.97 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
Tx = 36.5; Ty = -209.2

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 92.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + Km*(Sm_{z,d}/f_{m,z,d}) \leq 1$
 $(Sc_{0,d}/f_{c,0,d})^2 + Km*(Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$
 $(4.3/85.3)^2 + 79.6/81 + 0.7*17.5/80.97 = 1.14 !> 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = 10613.8; My = 1866.9; N = -344.6

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 92.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
0.09+0+0.14 <= 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Tx = 36.5; Ty = -209.2; Mt = -250.1

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 92.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
 1.83 <= 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = -258.9

Asta 238: Trave in legno a falda Falda 2 fili 28-3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 169.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 169.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{t,d} \leq f_{v,d}$
 $\sqrt{(0.05^2 + 2.41^2)} = 2.41 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Tx = -1.9; Ty = -85.5

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 169.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.9/85.3)^2 + 66/81 + 0.7 * 0.9/80.97 = 0.82 \leq 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Mx = 8798.3; My = -93.3; N = -152

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 169.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.02 + 0 + 0.02 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -3.9; Ty = -80.6; Mt = -41.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 169.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
 0.58 <= 26.13 Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo
 Mt = -81.8

Asta 239: Trave in legno a falda Falda 2 fili 33-4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 246.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1



Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 246.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.49^2 + 1.2^2)} = 1.3 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -17.6$; $T_y = -42.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 246.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.1/85.3)^2 + 55.2/81 + 0.7 \cdot 18.9/80.97 = 0.85 \leq 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = 7362.6$; $M_y = -2017.1$; $N = -170.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 246.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.01 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -17.6$; $T_y = -42.7$; $M_t = 198.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 246.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.4 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 198.8$

Asta 240: Trave in legno a falda Falda 2 fili 39-5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 322.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 322.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.74^2 + 0.69^2)} = 1.01 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -26.4$; $T_y = -24.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 322.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.7/85.3)^2 + 36.9/81 + 0.7 \cdot 36.1/80.97 = 0.77 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 4924.6$; $M_y = -3855.3$; $N = -136.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 322.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$



0.11+0+0 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = -26.4; Ty = -24.6; Mt = 297

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 322.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

2.1 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 297

Asta 241: Trave in legno a falda Falda 2 fili 45-6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 399

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$Sm_{y,d}/f_{m,y,d} + Km*(Sm_{z,d}/f_{m,z,d}) \leq 1$

$Km*(Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$0.7*7.9/81+37.5/81=0.53 \leq 1$ (formula 4.4.5b) Comb: SLU, 30; Durata minima del carico nella combinazione: media

Mx = -1049.3; My = 3999.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 399

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.53^2+0.36^2)} = 0.64 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -18.9; Ty = -12.7

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 399

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.1+0+0 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -18.9; Ty = -12.7; Mt = 270.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 399

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

1.91 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 270.9

Asta 242: Trave in legno a falda Falda 2 fili 51-7

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 475.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 475.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $1.4/57.3+29.7/111.3+0.7*15.9/111.3=0.39 \leq 1$ [4.4.6a] Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo
 $M_x = -3961.1$; $M_y = -1694.1$; $N = 113.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.12^2+0.58^2} = 0.59 \leq 22$ Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo
 $T_x = -4.4$; $T_y = 20.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.05+0+0 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -5.5$; $T_y = 12.2$; $M_t = 135.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 475.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.95 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 135.2$

Asta 243: Trave in legno a falda Falda 6 fili 238-239

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 303.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) !> 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} !> 1$
 $16.6/41.6+170.8/81+0.7*16.8/81=2.65 !> 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -22771.7$; $M_y = -1788.1$; $N = 1328.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.43^2+3.58^2} = 3.61 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -15.4$; $T_y = 127.5$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03+0+0.05 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -16.2$; $T_y = 127.3$; $M_t = 83.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.61 \leq 19$ Comb: SLU, 37; Durata minima del carico nella combinazione: media

$M_t = 85.9$

Asta 244: Trave in legno a falda Falda 6 fili 276-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 17.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 17.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$2/57.3+0.3/111.3+0.7 \cdot 0.1/111.3=0.04 \leq 1$ [4.4.6a] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = 39.3$; $M_y = 11.2$; $N = 162.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 17.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.03^2+0.13^2)} = 0.13 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 1.1$; $T_y = -4.6$

Verifica compressione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.3

Sezione ad ascissa 9.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$Sc_{0,d} \leq fc_{0,d}$

$|-0.82| \leq 117.33$ Comb: SLD, 8; Durata minima del carico nella combinazione: istantaneo

$N = -65.3$

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 7.6

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = 0$

$U_{inst\ tot} = 0$

Luce/ $U_{inst,tot} >$ limite

$17.5/0=7359328.2 > 300$ Comb: SLE rara, 2

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 2.9

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = 0$



Uinst var = 0

Luce/Uinst,var > limite

17.5/0=2773671118.4 > 300 Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 7.6

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

17.5/0=4599613.8 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Vento = 0,600 + 0,400 = 1,000

Asta 245: Trave in legno a falda Falda 6 fili 272-273

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 96.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 96.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.02^2 + 7.99^2)} = 8.24 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -71.7; Ty = -284.2

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(4.7/85.3)^2 + 126.6/81 + 0.7 \cdot 31.8/80.97 = 1.84 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -16880; My = 3390.2; N = -379

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 96.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.21 + 0.02 + 0.25 ≤ 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -71.7; Ty = -284.2; Mt = 560.5

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 96.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

3.96 ≤ 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = 560.7

Asta 246: Trave in legno a falda Falda 6 fili 268-269

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 175.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 175.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.8^2 + 3.88^2} = 3.96 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -28.3$; $T_y = -138$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.7/85.3)^2 + 117.8/81 + 0.7 * 23.9/80.97 = 1.66 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -15701$; $M_y = 2552.6$; $N = -135.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 175.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.14 + 0 + 0.06 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -28.3$; $T_y = -138$; $M_t = 367.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 175.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$2.6 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 367.9$

Asta 247: Trave in legno a falda Falda 6 fili 263-264

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 253.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$115.2/81 + 0.7 * 16.3/81 = 1.56 > 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -15364.4$; $M_y = 1742$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 253.8

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.36^2 + 2.41^2} = 2.44 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -12.7$; $T_y = -85.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 253.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.02 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -13.1$; $T_y = -85.3$; $M_t = 194.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 253.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$1.37 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 194.4$

Asta 248: Trave in legno a falda Falda 6 fili 257-258

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 88.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.32^2 + 6.23^2} = 6.24 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 11.4$; $T_y = 221.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 88.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d} / f_{c,0,d})^2 + S_{m,y,d} / f_{m,y,d} + K_m * (S_{m,z,d} / f_{m,z,d}) \leq 1$

$(S_{c,0,d} / f_{c,0,d})^2 + K_m * (S_{m,y,d} / f_{m,y,d}) + S_{m,z,d} / f_{m,z,d} \leq 1$

$(3.4/85.3)^2 + 152/81 + 0.7 * 3.4/80.97 = 1.91 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20270.6$; $M_y = 361.4$; $N = -271.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.15 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 11.4$; $T_y = 221.6$; $M_t = -197.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 88.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$1.4 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -197.9$



Asta 249: Trave in legno a falda Falda 6 fili 251-252

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 167.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{r,d} \leq f_{v,d}$

$\sqrt{(0.53^2 + 4.52^2)} = 4.55 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 19$; $T_y = 160.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 167.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.1/85.3)^2 + 164.5/81 + 0.7 * 14.8/80.97 = 2.16 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -21930.2$; $M_y = 1577.9$; $N = -404.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.08 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 19$; $T_y = 160.5$; $M_t = -164.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 167.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.16 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -164.8$

Asta 250: Trave in legno a falda Falda 6 fili 245-246

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 246.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 246.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$5.8/41.6 + 174.3/81 + 0.7 * 15.1/81 = 2.42 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Mx = -23245.4; My = 1613.5; N = 465

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\text{Sqrt}(0.45^2 + 4.14^2) = 4.16 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 16; Ty = 147.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor},d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.03 + 0 + 0.07 ≤ 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 16; Ty = 147.1; Mt = -90.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 246.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor},d} \leq K_{sh} \cdot f_{v,d}$

0.64 ≤ 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = -90.8

Asta 251: Trave in legno a falda Falda 5 fili 241-287

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 523.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 523.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\text{Sqrt}(0.12^2 + 0.55^2) = 0.57 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -4.3; Ty = -19.7

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(S_{c,0,d} / f_{c,0,d})^2 + S_{m,y,d} / f_{m,y,d} + K_m \cdot (S_{m,z,d} / f_{m,z,d}) \leq 1$

$(S_{c,0,d} / f_{c,0,d})^2 + K_m \cdot (S_{m,y,d} / f_{m,y,d}) + S_{m,z,d} / f_{m,z,d} \leq 1$

$(8.6/85.3)^2 + 25/81 + 0.7 \cdot 10.8/80.97 = 0.41 \leq 1$ [4.4.7a] Comb: SLU, 38; Durata minima del carico nella combinazione: media

Mx = -3334; My = 1155.8; N = -686

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 523.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor},d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.03 + 0 + 0 ≤ 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -4.4; Ty = -19.7; Mt = 73.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 523.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor},d} \leq K_{sh} \cdot f_{v,d}$



0.52 <= 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mt = 73.2

Asta 252: Trave in legno a falda Falda 5 fili 241-287

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 16.3
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d} \leq ft_{0,d}$
 $0.1 \leq 57.26$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $N = 8.3$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $0.1/111.3+0.7*0/111.3=0 \leq 1$ (formula 4.4.5a) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = 13.2$; $M_y = 3.2$

Asta 253: Trave in legno a falda Falda 5 fili 245-288

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 468.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 468.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.54^2+0.62^2} = 0.83 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -19.3$; $T_y = -22.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $(1.5/85.3)^2+0.7*30.3/81+43.1/81=0.79 \leq 1$ [4.4.7b] Comb: SLU, 30; Durata minima del carico nella combinazione: media
 $M_x = -4034$; $M_y = 4596.1$; $N = -122.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 468.6



Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d} / (k_{sh} * f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$
 $0.08 + 0 + 0 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -19.4$; $T_y = -22$; $M_t = 225$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 468.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $1.59 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $M_t = 225$

Asta 254: Trave in legno a falda Falda 5 fili 245-288

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 10.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{t,0,d} \leq f_{t,0,d}$
 $0.08 \leq 57.26$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo
 $N = 6.7$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 23.2
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{m,y,d} / f_{m,y,d} + K_m * (\sigma_{m,z,d} / f_{m,z,d}) \leq 1$
 $K_m * (\sigma_{m,y,d} / f_{m,y,d}) + \sigma_{m,z,d} / f_{m,z,d} \leq 1$
 $0.7 * 0 / 111.3 + 0.5 / 111.3 = 0 \leq 1$ (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_x = -1.8$; $M_y = 49.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.12^2 + 0.02^2} = 0.12 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $T_x = 4.1$; $T_y = 0.7$

Asta 255: Trave in legno a falda Falda 5 fili 251-289

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 392.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1



Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 392.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(0.96^2 + 1.05^2)} = 1.42 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -34.1$; $T_y = -37.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.9/85.3)^2 + 0.7 \cdot 48.8/81 + 66.5/81 = 1.24 > 1$ [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -6504$; $M_y = 7095.4$; $N = -70.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 392.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0 + 0 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -34.2$; $T_y = -37$; $M_t = 286.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 392.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.02 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 286.1$

Asta 256: Trave in legno a falda Falda 5 fili 251-289

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 10.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.07 \leq 57.26$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

$N = 5.3$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.1/111.3 + 0.2/111.3 = 0 \leq 1$ (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = 9.1$; $M_y = -16.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$



$\text{Sqrt}(0.04^2+0.02^2) = 0.04 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
Tx = 1.3; Ty = 0.8

Asta 257: Trave in legno a falda Falda 5 fili 257-290

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau, d \leq f_{v,d}$
 $\text{Sqrt}(1.2^2+1.81^2) = 2.17 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
Tx = -42.7; Ty = -64.2

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.9/85.3)^2 + 72.2/81 + 0.7 \cdot 68/80.97 = 1.48 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = -9623; My = 7254.2; N = -153.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.08 + 0.01 + 0.01 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
Tx = -42.7; Ty = -64.2; Mt = 225.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $1.59 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
Mt = 225.2

Asta 258: Trave in legno a falda Falda 5 fili 257-290

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 1.1; Kh = 1.084 (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $0.5/57.3+0.7*0/111.3+0.2/111.3=0.01 \leq 1$ [4.4.6b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 Mx = -6.6; My = -18; N = 43.7

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; Kh = 1.084 (formula 11.7.1)
 $St_{0,d} \leq ft_{0,d}$
 $0.27 \leq 57.26$ Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo
 N = 21.8

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.05^2+0.04^2)} = 0.06 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Tx = -1.7; Ty = 1.5

Asta 259: Trave in legno a falda Falda 5 fili 263-291

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 240.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 240.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.04^2+3.09^2)} = 3.26 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -36.9; Ty = -109.8

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $(3.2/85.3)^2+97/81+0.7*44.9/80.97=1.59 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -12933.6; My = 4791.7; N = -259.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 240.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0+0+0.04 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -36.5; Ty = -109.7; Mt = -9.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 240.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
 $0.37 \leq 26.13$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 Mt = -52.5



Asta 260: Trave in legno a falda Falda 5 fili 263-291

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 4.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.18 \leq 57.26 \text{ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo}$

$N = 14$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.1/111.3 + 0.7 \cdot 0/111.3 = 0 \leq 1$ (formula 4.4.5a) Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = 16.5$; $M_y = -4.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(0.01^2 + 0.04^2)} = 0.04 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.2$; $T_y = 1.4$

Asta 261: Trave in legno a falda Falda 5 fili 268-292

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 164.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 164.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(0.47^2 + 4.86^2)} = 4.88 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -16.7$; $T_y = -172.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.9/85.3)^2 + 108.4/81 + 0.7 \cdot 15.6/80.97 = 1.47 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Mx = -14451.8; My = 1668.7; N = -234.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 164.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.09+0+0.09 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -16.5; Ty = -172.8; Mt = -231.1

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 164.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh \cdot f_{v,d}$

1.63 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = -231.1

Asta 262: Trave in legno a falda Falda 5 fili 268-292

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 10.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

0.2 <= 57.26 Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

N = 15.8

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

0.7*0.1/111.3+0.1/111.3=0 <= 1 (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mx = 7.9; My = 9.3

Asta 263: Trave in legno a falda Falda 5 fili 272-293

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 88.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 88.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67



$\tau_{,d} \leq f_{v,d}$

$\sqrt{1.05^2 + 10.57^2} = 10.62 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 37.4; T_y = -375.8$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8; K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.1/85.3)^2 + 134.2/81 + 0.7 \cdot 11.3/80.97 = 1.76 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -17892.1; M_y = -1209.3; N = -489.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 88.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8; K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.18 + 0 + 0.44 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 37.4; T_y = -375.8; M_t = -471.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 88.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.33 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -471.3$

Asta 264: Trave in legno a falda Falda 5 fili 272-293

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 23.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 14

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1; K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.11 \leq 57.26$ Comb: SLD, 16; Durata minima del carico nella combinazione: istantaneo

$N = 8.5$

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 23.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1; K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.5/57.3 + 0.7 \cdot 0/111.3 + 0.1/111.3 = 0.01 \leq 1$ [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 1.7; M_y = 7.6; N = 40.9$

Asta 265: Trave in legno a falda Falda 5 fili 276-294

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 24.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 12.1
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d} \leq ft_{0,d}$
 $0.17 \leq 57.26$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo
 $N = 13.3$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $0.7 \cdot 0.1/111.3 + 0.2/111.3 = 0 \leq 1$ (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $M_x = 9.1$; $M_y = -18.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.04^2 + 0.02^2)} = 0.05 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $T_x = 1.5$; $T_y = 0.8$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.3
 $K_{def} = 0$
 $U_{inst\ tot\ in\ x} = 0$
 $U_{inst\ tot\ in\ y} = 0$
 $U_{inst\ tot} = 0$
Luce/ $U_{inst,tot} >$ limite
 $24.2/0 = 7802796.3 > 300$ Comb: SLE rara, 6

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 20.2
 $K_{def} = 0$
 $U_{inst\ var\ in\ x} = 0$
 $U_{inst\ var\ in\ y} = 0$
 $U_{inst\ var} = 0$
Luce/ $U_{inst,var} >$ limite
 $24.2/0 = 4589074069.5 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.3
 $K_{def} = 0.6$
 $U_{fin\ in\ x} = 0$
 $U_{fin\ in\ y} = 0$
 $U_{fin} = 0$
Luce/ $U_{fin} >$ limite
 $24.2/0 = 4877205 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,000 = 0,500$
Variabile H = $0,000 + 1,000 = 1,000$

Asta 266: Trave in legno a falda Falda 6 fili 227-228

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 303.6



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$
 $0.9/41.6+166.5/81+0.7*2.6/81=2.1 \geq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -22199.9$; $M_y = -280.3$; $N = 68.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $Sqrt(0.02^2+3.43^2) = 3.43 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -0.5$; $T_y = 121.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.07+0+0.05 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -0.9$; $T_y = 121.8$; $M_t = 176.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $1.26 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 177.9$

Asta 267: Trave in legno a falda Falda 6 fili 218-219

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 303.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$
 $3.1/41.6+156.5/81+0.7*4.6/81=2.05 \geq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -20864.6$; $M_y = -490.2$; $N = 248.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$



$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.08^2 + 3.15^2} = 3.15 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -2.7$; $T_y = 112$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.08 + 0 + 0.04 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -2.7$; $T_y = 112$; $M_t = 203.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$1.44 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 204.4$

Asta 268: Trave in legno a falda Falda 6 fili 212-213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 334.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 334.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{,0,d} / ft_{,0,d} + Sm_{,y,d} / fm_{,y,d} + Km * (Sm_{,z,d} / fm_{,z,d}) \leq 1$

$St_{,0,d} / ft_{,0,d} + Km * (Sm_{,y,d} / fm_{,y,d}) + Sm_{,z,d} / fm_{,z,d} \leq 1$

$4.7 / 41.6 + 120.4 / 81 + 0.7 * 2.5 / 81 = 1.62 \leq 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -16058.4$; $M_y = -267.5$; $N = 376.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.05^2 + 2.18^2} = 2.19 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1.6$; $T_y = 77.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1.6$; $T_y = 77.7$; $M_t = 115.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 334.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$0.82 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 115.9$



Asta 269: Trave in legno a falda Falda 6 fili 203-204

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 255.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 255.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$4/41.6+111.4/81+0.7*5.4/81=1.52 > 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -14858.9$; $M_y = 576.3$; $N = 320.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.09^2+2.84^2} = 2.84 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 3$; $T_y = 101$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05+0+0.03 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 3$; $T_y = 101$; $M_t = 137.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 255.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.97 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 137.7$

Asta 270: Trave in legno a falda Falda 6 fili 193-194

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 176.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$2.3/41.6+85.1/81+0.7*8.1/81=1.18 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Mx = 11346.6; My = -869.2; N = 181.3

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.31^2 + 3.66^2)} = 3.67 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 10.9; Ty = 130

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.03+0+0.05 ≤ 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 10.9; Ty = 130; Mt = 81.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 176.1

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

0.58 ≤ 19 Comb: SLU, 38; Durata minima del carico nella combinazione: media

Mt = 82

Asta 271: Trave in legno a falda Falda 6 fili 186-187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 96.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

2.9/41.6+98.8/81+0.7*8.9/81=1.37 ≤ 1 [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 13178.9; My = -947; N = 228.2

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.6^2 + 6.13^2)} = 6.16 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 21.5; Ty = 218.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.02+0+0.15 ≤ 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 21.5; Ty = 218.1; Mt = 47.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 96.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



0.34 <= 19 Comb: SLU, 38; Durata minima del carico nella combinazione: media
Mt = 47.5

Asta 272: Trave in legno a falda Falda 4 fili 172-173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 296.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 296.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) > 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} > 1$
 $3/41.6+378.9/81+0.7*10/81=4.84 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -50513.6$; $M_y = -1066.1$; $N = 237.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{t,d} \leq f_{v,d}$
 $\sqrt{0.28^2+8.12^2} = 8.13 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -9.9$; $T_y = 288.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.15+0+0.26 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = -10$; $T_y = 288.8$; $M_t = -391$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $2.76 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = -391$

Asta 273: Trave in legno a falda Falda 4 fili 163-164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 296.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(0.12^2 + 10.16^2)} = 10.16 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 4.1$; $T_y = 361.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(2.3/85.3)^2 + 438.6/81 + 0.7 \cdot 2.3/80.97 = 5.44 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -58474.4$; $M_y = 240.9$; $N = -181.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.09 + 0 + 0.4 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 4.1$; $T_y = 361.3$; $M_t = -250.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.77 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -250.1$

Asta 274: Trave in legno a falda Falda 4 fili 155-156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 296.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) > 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} > 1$

$418.2/81 + 0.7 \cdot 2.1/81 = 5.18 > 1$ (formula 4.4.5a) Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -55762.8$; $M_y = -225$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{(0.04^2 + 9.1^2)} = 9.1 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1.5$; $T_y = 323.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.32 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1.5$; $T_y = 323.5$; $M_t = -159.4$



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

1.13 \leq 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = -159.4

Asta 275: Trave in legno a falda Falda 4 fili 150-151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 296.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m * (S_{m,z,d}/f_{m,z,d}) !> 1$

$K_m * (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} !> 1$

425.4/81+0.7*3.9/81=5.29 !> 1 (formula 4.4.5a) Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -56720.1$; $M_y = 417.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.07^2 + 9.24^2} = 9.24 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.6$; $T_y = 328.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.01+0+0.33 \leq 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.6$; $T_y = 328.6$; $M_t = -28.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

0.2 \leq 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = -28.4

Asta 276: Trave in legno a falda Falda 4 fili 141-142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 296.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.17^2 + 9.37^2} = 9.37 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 6$; $T_y = 333.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.2/85.3)^2 + 429.7/81 + 0.7 \cdot 9/80.97 = 5.38 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -57292.8$; $M_y = 957.5$; $N = -94.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.34 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 6$; $T_y = 333.2$; $M_t = 103.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.73 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 103.6$

Asta 277: Trave in legno a falda Falda 4 fili 134-135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 296.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.29^2 + 9.22^2} = 9.22 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 10.2$; $T_y = 327.8$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.6/85.3)^2 + 425.4/81 + 0.7 \cdot 13.2/80.97 = 5.37 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -56719.9$; $M_y = 1403.8$; $N = -47.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.09 + 0 + 0.33 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 10.2$; $T_y = 327.8$; $M_t = 237.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $1.68 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 237.2$

Asta 278: Trave in legno a falda Falda 4 fili 123-124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 296.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 296.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \cdot l > 1$
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \cdot l > 1$
 $6.3/41.6 + 354.9/81 + 0.7 \cdot 2.3/81 = 4.55 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -47325.1$; $M_y = 243.6$; $N = 501.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.04^2 + 6.59^2} = 6.59 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 1.5$; $T_y = 234.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.13 + 0 + 0.17 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 1.5$; $T_y = 234.2$; $M_t = 339.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.4 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = 339.4$

Asta 279: Trave in legno a falda Falda 4 fili 230-231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 53.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 53.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} > f_{v,d}$
 $\sqrt{(1.95^2 + 17.26^2)} = 17.37 > 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $T_x = -69.3$; $T_y = -613.8$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(3.5/85.3)^2 + 196.2/81 + 0.7 \cdot 20.6/80.97 = 2.6 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -26159.4$; $M_y = 2195.8$; $N = -280.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 53.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$
 $0.57 + 0.01 + 1.16 > 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $T_x = -69.3$; $T_y = -613.8$; $M_t = 1544.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 53.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $10.92 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 1545.6$

Asta 280: Trave in legno a falda Falda 4 fili 230-231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d} \leq f_{t,0,d}$
 $0.65 \leq 57.26$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $N = 51.9$

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/f_{t,0,d} + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $St_{0,d}/f_{t,0,d} + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $0.6/57.3 + 0.7 \cdot 0/111.3 + 0.1/111.3 = 0.01 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = -0.2$; $M_y = 7.3$; $N = 51.8$



Asta 281: Trave in legno a falda Falda 4 fili 221-222

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 130.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 130.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.99^2 + 6.02^2} = 6.11 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -35.2$; $T_y = -214.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.8/85.3)^2 + 124.2/81 + 0.7 * 21.7/80.97 = 1.72 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -16558.6$; $M_y = 2314.7$; $N = -147.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 130.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.27 + 0 + 0.14 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -35.2$; $T_y = -214.2$; $M_t = 719.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 130.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$5.09 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 721$

Asta 282: Trave in legno a falda Falda 4 fili 221-222

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$



$St,0,d/ft,0,d + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $1.8/57.3+0.2/111.3+0.7*0/111.3=0.03 \leq 1$ [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $Mx = -28.3; My = -4.4; N = 144.4$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 1.1; Kh = 1.084$ (formula 11.7.1)
 $St,0,d \leq ft,0,d$
 $1.81 \leq 57.26$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $N = 144.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 1.1; kcr = 0.67$
 $\tau,d \leq fv,d$
 $Sqrt(0.01^2+0.12^2) = 0.12 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $Tx = 0.4; Ty = 4.1$

Asta 283: Trave in legno a falda Falda 4 fili 214-215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 207.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 207.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8; kcr = 0.67$
 $\tau,d \leq fv,d$
 $Sqrt(0.26^2+4.46^2) = 4.47 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $Tx = -9.2; Ty = -158.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8; Kh = 1.084$ (formula 11.7.1)
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(1.7/85.3)^2 + 154.8/81 + 0.7*10.6/80.97 = 2.1 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $Mx = -20634.1; My = 1131.8; N = -135.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 207.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8; Kh = 1.084$ (formula 11.7.1); $kcr = 0.67$
 $\tau,tor,d/(ksh*fv,d) + (\tau,y,d/fv,d)^2 + (\tau,z,d/fv,d)^2 \leq 1$
 $0.17+0+0.08 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $Tx = -9.3; Ty = -158.5; Mt = 469.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 207.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $Kmod = 0.8$
 $\tau,tor,d \leq Ksh * fv,d$
 $3.32 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $Mt = 469.5$



Asta 284: Trave in legno a falda Falda 4 fili 214-215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.8/57.3+0.2/111.3+0.7*0/111.3=0.03 \leq 1$ [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -25.6$; $M_y = 4.9$; $N = 143$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

$1.79 \leq 57.26$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 143.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.02^2+0.1^2} = 0.1 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -0.6$; $T_y = 3.5$

Asta 285: Trave in legno a falda Falda 4 fili 205-206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 284.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 284.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.19^2+4.34^2} = 4.35 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -6.9$; $T_y = -154.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$(1.1/85.3)^2+219.2/81+0.7*7.8/80.97=2.78 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Mx = -29228.8; My = 835.3; N = -87.8

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 284.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.15+0+0.07 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -7.1; Ty = -154.3; Mt = 401.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 284.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh \cdot f_{v,d}$

2.84 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 401.7

Asta 286: Trave in legno a falda Falda 4 fili 205-206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 3.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

0.32 <= 57.26 Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

N = 25.9

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

0.6/57.3+0.1/111.3+0.7*0.1/111.3=0.01 <= 1 [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = -11.5; My = -5.4; N = 48.2

Asta 287: Trave in legno a falda Falda 4 fili 195-196

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 45

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 45

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)



$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) > 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} > 1$
 $277.7/81 + 0.7 \cdot 2.7/81 = 3.45 > 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -37032.1$; $M_y = -283.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} > f_{v,d}$
 $\sqrt{0.28^2 + 20.89^2} = 20.89 > 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $T_x = -9.8$; $T_y = 742.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$
 $0.28 + 0 + 1.7 > 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $T_x = -9.8$; $T_y = 742.8$; $M_t = -762.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 45
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $5.39 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = -762.8$

Asta 288: Trave in legno a falda Falda 4 fili 188-189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 122

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.15^2 + 13.01^2} = 13.01 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -5.4$; $T_y = 462.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 122
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.3/85.3)^2 + 359.9/81 + 0.7 \cdot 3.1/80.97 = 4.47 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -47983.9$; $M_y = -335.1$; $N = -103.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.24 + 0 + 0.66 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -5.4$; $T_y = 462.7$; $M_t = -632.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 122



Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $4.47 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = -632.7$

Asta 289: Trave in legno a falda Falda 4 fili 181-182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 199

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 199

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) !> 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} !> 1$

$2.6/41.6+380.8/81+0.7*1.3/81=4.78 !> 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -50774.8$; $M_y = -135$; $N = 208.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.04^2+9.48^2)} = 9.48 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -1.5$; $T_y = 337.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.2+0+0.35 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -1.5$; $T_y = 337.1$; $M_t = -527.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 199

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$3.73 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -527.7$

Asta 290: Trave in legno a falda Falda 4 fili 116-117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 203.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1



Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 203.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$3.9/41.6+391/81+0.7*2.4/81=4.94 \geq 1$ [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -52130.3$; $M_y = -258$; $N = 314.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.05^2+9.19^2)} = 9.19 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -2$; $T_y = 326.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.19+0+0.33 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -2$; $T_y = 326.7$; $M_t = 499$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 203.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$3.52 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 499$

Asta 291: Trave in legno a falda Falda 4 fili 108-109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 126.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.05^2+12.59^2)} = 12.59 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 1.7$; $T_y = 447.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 126.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$(1.8/85.3)^2+371.6/81+0.7*1/80.97=4.6 \geq 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -49552.1$; $M_y = 107.8$; $N = -144.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$



$0.23+0+0.62 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 1.7$; $T_y = 447.6$; $M_t = 627.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 126.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$4.43 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 627.1$

Asta 292: Trave in legno a falda Falda 4 fili 101-102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 49.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 49.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m * (S_{m,z,d}/f_{m,z,d}) > 1$

$K_m * (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} > 1$

$297.1/81+0.7*0.7/81=3.67 > 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -39610.6$; $M_y = 74$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{(0.05^2+20.45^2)} = 20.45 > 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 1.8$; $T_y = 727.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.28+0+1.63 > 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 1.8$; $T_y = 727.2$; $M_t = 763.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 49.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$5.39 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 763.9$

Asta 293: Trave in legno a falda Falda 4 fili 93-94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 288.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 288.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.2^2 + 4.51^2} = 4.51 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 7.1$; $T_y = -160.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.3/85.3)^2 + 230.3/81 + 0.7 \cdot 8.2/80.97 = 2.92 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -30702.2$; $M_y = -877.9$; $N = -101.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 288.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.14 + 0 + 0.08 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 7.3$; $T_y = -160.1$; $M_t = -373.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 288.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.64 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = -373.8$

Asta 294: Trave in legno a falda Falda 4 fili 93-94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $0.5/57.3 + 0.1/111.3 + 0.7 \cdot 0/111.3 = 0.01 \leq 1$ [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_x = -10.7$; $M_y = 0.1$; $N = 41.3$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 2.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{t,0,d} \leq f_{t,0,d}$
 $0.52 \leq 57.26$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $N = 41.4$



Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0^2 + 0.03^2} = 0.03 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.1$; $T_y = 1.2$

Asta 295: Trave in legno a falda Falda 4 fili 85-86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 211.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 211.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.35^2 + 4.64^2} = 4.65 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 12.4$; $T_y = -165$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(1.6/85.3)^2 + 162.6/81 + 0.7 \cdot 13.3/80.97 = 2.12 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -21674.1$; $M_y = -1414.7$; $N = -129.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 211.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.17 + 0 + 0.08 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 12.5$; $T_y = -164.8$; $M_t = -444.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 211.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.14 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -444.9$

Asta 296: Trave in legno a falda Falda 4 fili 85-86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 1
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{t,d} \leq f_{t,d}$
 $0.48 \leq 57.26$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $N = 38.5$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 14.4
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $0.7 \cdot 0/111.3 + 0.1/111.3 = 0 \leq 1$ (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $M_x = 4.2$; $M_y = 5.4$

Asta 297: Trave in legno a falda Falda 4 fili 79-80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 134.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 134.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.05^2 + 6.13^2)} = 6.22 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 37.3$; $T_y = -217.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(2.1/85.3)^2 + 127/81 + 0.7 \cdot 24/80.97 = 1.78 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -16934.8$; $M_y = -2556$; $N = -169.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 134.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.26 + 0 + 0.15 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 37.5$; $T_y = -217.5$; $M_t = -689.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 134.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $4.87 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = -689.7$



Asta 298: Trave in legno a falda Falda 4 fili 79-80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

$0.24 \leq 57.26 \text{ Comb: SLV, 12}$; Durata minima del carico nella combinazione: istantaneo

$N = 19.1$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$0.7*0/111.3+0/111.3=0 \leq 1$ (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = 4.8$; $M_y = -4.7$

Asta 299: Trave in legno a falda Falda 4 fili 70-71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 57.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 57.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.07^2+15.09^2} = 15.23 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 73.6$; $T_y = -536.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$(2.8/85.3)^2+174.9/81+0.7*23.9/80.97=2.37 \ngtr 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -23320.7$; $M_y = -2550.5$; $N = -220.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 57.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.54+0.02+0.89 > 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Tx = 73.6; Ty = -536.5; Mt = -1442

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 57.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

10.2 <= 19 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = -1444.5

Asta 300: Trave in legno a falda Falda 4 fili 70-71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

0 <= 57.26 Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

N = 0.3

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

0.7*0/111.3+0.1/111.3=0 <= 1 (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Mx = 4.7; My = -6.4

Asta 301: Trave in legno a falda Falda 3 fili 106-107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 74

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) !> 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

3/41.6+99.5/81+0.7*5.3/81=1.35 !> 1 [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 13271; My = 561.1; N = 241.1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.44^2 + 7.36^2} = 7.37 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -15.7$; $T_y = 261.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d} / (k_{sh} * f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.21 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -15.7$; $T_y = 261.7$; $M_t = -44$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 74

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.31 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -44$

Asta 302: Trave in legno a falda Falda 3 fili 58-59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 303.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} / ft_{0,d} + Sm_{y,d} / fm_{y,d} + Km * (Sm_{z,d} / fm_{z,d}) \leq 1$

$St_{0,d} / ft_{0,d} + Km * (Sm_{y,d} / fm_{y,d}) + Sm_{z,d} / fm_{z,d} \leq 1$

$2.9 / 41.6 + 160.7 / 81 + 0.7 * 2.4 / 81 = 2.07 \leq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -21421$; $M_y = 257.9$; $N = 230.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.03^2 + 3.61^2} = 3.61 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 1$; $T_y = 128.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d} / (k_{sh} * f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.05 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 1.4$; $T_y = 128.2$; $M_t = -119.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.85 \leq 19$ Comb: SLU, 37; Durata minima del carico nella combinazione: media

$M_t = -120.7$



Asta 303: Trave in legno a falda Falda 3 fili 67-68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 303.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.6/41.6 + 152.3/81 + 0.7*0.8/81 = 1.93 > 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20309.8$; $M_y = -84.5$; $N = 124.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.03^2 + 3.27^2)} = 3.27 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -0.9$; $T_y = 116.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.04 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -0.6$; $T_y = 116.1$; $M_t = -172.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.22 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -173.4$

Asta 304: Trave in legno a falda Falda 3 fili 76-77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 303.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$4.4/41.6 + 141.8/81 + 0.7*3.1/81 = 1.88 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Mx = -18900.7; My = 328.8; N = 349.1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.05^2 + 2.98^2)} = 2.98 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = 1.7; Ty = 105.8

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.07+0+0.03 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = 1.7; Ty = 105.8; Mt = -194.1

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

1.38 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = -195.2

Asta 305: Trave in legno a falda Falda 3 fili 83-84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 321.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 321

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) ! > 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} ! > 1$

5.6/41.6+119.9/81+0.7*1.9/81=1.63 !> 1 [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -15988.1; My = 207.4; N = 447.9

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.04^2 + 2.36^2)} = 2.36 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 1.4; Ty = 83.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.05+0+0.02 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 1.4; Ty = 83.9; Mt = -142.5

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 321

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



1.01 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = -142.5

Asta 306: Trave in legno a falda Falda 3 fili 91-92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 238.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 238.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.2/41.6 + 100.5/81 + 0.7 \cdot 5.5/81 = 1.39 \leq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -13397.2$; $M_y = -589.4$; $N = 338.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(0.09^2 + 2.97^2)} = 2.98 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -3.2$; $T_y = 105.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{t,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.03 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -3.2$; $T_y = 105.7$; $M_t = -121.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 238.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{t,d} \leq K_{sh} \cdot f_{v,d}$

$0.86 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -121.9$

Asta 307: Trave in legno a falda Falda 3 fili 99-100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 156.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $St,0,d/ft,0,d + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) !> 1$
 $St,0,d/ft,0,d + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d <= 1$
 $2.3/41.6+95.2/81+0.7*5.6/81=1.28 !> 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = 12697.9; My = 598.8; N = 185.7

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau,d \leq f_{v,d}$
 $\text{Sqrt}(0.24^2+4.15^2) = 4.16 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -8.5; Ty = 147.6

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03+0+0.07 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -8.5; Ty = 147.6; Mt = -72.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 156.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.51 \leq 19$ Comb: SLU, 38; Durata minima del carico nella combinazione: media
 Mt = -72.5

Asta 308: Trave in legno a falda Falda 3 fili 46-47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 182.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau,d \leq f_{v,d}$
 $\text{Sqrt}(0.51^2+3.97^2) = 4 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -18.2; Ty = 141.1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 182.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(4.1/85.3)^2+152/81+0.7*15.4/80.97=2.01 !> 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -20272.2; My = -1646; N = -325.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.06+0+0.06 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Tx = -17.8; Ty = 141; Mt = 150.4



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 182.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

1.06 \leq 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 150.4$

Asta 309: Trave in legno a falda Falda 3 fili 52-53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 264.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 264.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) !> 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} !> 1$

9.3/41.6+162.4/81+0.7*11.5/81=2.33 $!> 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -21647.9$; $M_y = -1230.7$; $N = 743.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.33^2 + 3.89^2} = 3.91 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -11.9$; $T_y = 138.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.03+0+0.06 ≤ 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -11.9$; $T_y = 138.4$; $M_t = 67.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 264.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

0.48 ≤ 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 67.6$

Asta 310: Trave in legno a falda Falda 3 fili 40-41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 101.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.65^2 + 4.99^2} = 5.04 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -23.2$; $T_y = 177.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 101.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.1/85.3)^2 + 141.6/81 + 0.7 * 11.4/80.97 = 1.85 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -18877$; $M_y = -1210.7$; $N = -171.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.1 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -23.1$; $T_y = 177.5$; $M_t = 177.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 101.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.25 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 177.5$

Asta 311: Trave in legno a falda Falda 3 fili 34-35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 263.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$122/81 + 0.7 * 9.8/81 = 1.59 > 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -16263.9$; $M_y = -1046.1$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 263.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.19^2 + 2.41^2} = 2.42 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 6.7$; $T_y = -85.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 263.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 0.06+0+0.02 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 7; Ty = -85.4; Mt = -153.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 263.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot fv,d$
 1.08 <= 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = -153.4

Asta 312: Trave in legno a falda Falda 3 fili 29-30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 182.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 182.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq fv,d$
 $\sqrt{0.42^2 + 4.1^2} = 4.12 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 15; Ty = -145.9

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$
 $(Sc_{0,d}/fc_{0,d})^2 + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $(1.9/85.3)^2 + 128.4/81 + 0.7 \cdot 14.5/80.97 = 1.71 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -17121.3; My = -1549.5; N = -150.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 182.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 0.15+0+0.07 <= 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Tx = 15.1; Ty = -145.9; Mt = -405.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 182.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot fv,d$
 2.86 <= 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Mt = -405.4

Asta 313: Trave in legno a falda Falda 3 fili 25-26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 100.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 100.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.04^2 + 8.58^2)} = 8.64 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = 36.8$; $T_y = -305.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(4.3/85.3)^2 + 145.7/81 + 0.7 \cdot 20.3/80.97 = 1.98 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -19426.4$; $M_y = -2165.9$; $N = -344.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 100.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.3 + 0 + 0.29 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = 36.8$; $T_y = -305.1$; $M_t = -808.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 100.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $5.71 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $M_t = -808.3$

Asta 314: Trave in legno a falda Falda 3 fili 21-22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 20.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(13.3/85.3)^2 + 104.6/81 + 0.7 \cdot 41.7/80.97 = 1.68 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -13942.5$; $M_y = 4451.2$; $N = -1065$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 20.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} > f_{v,d}$
 $\sqrt{(10.13^2 + 29.56^2)} = 31.25 > 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $T_x = -360$; $T_y = -1051.2$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 20.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$1.17+0.4+3.41 > 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -360$; $T_y = -1051.2$; $M_t = -3155.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 20.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} > K_{sh} \cdot f_{v,d}$

$22.28 > 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_t = -3155.4$

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 6.8

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$L_{uce}/U_{inst,tot} > \text{limite}$

$20.5/0=6986.1 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 6.8

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$L_{uce}/U_{inst,var} > \text{limite}$

$20.5/0=10490.6 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 6.8

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$L_{uce}/U_{fin} > \text{limite}$

$20.5/0=5819.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Asta 315: Trave in legno a falda Falda 2 fili 55-8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 512.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 512.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.9/57.3+28.6/111.3+0.7 \cdot 8.1/111.3=0.34 \leq 1$ [4.4.6a] Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo



Mx = -3818.3; My = -860.6; N = 153.5

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\text{Sqrt}(0.02^2 + 0.54^2) = 0.54 \leq 22$ Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo

Tx = -0.7; Ty = 19

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor},d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.01+0+0 ≤ 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 3.1; Ty = 8.8; Mt = -39.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 512.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor},d} \leq K_{sh} \cdot f_{v,d}$

0.28 ≤ 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = -39.2

Asta 316: Trave in legno a falda Falda 2 fili 52-9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 475.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

0.9/41.6+0.7*15.9/81+31.6/81=0.55 ≤ 1 [4.4.6b] Comb: SLU, 30; Durata minima del carico nella combinazione: media

Mx = -2115.3; My = -3366.7; N = 75

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 475.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\text{Sqrt}(0.38^2 + 0.31^2) = 0.49 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 13.6; Ty = -10.9

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 475.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor},d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.06+0+0 ≤ 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 13.6; Ty = -10.9; Mt = -161.1

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 475.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor},d} \leq K_{sh} \cdot f_{v,d}$



1.14 <= 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mt = -161.1

Asta 317: Trave in legno a falda Falda 2 fili 46-10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 398.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \cdot \gamma > 1$
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \cdot \gamma > 1$
 $0.7 \cdot 41.9/81 + 63.4/81 = 1.15 > 1$ (formula 4.4.5b) Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = -5583.2; My = -6763.5

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 398.7
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{(0.89^2 + 0.81^2)} = 1.2 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
Tx = 31.6; Ty = -28.8

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 398.7
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.1 + 0 + 0 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
Tx = 31.6; Ty = -28.8; Mt = -266.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 398.7
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$
1.89 <= 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mt = -267

Asta 318: Trave in legno a falda Falda 2 fili 40-11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 322

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 322
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{1.24^2 + 1.69^2} = 2.1 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 44; Ty = -60.3

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m*(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m*(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.5/85.3)^2 + 73.4/81 + 0.7*71.8/80.97 = 1.53 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -9788; My = -7657.3; N = -118

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 322
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.09 + 0.01 + 0.01 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 44; Ty = -60.3; Mt = -234

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 322
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $1.65 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = -234

Asta 319: Trave in legno a falda Falda 2 fili 34-12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 245.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 245.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{1.26^2 + 3.34^2} = 3.57 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 44.6; Ty = -118.8

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m*(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m*(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(3.2/85.3)^2 + 114.1/81 + 0.7*57.1/80.97 = 1.9 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -15209.4; My = -6086.1; N = -258.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 245.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.01 + 0.01 + 0.04 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 44.6; Ty = -118.8; Mt = -34



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 245.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.42 \leq 26.13$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_t = -59.5$

Asta 320: Trave in legno a falda Falda 2 fili 29-13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 168.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 168.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.67^2 + 5.38^2} = 5.42 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 23.7$; $T_y = -191.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(3.5/85.3)^2 + 126.4/81 + 0.7 * 22/80.97 = 1.75 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -16853.4$; $M_y = -2348.1$; $N = -276.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 168.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.08 + 0 + 0.11 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = 23.5$; $T_y = -191.2$; $M_t = 212.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 168.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $1.5 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 212.9$

Asta 321: Trave in legno a falda Falda 2 fili 25-14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 92.2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 92.2
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.88^2 + 11.27^2} = 11.3 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -31.4$; $T_y = -400.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(6.7/85.3)^2 + 146/81 + 0.7 * 8.7/80.97 = 1.88 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -19467.1$; $M_y = 929.2$; $N = -537.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 92.2
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.18 + 0 + 0.5 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -31.4$; $T_y = -400.7$; $M_t = 496.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 92.2
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $3.51 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $M_t = 496.8$

Asta 322: Trave in legno a falda Falda 2 fili 21-15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 15.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 15.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(9.7/85.3)^2 + 27.5/81 + 0.7 * 16.7/80.97 = 0.5 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_x = 3668.2$; $M_y = 1784.8$; $N = -776.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 15.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{2.55^2 + 5.5^2} = 6.06 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 90.6$; $T_y = -195.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 15.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.26 + 0.03 + 0.12 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 90.6$; $T_y = -195.5$; $M_t = 693.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 15.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $4.9 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 693.8$

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 8.8
 $K_{def} = 0$
 $U_{inst,tot} \text{ in } x = 0$
 $U_{inst,tot} \text{ in } y = 0$
 $U_{inst,tot} = 0$
 $Luce/U_{inst,tot} > \text{limite}$
 $15.6/0 = 16307.8 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 8.8
 $K_{def} = 0$
 $U_{inst,var} \text{ in } x = 0$
 $U_{inst,var} \text{ in } y = 0$
 $U_{inst,var} = 0$
 $Luce/U_{inst,var} > \text{limite}$
 $15.6/0 = 26653.5 > 300$ Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 8.8
 $K_{def} = 0.6$
 $U_{fin} \text{ in } x = 0$
 $U_{fin} \text{ in } y = 0$
 $U_{fin} = 0$
 $Luce/U_{fin} > \text{limite}$
 $15.6/0 = 13190.1 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$

Asta 323: Trave in legno a falda Falda 1 fili 148-149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 428

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{t,d} \leq f_{v,d}$
 $\sqrt{(0.02^2 + 2.41^2)} = 2.41 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 0.7$; $T_y = 85.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 428
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.4/85.3)^2 + 156.9/81 + 0.7 \cdot 0.7/80.97 = 1.94 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -20925.1$; $M_y = 79.1$; $N = -112$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.01 + 0 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 0.7$; $T_y = 85.9$; $M_t = -16.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 428
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.12 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = -16.3$

Asta 324: Trave in legno a falda Falda 1 fili 153-154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 428

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.04^2 + 2.39^2} = 2.39 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 1.4$; $T_y = 84.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 428
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(4.3/85.3)^2 + 151.3/81 + 0.7 \cdot 2/80.97 = 1.89 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -20168.5$; $M_y = 212.3$; $N = -344.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.01 + 0 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $T_x = 1.4$; $T_y = 84.9$; $M_t = -34$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 428
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.24 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = -34.4$



Asta 325: Trave in legno a falda Falda 1 fili 139-140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 428

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.03^2 + 2.41^2)} = 2.41 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1$; $T_y = 85.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 428

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(3.6/85.3)^2 + 152.8/81 + 0.7^2/80.97 = 1.91 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20377.3$; $M_y = -214.6$; $N = -290.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1$; $T_y = 85.6$; $M_t = 3.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 428

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.15 \leq 26.13$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = 21.1$

Asta 326: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$St_{0,d}/f_{t,0,d} + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$St_{0,d}/f_{t,0,d} + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$2.5/52.8 + 0.7^2 \cdot 15.9/102.7 + 35.6/102.7 = 0.5 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo



Mx = -25274.3; My = 44261; N = 1016.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\text{Sqrt}(1.63^2 + 1.45^2) = 2.18 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -299.9; Ty = 267.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{\text{tor},d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

$0.1 + 0.01 + 0.01 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -299.9; Ty = 267.3; Mt = 3016

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor},d} \leq K_{sh} \cdot f_{v,d}$

$1.83 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 3028.8

Asta 327: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\text{Sqrt}(1.09^2 + 2.28^2) = 2.53 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 200.8; Ty = 419

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$(\sigma_{c,0,d} / f_{c,0,d})^2 + \sigma_{m,y,d} / f_{m,y,d} + K_m \cdot (\sigma_{m,z,d} / f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d} / f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d} / f_{m,y,d}) + \sigma_{m,z,d} / f_{m,z,d} \leq 1$

$(1.5/85.3)^2 + 26.1/74.7 + 0.7 \cdot 1.6/74.67 = 0.37 \leq 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mx = -41455.4; My = 2047.9; N = -633.4

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{\text{tor},d} / (k_{sh} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 200.8; Ty = 419; Mt = 2218

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor},d} \leq K_{sh} \cdot f_{v,d}$



1.34 <= 19.07 Comb: SLU, 38; Durata minima del carico nella combinazione: media
Mt = 2220.6

Asta 328: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau, d \leq f_{v,d}$
 $\text{Sqrt}(1.93^2 + 2.87^2) = 3.46 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
Tx = -355.5; Ty = -527.4

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 42.8
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.5/85.3)^2 + 23/74.7 + 0.7 * 10.8/74.67 = 0.41 \leq 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mx = -36466.9; My = -13394.4; N = -623.2

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.08 + 0.01 + 0.03 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
Tx = -342.2; Ty = -510.5; Mt = 2470.5

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
1.49 <= 19.07 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = 2473

Asta 329: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(0.87^2 + 2.32^2)} = 2.47 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 159.9$; $T_y = -426.3$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.4/85.3)^2 + 0.7 \cdot 16.3/74.7 + 19.3/74.7 = 0.41 \leq 1$ [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -25913.3$; $M_y = -23926.3$; $N = -590.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,y,d}/f_{v,d})^2 + (\tau_{t,z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.02 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 159.9$; $T_y = -424.9$; $M_t = 928$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.56 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 928$

Asta 330: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(2.27^2 + 1.44^2)} = 2.69 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 417.4$; $T_y = -264.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.2/85.3)^2 + 0.7 \cdot 7.1/74.7 + 14.8/74.7 = 0.26 \leq 1$ [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -11197.1$; $M_y = -18366.4$; $N = -490.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,y,d}/f_{v,d})^2 + (\tau_{t,z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0.02 + 0.01 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 401.9$; $T_y = -282.9$; $M_t = -1075.1$



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.65 \leq 19.07$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $M_t = -1075.1$

Asta 331: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 40.1

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 40.1
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $S_{m,y,d}/f_{m,y,d} + K_m * (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $K_m * (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $0.7 * 4.8/74.7 + 22.8/74.7 = 0.35 \leq 1$ (formula 4.4.5b) Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_x = -7627.2$; $M_y = 28339.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $S_{qrt}(3.52^2 + 1.69^2) = 3.9 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 648$; $T_y = 310.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03 + 0.05 + 0.01 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 648$; $T_y = 310.2$; $M_t = 831.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 40.1
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $1.1 \leq 26.22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_t = 1824.3$

Asta 332: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.57^2 + 1.25^2} = 2.86 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 473.3$; $T_y = 230.4$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.5/117.3)^2 + 0.7 \cdot 13/102.7 + 43.4/102.7 = 0.51 \leq 1$ [4.4.7b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = 20552.4$; $M_y = -53847.3$; $N = -1042.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.16 + 0.03 + 0.01 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 473.3$; $T_y = 230.4$; $M_t = -5009.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.03 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -5017.7$

Asta 333: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2/52.8 + 0.7 \cdot 8.1/102.7 + 20.9/102.7 = 0.3 \leq 1$ [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -12784.1$; $M_y = 25980$; $N = 831.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.07^2 + 2.24^2} = 2.48 \leq 16$ Comb: SLU, 30; Durata minima del carico nella combinazione: media

$T_x = -196.5$; $T_y = -412$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67
 $\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$
 0.07+0+0.02 <= 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Tx = -193.3; Ty = -412.8; Mt = -2078.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$
 1.27 <= 19.07 Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Mt = -2105.2

Asta 334: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $St_{0,d} / ft_{0,d} + Sm_{y,d} / fm_{y,d} + Km \cdot (Sm_{z,d} / fm_{z,d}) \leq 1$
 $St_{0,d} / ft_{0,d} + Km \cdot (Sm_{y,d} / fm_{y,d}) + Sm_{z,d} / fm_{z,d} \leq 1$
 2.4/52.8+0.7*7.2/102.7+21.5/102.7=0.3 <= 1 [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 Mx = 11353.2; My = -26729.8; N = 999.1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{\text{d}} \leq f_{\text{v,d}}$
 $\text{Sqrt}(0.95^2 + 1.69^2) = 1.94 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = -174.7; Ty = -311.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$
 0.04+0+0.01 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -160.9; Ty = -305.6; Mt = -1415.7

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$
 0.85 <= 19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = -1415.7

Asta 335: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $2.4/52.8+0.7*10/102.7+34.1/102.7=0.45 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = 15926.8$; $M_y = -42384.9$; $N = 995.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(1.81^2+0.99^2)} = 2.06 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $T_x = -333.4$; $T_y = -181.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03+0+0.01 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -88.6$; $T_y = 230.4$; $M_t = -1012.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.61 \leq 19.07$ Comb: SLU, 29; Durata minima del carico nella combinazione: media
 $M_t = -1013.3$

Asta 336: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $2.4/52.8+0.7*14.9/102.7+51.2/102.7=0.65 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = 23648.7$; $M_y = -63561.9$; $N = 994.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(2.18^2+1.19^2)} = 2.49 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $T_x = -401.8$; $T_y = 219$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02+0.01+0 \leq 1$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -322.3$; $T_y = 252.3$; $M_t = -1008.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.61 \leq 26.22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = -1008.6$

Asta 337: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$2.5/52.8+0.7 \cdot 15.8/102.7+54.1/102.7=0.68 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 25146.6$; $M_y = -67139.9$; $N = 1018.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{4.63^2+2.03^2} = 5.05 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -851.7$; $T_y = -372.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03+0.04+0.01 \leq 1$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = 827.4$; $T_y = 423.9$; $M_t = 1391.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.84 \leq 26.22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = 1391.1$

Asta 338: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$2.4/52.8 + 0.7*17.7/102.7 + 40.6/102.7 = 0.56 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$Mx = -28084.2$; $My = 50419$; $N = 997.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{5.5^2 + 2.74^2} = 6.14 \leq 22$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = 1011.3$; $T_y = 504.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0.06 + 0.02 \leq 1$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = 1011.3$; $T_y = 504.5$; $M_t = 858$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq Ksh * f_{v,d}$

$0.97 \leq 26.22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = -1613.1$

Asta 339: Trave in legno a falda Falda 1 fili 133-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$2.3/52.8 + 0.7*7.5/102.7 + 26.2/102.7 = 0.35 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$Mx = -11874.4$; $My = 32565.8$; $N = 950.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0^2 + 3.57^2} = 3.57 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 0.4$; $T_y = 656.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.4 + 0 + 0.05 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = 0.4$; $T_y = 656.7$; $M_t = 12729.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $7.68 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 12729.3$

Asta 340: Trave in legno a falda Falda 1 fili 133-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 31.5
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $2/52.8 + 0.7 \cdot 8.4/102.7 + 29.4/102.7 = 0.38 \leq 1$ [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_x = -13390.5$; $M_y = -36559.3$; $N = 840.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.21^2 + 2.38^2} = 2.38 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -37.9$; $T_y = 437$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.11 + 0 + 0.02 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $T_x = -37.9$; $T_y = 437$; $M_t = 3565.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.15 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 3565.4$



Asta 341: Trave in legno a falda Falda 1 fili 133-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.22^2 + 1.97^2)} = 1.98 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -40.7$; $T_y = -361.7$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 6.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.8/117.3)^2 + 0.7 \cdot 9.8/102.7 + 31.5/102.7 = 0.37 \leq 1$ [4.4.7b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = -15625.2$; $M_y = -39146.4$; $N = -1172.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12 + 0 + 0.02 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -40.7$; $T_y = -361.7$; $M_t = -3636.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.19 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -3636.2$

Asta 342: Trave in legno a falda Falda 1 fili 133-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(4.96^2 + 2.67^2)} = 5.63 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -912.7$; $T_y = -491$



Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$$

$$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$$

$$(2.5/117.3)^2 + 0.7 \cdot 13.2/102.7 + 44/102.7 = 0.52 \leq 1 \text{ [4.4.7b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo}$$

$$M_x = 20964.6; M_y = -54630.1; N = -1044.8$$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$$

$$0.4 + 0 + 0.05 \leq 1 \text{ Comb: SLU, 79; Durata minima del carico nella combinazione: media}$$

$$T_x = -93.8; T_y = -665.1; M_t = -12604.6$$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.5

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$$

$$7.61 \leq 19.07 \text{ Comb: SLU, 79; Durata minima del carico nella combinazione: media}$$

$$M_t = -12604.6$$

Asta 343: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$$S_{t,0,d}/f_{t,0,d} + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$$

$$S_{t,0,d}/f_{t,0,d} + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$$

$$2.1/52.8 + 0.7 \cdot 26.2/102.7 + 43.8/102.7 = 0.65 \leq 1 \text{ [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo}$$

$$M_x = -41505.2; M_y = 54434.2; N = 877.3$$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$$\tau_{t,d} \leq f_{v,d}$$

$$\sqrt{2.3^2 + 4.7^2} = 5.23 \leq 16 \text{ Comb: SLU, 80; Durata minima del carico nella combinazione: media}$$

$$T_x = -423.1; T_y = -864.7$$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$$

$$0.03 + 0.07 + 0.02 \leq 1 \text{ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo}$$

$$T_x = -1059.5; T_y = -591.8; M_t = -1228.1$$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$$



0.94 <= 26.22 Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
Mt = 1559.7

Asta 344: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $2.1/52.8 + 0.7 \cdot 12/102.7 + 53.9/102.7 = 0.65 \leq 1$ [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
Mx = 19101.8; My = -66962.6; N = 882.1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 1.1; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{4.84^2 + 1.91^2} = 5.21 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
Tx = 891.3; Ty = 352.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.06 + 0 + 0.05 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Tx = 152.4; Ty = -678.1; Mt = -1797.4

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.5
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$
 $1.08 \leq 19.07$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = -1797.4

Asta 345: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 1.1
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $2.1/52.8+0.7*10.9/102.7+50.8/102.7=0.61 \leq 1$ [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Mx = 17336.8; My = -63089.4; N = 868.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.07^2+3.07^2)} = 3.08 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -12.9; Ty = -565.8

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1; kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03+0.01+0.01 \leq 1$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 Tx = -403.4; Ty = -315.5; Mt = 1311.5

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
 $0.83 \leq 26.22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Mt = -1378.6

Asta 346: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 1.1
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $2.1/52.8+0.7*5.2/102.7+32.5/102.7=0.39 \leq 1$ [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 Mx = 8203.8; My = -40424.3; N = 872.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.5^2+2.02^2)} = 2.08 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 91.9; Ty = -372.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.02+0+0.02 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 91.9; Ty = -372.1; Mt = 585.7



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.62 \leq 26.22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $M_t = 1027.1$

Asta 347: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km * (Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km * (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $2.4/52.8 + 0.7 * 0.7/102.7 + 21.3/102.7 = 0.26 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = 1183.7$; $M_y = -26431.5$; $N = 983.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(2.02^2 + 1^2)} = 2.26 \leq 22$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $T_x = 372.3$; $T_y = 183.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03 + 0 + 0.01 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 144$; $T_y = 228.8$; $M_t = 948.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.57 \leq 19.07$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = 948.7$

Asta 348: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.04^2 + 2.12^2} = 2.36 \leq 16$ Comb: SLU, 29; Durata minima del carico nella combinazione: media

$T_x = 190.5$; $T_y = 390.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.4/85.3)^2 + 0.7 \cdot 6/74.7 + 13.9/74.7 = 0.24 \leq 1$ [4.4.7b] Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_x = 9483.9$; $M_y = 17213.7$; $N = -564.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.02 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 187.7$; $T_y = 391.4$; $M_t = 1636.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 1649.1$

Asta 349: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.4/52.8 + 0.7 \cdot 12.1/102.7 + 20.8/102.7 = 0.33 \leq 1$ [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -19186.8$; $M_y = 25866$; $N = 978.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.45^2 + 1.79^2} = 2.3 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -266.3$; $T_y = 328.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 $0.15 + 0.01 + 0.01 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Tx = -262; Ty = 331.6; Mt = 4785.1

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot fv,d$
 $2.89 \leq 19.07$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 Mt = 4785.1

Asta 350: Trave in legno a falda Falda 4 fili 173-174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq fv,d$
 $\sqrt{0.17^2 + 8.13^2} = 8.13 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -6.1; Ty = -288.9

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$
 $(Sc_{0,d}/fc_{0,d})^2 + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $(9.2/85.3)^2 + 400.5/81 + 0.7 \cdot 7.1/80.97 = 5.02 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -53395.7; My = 754.4; N = -732.1

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 $0.13 + 0 + 0.26 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -6.1; Ty = -288.9; Mt = 362.3

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot fv,d$
 $2.56 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = 362.3

Asta 351: Trave in legno a falda Falda 4 fili 173-174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $0.6/57.3+0.1/111.3+0.7*0/111.3=0.01 \leq 1$ [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $M_x = -9.7$; $M_y = 3.9$; $N = 51.4$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d} \leq ft_{0,d}$
 $0.64 \leq 57.26$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo
 $N = 51.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $Sqrt(0.02^2+0.05^2) = 0.06 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $T_x = 0.6$; $T_y = 1.9$

Asta 352: Trave in legno a falda Falda 4 fili 164-165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $Sqrt(0.16^2+7.83^2) = 7.83 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -5.8$; $T_y = -278.4$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $(4.6/85.3)^2+412.4/81+0.7*8.1/80.97=5.17 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -54980.8$; $M_y = 867.2$; $N = -371$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.1+0+0.24 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -5.8$; $T_y = -278.4$; $M_t = 267.8$



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 1.89 \leq 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = 267.9$

Asta 353: Trave in legno a falda Falda 4 fili 164-165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $1.6/57.3+0.2/111.3+0.7*0/111.3=0.03 \leq 1$ [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_x = -23$; $M_y = 2.6$; $N = 125.3$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.7
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d} \leq ft_{0,d}$
 $1.57 \leq 57.26$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $N = 125.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.01^2+0.11^2} = 0.11 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $T_x = 0.2$; $T_y = 4$

Asta 354: Trave in legno a falda Falda 4 fili 156-157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$



$\text{Sqrt}(0.17^2+7.36^2) = 7.37 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -6.2$; $T_y = -261.8$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(2.3/85.3)^2 + 410.3/81 + 0.7 \cdot 7.3/80.97 = 5.13 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -54703.9$; $M_y = 783.4$; $N = -180.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.21 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -6.3$; $T_y = -261.8$; $M_t = 163.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.15 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 163.3$

Asta 355: Trave in legno a falda Falda 4 fili 156-157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$S_{t,0,d}/f_{t,0,d} + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$S_{t,0,d}/f_{t,0,d} + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$1.6/57.3 + 0.2/111.3 + 0.7 \cdot 0/111.3 = 0.03 \leq 1$ [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -23$; $M_y = 1.1$; $N = 132$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 8.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$S_{t,0,d} \leq f_{t,0,d}$

$1.43 \leq 57.26$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 114.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\text{Sqrt}(0.01^2+0.09^2) = 0.09 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.2$; $T_y = 3.3$



Asta 356: Trave in legno a falda Falda 4 fili 151-152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{r,d} \leq f_{v,d}$

$\sqrt{(0.03^2 + 7.19^2)} = 7.19 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.1$; $T_y = -255.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.1/85.3)^2 + 409.6/81 + 0.7 \cdot 0.1/80.97 = 5.06 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -54617.9$; $M_y = 8.7$; $N = -166.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.2 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.1$; $T_y = -255.5$; $M_t = 34.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.25 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 34.9$

Asta 357: Trave in legno a falda Falda 4 fili 151-152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2/57.3 + 0.2/111.3 + 0.7 \cdot 0/111.3 = 0.04 \leq 1$ [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo



$M_x = -27.6$; $M_y = 0.6$; $N = 163.5$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$2.05 \leq 57.26$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 163.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0^2 + 0.12^2} = 0.12 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.1$; $T_y = 4.2$

Asta 358: Trave in legno a falda Falda 4 fili 142-143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.24^2 + 7.32^2} = 7.32 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 8.7$; $T_y = -260.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.5/85.3)^2 + 409.1/81 + 0.7 * 11.6/80.97 = 5.15 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -54551.2$; $M_y = -1237.5$; $N = -203.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{t,d}/(k_{sh} * f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.21 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 8.8$; $T_y = -260.1$; $M_t = -108.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{t,d} \leq K_{sh} * f_{v,d}$

$0.77 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -108.6$

Asta 359: Trave in legno a falda Falda 4 fili 142-143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1/57.3+0.1/111.3+0.7*0/111.3=0.02 \leq 1$ [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -8$; $M_y = 1.7$; $N = 77.3$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 8.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

$0.97 \leq 57.26$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$N = 77.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0^2+0.04^2} = 0.04 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0$; $T_y = 1.4$

Asta 360: Trave in legno a falda Falda 4 fili 135-136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.17^2+7.76^2} = 7.77 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 6$; $T_y = -276.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$(4/85.3)^2+408.2/81+0.7*9.4/80.97=5.13 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -54433.1$; $M_y = -1005.5$; $N = -318.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.08 + 0 + 0.24 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 6$; $T_y = -276.1$; $M_t = -213.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $1.51 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 $M_t = -214$

Asta 361: Trave in legno a falda Falda 4 fili 135-136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $1/57.3 + 0.1/111.3 + 0.7 \cdot 0.1/111.3 = 0.02 \leq 1$ [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_x = 16.9$; $M_y = 9$; $N = 80.8$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d} \leq ft_{0,d}$
 $0.5 \leq 57.26$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo
 $N = 40$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.04^2 + 0.05^2} = 0.06 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $T_x = 1.4$; $T_y = 1.7$

Asta 362: Trave in legno a falda Falda 4 fili 124-125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1



Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(0.07^2 + 8.13^2)} = 8.13 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 2.6$; $T_y = -289.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(9.5/85.3)^2 + 397.7/81 + 0.7 \cdot 3.3/80.97 = 4.95 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -53023.4$; $M_y = -355.1$; $N = -756.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0 + 0.26 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 2.6$; $T_y = -289.2$; $M_t = -308.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.18 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -308.9$

Asta 363: Trave in legno a falda Falda 4 fili 124-125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$1.8/57.3 + 0.2/111.3 + 0.7 \cdot 0/111.3 = 0.03 \leq 1$ [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -26.2$; $M_y = -1.4$; $N = 146.1$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$1.83 \leq 57.26$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 146$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$



$\text{Sqrt}(0^2+0.12^2) = 0.12 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo
 $T_x = 0$; $T_y = 4.2$

Asta 364: Trave in legno a falda Falda 4 fili 196-197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau, d \leq f_{v,d}$
 $\text{Sqrt}(0.06^2+5.46^2) = 5.46 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 2.2$; $T_y = -194.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(2.8/85.3)^2 + 290.3/81 + 0.7 \cdot 1.6/80.97 = 3.6 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -38702.4$; $M_y = -170.7$; $N = -223.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.16 + 0 + 0.12 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 2.2$; $T_y = -194.2$; $M_t = 422.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.99 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 423.1$

Asta 365: Trave in legno a falda Falda 4 fili 196-197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.3
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $St,0,d \leq ft,0,d$
 $0.04 \leq 57.26$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo
 $N = 2.9$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 14
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)
 $Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $0.1/111.3+0.7*0.1/111.3=0 \leq 1$ (formula 4.4.5a) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $M_x = 8$; $M_y = -6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$; $k_{cr} = 0.67$
 $\tau,d \leq f_{v,d}$
 $\sqrt{0.03^2+0.03^2} = 0.04 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo
 $T_x = 0.9$; $T_y = 1.1$

Asta 366: Trave in legno a falda Falda 4 fili 189-190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau,d \leq f_{v,d}$
 $\sqrt{0.04^2+7.03^2} = 7.03 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 1.4$; $T_y = -249.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$
 $(8.8/85.3)^2+344.2/81+0.7*0.8/80.97=4.27 !> 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -45898.7$; $M_y = -81.7$; $N = -702.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.16+0+0.19 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 1.4$; $T_y = -249.9$; $M_t = 430.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $3.04 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 430.8$



Asta 367: Trave in legno a falda Falda 4 fili 189-190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.7/57.3+0.1/111.3+0.7*0.1/111.3=0.03 \leq 1$ [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -17.9$; $M_y = 7.6$; $N = 135.6$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

$1.7 \leq 57.26$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 135.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.02^2+0.09^2)} = 0.1 \leq 22$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.8$; $T_y = 3.3$

Asta 368: Trave in legno a falda Falda 4 fili 182-183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) > 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} > 1$

$5.8/41.6+449/81+0.7*6.2/81=5.74 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -59862.6$; $M_y = 663.3$; $N = 462.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.16^2+10.55^2)} = 10.55 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media



Tx = -5.5; Ty = -375

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.16+0+0.43 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -5.8; Ty = -374.9; Mt = 425.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh \cdot f_{v,d}$

3 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 425.2

Asta 369: Trave in legno a falda Falda 4 fili 182-183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

1.6/57.3+0.2/111.3+0.7*0/111.3=0.03 <= 1 [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = -23.4; My = -1.1; N = 124.3

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7.2

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

1.55 <= 57.26 Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

N = 124.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.01^2 + 0.1^2)} = 0.1 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Tx = 0.2; Ty = 3.7

Asta 370: Trave in legno a falda Falda 4 fili 117-118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$10.5/41.6 + 455/81 + 0.7 \cdot 1.1/81 = 5.88 \leq 1$ [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -60669.5$; $M_y = -113.1$; $N = 837.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.04^2 + 10.75^2} = 10.75 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 1.4$; $T_y = -382.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.14 + 0 + 0.45 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 1.4$; $T_y = -382.2$; $M_t = -377.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.67 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -377.8$

Asta 371: Trave in legno a falda Falda 4 fili 117-118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 4.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.22 \leq 57.26$ Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$N = 17.3$

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0/111.3 + 0.7 \cdot 0/111.3 = 0 \leq 1$ (formula 4.4.5a) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = 4.6$; $M_y = -2.1$



Asta 372: Trave in legno a falda Falda 4 fili 109-110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{r,d} \leq f_{v,d}$

$\sqrt{(0.05^2 + 7.26^2)} = 7.26 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -1.7$; $T_y = -258.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(9.5/85.3)^2 + 353/81 + 0.7 \cdot 1.3/80.97 = 4.38 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -47071.4$; $M_y = 142.1$; $N = -762.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.15 + 0 + 0.21 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -1.7$; $T_y = -258.1$; $M_t = -398$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.82 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -398.6$

Asta 373: Trave in legno a falda Falda 4 fili 109-110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq f_{t,0,d}$

$0.2 \leq 57.26$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 16.2$



Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0/111.3 + 0.1/111.3 = 0 \leq 1$ (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = 4.9$; $M_y = -10.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2 + 0.02^2} = 0.04 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 1.4$; $T_y = 0.7$

Asta 374: Trave in legno a falda Falda 4 fili 102-103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 316.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.01^2 + 5.78^2} = 5.78 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 0.5$; $T_y = -205.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(2.9/85.3)^2 + 302.6/81 + 0.7 \cdot 1.3/80.97 = 3.75 > 1$ [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -40351.8$; $M_y = -137.9$; $N = -233.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.15 + 0 + 0.13 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 0.7$; $T_y = -205.3$; $M_t = -402.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.84 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -402.2$

Asta 375: Trave in legno a falda Falda 4 fili 102-103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.1/57.3+0.1/111.3+0.7*0.1/111.3=0.02 \leq 1$ [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -14$; $M_y = 6.1$; $N = 86.7$

Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 2.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

$0.56 \leq 57.26$ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

$N = 44.4$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.03^2+0.05^2)} = 0.06 \leq 22$ Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 1$; $T_y = 1.8$

Asta 376: Trave in legno a falda Falda 3 fili 77-78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 99.8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) !> 1$

$Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} !> 1$

$149.7/81+0.7*2.5/81=1.87 !> 1$ (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -19958$; $M_y = 263.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 99.8

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.15^2+8.24^2)} = 8.24 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -5.2$; $T_y = -292.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 99.8

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.11 + 0 + 0.26 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -5.2$; $T_y = -292.8$; $M_t = 294.3$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 99.8
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $2.08 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $M_t = 294.5$

Asta 377: Trave in legno a falda Falda 3 fili 59-60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 243.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \cdot l > 1$
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \cdot l > 1$
 $2.9/41.6 + 167.4/81 + 0.7 \cdot 5.9/81 = 2.19 > 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -22321.6$; $M_y = 634.1$; $N = 232.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.19^2 + 5.13^2} = 5.13 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -6.7$; $T_y = -182.4$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.05 + 0 + 0.1 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -6.7$; $T_y = -182.4$; $M_t = 143.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $1.01 \leq 19$ Comb: SLU, 29; Durata minima del carico nella combinazione: media
 $M_t = 143.7$

Asta 378: Trave in legno a falda Falda 3 fili 68-69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 182.2



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 182.2
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau, d \leq f_{v,d}$
 $\sqrt{0.16^2 + 5.45^2} = 5.46 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -5.7$; $T_y = -193.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(2.5/85.3)^2 + 154.3/81 + 0.7 \cdot 4.9/80.97 = 1.95 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -20572.9$; $M_y = 524.4$; $N = -201.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 182.2
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.07 + 0 + 0.12 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -5.7$; $T_y = -193.9$; $M_t = 201.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 182.2
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $1.42 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $M_t = 201.6$

Asta 379: Trave in legno a falda Falda 3 fili 47-48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 243.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau, d \leq f_{v,d}$
 $\sqrt{0.08^2 + 3.33^2} = 3.33 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -2.7$; $T_y = -118.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$



$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.6/85.3)^2 + 147/81 + 0.7 \cdot 3.6/80.97 = 1.85 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -19600.5$; $M_y = 386$; $N = -125.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.02 + 0 + 0.04 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -2.7$; $T_y = -118.5$; $M_t = -51.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.36 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = -51.4$

Asta 380: Trave in legno a falda Falda 3 fili 53-54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 243.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.19^2 + 3.33^2)} = 3.34 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -6.8$; $T_y = -118.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.8/85.3)^2 + 143/81 + 0.7 \cdot 7.7/80.97 = 1.83 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -19067.8$; $M_y = 817.1$; $N = -141.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.02 + 0 + 0.04 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -6.8$; $T_y = -118.5$; $M_t = 52.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.38 \leq 19$ Comb: SLU, 37; Durata minima del carico nella combinazione: media
 $M_t = 54.3$



Asta 381: Trave in legno a falda Falda 3 fili 41-42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 243.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{(0.17^2 + 3.03^2)} = 3.03 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 6$; $T_y = -107.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.2/85.3)^2 + 138/81 + 0.7 \cdot 7.2/80.97 = 1.77 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -18405.5$; $M_y = -763.6$; $N = -94.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.04 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 6.4$; $T_y = -107.4$; $M_t = -138.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.98 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -138.6$

Asta 382: Trave in legno a falda Falda 1 fili 161-163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(16.6/85.3)^2 + 252.9/81 + 0.7 \cdot 0.5/80.97 = 3.17 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Mx = 33720.8; My = -58.5; N = -1324.2

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.01^2 + 8.59^2)} = 8.59 \leq 16$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -0.4; Ty = -305.3

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d} / (k_{sh} * f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.03 + 0 + 0.29 ≤ 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 0.1; Ty = -305.3; Mt = 75.5

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

0.53 ≤ 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = 75.5

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 44.5

Kdef = 0

Uinst tot in x = -0.01

Uinst tot in y = -0.39

Uinst tot = 0.39

Luce/Uinst,tot > limite

222.6/0.39=574.8 > 300 Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 44.5

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = -0.25

Uinst var = 0.25

Luce/Uinst,var > limite

222.6/0.25=881 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 44.5

Kdef = 0.6

Ufin in x = -0.01

Ufin in y = -0.47

Ufin = 0.47

Luce/Ufin > limite

222.6/0.47=474.8 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Asta 383: Trave in legno a falda Falda 1 fili 171-172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.2^2 + 8.06^2} = 8.06 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 7.1$; $T_y = -286.6$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(12.8/85.3)^2 + 246.7/81 + 0.7 * 6.3/80.97 = 3.12 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -32899.5$; $M_y = -669.4$; $N = -1020.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{t,y,d}/f_{v,d})^2 + (\tau_{t,z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.25 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 7.1$; $T_y = -286.6$; $M_t = 91.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.65 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 91.4$

Asta 384: Trave in legno a falda Falda 1 fili 179-180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$1.5/41.6 + 242.9/81 + 0.7 * 13.4/81 = 3.15 > 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -32387$; $M_y = -1433.6$; $N = 120.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.35^2 + 7.94^2} = 7.95 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 12.6$; $T_y = -282.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03 + 0 + 0.25 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 12.6$; $T_y = -282.3$; $M_t = 90.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.64 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 90.8$

Asta 385: Trave in legno a falda Falda 1 fili 185-186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \cdot l > 1$
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \cdot l > 1$
 $2.3/41.6 + 231.2/81 + 0.7 \cdot 12.7/81 = 3.02 \cdot l > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -30830.6$; $M_y = -1359$; $N = 180.3$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.32^2 + 7.42^2} = 7.43 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 11.3$; $T_y = -263.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03 + 0 + 0.22 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 11.3$; $T_y = -263.9$; $M_t = 83.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.6 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media
 $M_t = 84.4$

Asta 386: Trave in legno a falda Falda 1 fili 192-193

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$$

$$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$$

$$1.4/41.6 + 223.4/81 + 0.7*8.1/81 = 2.86 \geq 1 \text{ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA}$$

$$M_x = -29787.4; M_y = -863.9; N = 112.6$$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$$K_{mod} = 0.8; k_{cr} = 0.67$$

$$\tau_{d} \leq f_{v,d}$$

$$\sqrt{(0.21^2 + 7.14^2)} = 7.14 \leq 16 \text{ Comb: SLU, 72; Durata minima del carico nella combinazione: media}$$

$$T_x = 7.6; T_y = -253.7$$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$$K_{mod} = 0.8; K_h = 1.084 \text{ (formula 11.7.1); } k_{cr} = 0.67$$

$$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$$

$$0.03 + 0 + 0.2 \leq 1 \text{ Comb: SLU, 71; Durata minima del carico nella combinazione: media}$$

$$T_x = 7.2; T_y = -253.5; M_t = 77.4$$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$$K_{mod} = 0.8$$

$$\tau_{tor,d} \leq K_{sh} * f_{v,d}$$

$$0.55 \leq 19 \text{ Comb: SLU, 79; Durata minima del carico nella combinazione: media}$$

$$M_t = 78$$

Asta 387: Trave in legno a falda Falda 1 fili 202-203

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$$

$$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$$

$$3.3/41.6 + 217.1/81 + 0.7*2.9/81 = 2.79 \geq 1 \text{ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA}$$

$$M_x = -28952.8; M_y = -305.6; N = 262.9$$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$$K_{mod} = 0.8; k_{cr} = 0.67$$

$$\tau_{d} \leq f_{v,d}$$

$$\sqrt{(0.05^2 + 7.03^2)} = 7.03 \leq 16 \text{ Comb: SLU, 72; Durata minima del carico nella combinazione: media}$$

$$T_x = 1.9; T_y = -250.1$$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.19 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 1.9$; $T_y = -250.1$; $M_t = 71.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.53 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 75$

Asta 388: Trave in legno a falda Falda 1 fili 211-212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$2.3/41.6 + 208.4/81 + 0.7 \cdot 3.9/81 = 2.66 \geq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -27792.6$; $M_y = 416$; $N = 183.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.09^2 + 6.84^2} = 6.84 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -3.1$; $T_y = -243.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.18 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -3.1$; $T_y = -243.2$; $M_t = 75.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.57 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 80.2$

Asta 389: Trave in legno a falda Falda 1 fili 217-218

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$10.3/41.6 + 202.4/81 + 0.7*2.6/81 = 2.77 \geq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -26988.2$; $M_y = 278.9$; $N = 822.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 6.67^2} = 6.67 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.8$; $T_y = -237.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.17 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.8$; $T_y = -237.2$; $M_t = 92.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.68 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 96.3$

Asta 390: Trave in legno a falda Falda 1 fili 226-227

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$6.5/41.6 + 177.1/81 + 0.7*1.2/81 = 2.35 \geq 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -23609.3$; $M_y = -122.7$; $N = 524$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0^2 + 6.02^2} = 6.02 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -0.1$; $T_y = -214$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.14 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -0.1$; $T_y = -214$; $M_t = 119.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$0.86 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 121.8$

Asta 391: Trave in legno a falda Falda 1 fili 237-238

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.15^2 + 5.44^2} = 5.45 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -5.4$; $T_y = -193.5$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d} / f_{c,0,d})^2 + S_{m,y,d} / f_{m,y,d} + K_m * (S_{m,z,d} / f_{m,z,d}) \leq 1$

$(S_{c,0,d} / f_{c,0,d})^2 + K_m * (S_{m,y,d} / f_{m,y,d}) + S_{m,z,d} / f_{m,z,d} \leq 1$

$(7/85.3)^2 + 163.1/81 + 0.7 * 9/80.97 = 2.1 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 21741.7$; $M_y = -961.4$; $N = -563.8$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.12 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -5.4$; $T_y = -193.5$; $M_t = 146.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$1.03 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 146.2$



Asta 392: Trave in legno a falda Falda 1 fili 243-244

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 172.3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$8.6/41.6 + 153.4/81 + 0.7*19.9/81 = 2.27 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20448.6$; $M_y = 2122.1$; $N = 691.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 172.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.9^2 + 6.52^2} = 6.58 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -31.9$; $T_y = -231.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 172.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.1 + 0 + 0.17 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -31.9$; $T_y = -231.9$; $M_t = 262.2$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 172.3

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.85 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 262.2$

Asta 393: Trave in legno a falda Falda 1 fili 249-250

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 102.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$5.2/41.6 + 140.6/81 + 0.7*47.3/81 = 2.27 > 1$ [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA



Mx = -18744.7; My = 5046.2; N = 418.5

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.92^2 + 8.32^2)} = 8.81 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -103.9; Ty = -295.7

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.13+0.03+0.27 ≤ 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -103.9; Ty = -295.7; Mt = 358.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

2.53 ≤ 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = 358.9

Asta 394: Trave in legno a falda Falda 1 fili 255-256

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 40

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

5.6/41.6+94.2/81+0.7*69.2/81=1.9 ≥ 1 [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -12555.8; My = 7381.1; N = 448

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 40

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(9.04^2 + 10.2^2)} = 13.63 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -321.5; Ty = -362.6

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 40

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.14+0.32+0.41 ≤ 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -321.5; Ty = -362.6; Mt = 380.8

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 40

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



2.69 <= 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mt = 380.8

Asta 395: Trave in legno a falda Falda 1 fili 133-134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$(9.9/85.3)^2 + 260.8/81 + 0.7*0.7/80.97 = 3.24 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -34775; My = 76.7; N = -792.5

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.03^2 + 8.79^2)} = 8.79 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -1; Ty = -312.7

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.3 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -1; Ty = -312.7; Mt = -17.1

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq Ksh * f_{v,d}$

$0.17 \leq 26.13$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mt = -24.2

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 51.9

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = -0.43

Uinst tot = 0.43

Luce/Uinst,tot > limite

$222.6/0.43 = 522 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 51.9

Kdef = 0

Uinst var in x = 0

Uinst var in y = -0.28

Uinst var = 0.28

Luce/Uinst,var > limite

$222.6/0.28 = 805.3 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 51.9



$K_{def} = 0.6$
 $U_{fin\ in\ x} = 0$
 $U_{fin\ in\ y} = -0.52$
 $U_{fin} = 0.52$
 $Luce/U_{fin} > limite$
 $222.6/0.52=430 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Asta 396: Trave in legno a falda Falda 1 fili 122-123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{,d} \leq f_{v,d}$
 $\sqrt{0.19^2 + 8.38^2} = 8.38 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -6.9$; $T_y = -298$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(8.2/85.3)^2 + 261.4/81 + 0.7 \cdot 6.7/80.97 = 3.3 > 1$ [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -34859$; $M_y = 714.9$; $N = -655.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{,tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{,y,d}/f_{v,d})^2 + (\tau_{,z,d}/f_{v,d})^2 \leq 1$
 $0.01 + 0 + 0.27 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -6.9$; $T_y = -298$; $M_t = -14.6$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{,tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.16 \leq 26.13$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_t = -22.5$

Asta 397: Trave in legno a falda Falda 1 fili 114-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

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Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$
 $2/41.6+267.9/81+0.7*10.3/81=3.45 \geq 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -35718.5$; $M_y = 1101.7$; $N = 163.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.27^2+8.59^2)} = 8.59 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -9.7$; $T_y = -305.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0+0+0.29 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -9.7$; $T_y = -305.3$; $M_t = -4.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$
 $0.18 \leq 26.13$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_t = -26$

Asta 398: Trave in legno a falda Falda 1 fili 105-106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$
 $2.2/41.6+267.7/81+0.7*7.2/81=3.42 \geq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -35686.9$; $M_y = 767.6$; $N = 173.2$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.17^2+8.43^2)} = 8.43 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -6.2$; $T_y = -299.8$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01+0+0.28 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -6.9$; $T_y = -299.5$; $M_t = 16.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.22 \leq 26.13$ Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 30.6$

Asta 399: Trave in legno a falda Falda 1 fili 98-99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$1.5/41.6+271.9/81+0.7 \cdot 1.5/81=3.41 \geq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -36259.3$; $M_y = 158$; $N = 121$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2+8.51^2} = 8.51 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.3$; $T_y = -302.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01+0+0.28 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.3$; $T_y = -302.6$; $M_t = 28.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.21 \leq 19$ Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_t = 29$

Asta 400: Trave in legno a falda Falda 1 fili 90-91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 222.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$4.3/41.6+278.3/81+0.7*3.3/81=3.57 \geq 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -37110.8$; $M_y = -351$; $N = 346$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.12^2+8.82^2} = 8.82 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 4.1$; $T_y = -313.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01+0+0.3 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 4.1$; $T_y = -313.5$; $M_t = 25.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.18 \leq 19$ Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_t = 26.1$

Asta 401: Trave in legno a falda Falda 1 fili 82-83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$2.5/41.6+280/81+0.7*9.6/81=3.6 \geq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -37326.7$; $M_y = -1024.2$; $N = 202.7$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

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Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.24^2 + 8.97^2} = 8.97 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 8.5$; $T_y = -319$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0 + 0 + 0.31 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 8.5$; $T_y = -319$; $M_t = -3.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$0.2 \leq 26.13$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_t = -28.1$

Asta 402: Trave in legno a falda Falda 1 fili 74-76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{,0,d}/ft_{,0,d} + Sm_{,y,d}/fm_{,y,d} + Km * (Sm_{,z,d}/fm_{,z,d}) \leq 1$

$St_{,0,d}/ft_{,0,d} + Km * (Sm_{,y,d}/fm_{,y,d}) + Sm_{,z,d}/fm_{,z,d} \leq 1$

$12.8/41.6 + 279.5/81 + 0.7 * 6.6/81 = 3.82 \leq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -37269.2$; $M_y = -699.6$; $N = 1020.6$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{,d} \leq f_{v,d}$

$\sqrt{0.16^2 + 9.02^2} = 9.02 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 5.6$; $T_y = -320.7$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{,tor,d} / (k_{sh} * f_{v,d}) + (\tau_{,y,d} / f_{v,d})^2 + (\tau_{,z,d} / f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.32 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 6.2$; $T_y = -320.7$; $M_t = -57.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{,tor,d} \leq K_{sh} * f_{v,d}$

$0.44 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -62$



Asta 403: Trave in legno a falda Falda 1 fili 66-67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$6.7/41.6 + 252.2/81 + 0.7*0.7/81 = 3.28 \leq 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -33626.1$; $M_y = -75.2$; $N = 534.9$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.03^2 + 8.34^2} = 8.34 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 1.2$; $T_y = -296.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.27 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 1.2$; $T_y = -296.6$; $M_t = -129.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.94 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -132.4$

Asta 404: Trave in legno a falda Falda 1 fili 57-58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.13^2 + 7.62^2} = 7.62 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 4.7$; $T_y = -270.8$



Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.9/85.3)^2 + 223.8/81 + 0.7 \cdot 8.3/80.97 = 2.85 > 1$ [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 29846.5$; $M_y = 889$; $N = -632.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0 + 0.23 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 4.7$; $T_y = -270.8$; $M_t = -207.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.46 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -207.1$

Asta 405: Trave in legno a falda Falda 1 fili 50-51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 187.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 187.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$9.2/41.6 + 209.2/81 + 0.7 \cdot 31.8/81 = 3.08 > 1$ [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 27899.8$; $M_y = 3394.8$; $N = 734.5$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 187.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(0.78^2 + 8.55^2)} = 8.58 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 27.6$; $T_y = -303.9$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 187.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12 + 0 + 0.29 \leq 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 27.6$; $T_y = -303.9$; $M_t = -326.9$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 187.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



2.31 <= 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media
Mt = -326.9

Asta 406: Trave in legno a falda Falda 1 fili 44-45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 115

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
9.6/41.6+209.1/81+0.7*57.4/81=3.31 > 1 [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA
Mx = -27883.4; My = -6119.2; N = 772

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 115
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $Sqrt(3.29^2+11.91^2) = 12.35 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
Tx = 116.8; Ty = -423.4

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 115
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
0.19+0.04+0.55 <= 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Tx = 116.8; Ty = -423.4; Mt = -509.9

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 115
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
Kmod = 0.8
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
3.6 <= 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media
Mt = -509.9

Asta 407: Trave in legno a falda Falda 1 fili 38-39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 51.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) > 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} > 1$
 $8.7/41.6 + 150.2/81 + 0.7*98.8/81 = 2.92 > 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -20022.8; My = -10537.7; N = 694.4

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 51.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} > f_{v,d}$
 $\sqrt{10.6^2 + 15.65^2} = 18.9 > 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Tx = 376.8; Ty = -556.6

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 51.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$
 $0.21 + 0.44 + 0.96 > 1$ Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Tx = 376.8; Ty = -556.6; Mt = -575.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 51.4
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh * f_{v,d}$
 $4.06 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Mt = -575.2

Asta 408: Trave in legno a falda Falda 1 fili 149-150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) > 1$
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} > 1$
 $0.9/41.6 + 256.2/81 + 0.7*2.2/81 = 3.21 > 1$ [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = 34166.6; My = 230; N = 73.5

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.06^2 + 7.96^2} = 7.96 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 2; Ty = -283

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.01 + 0 + 0.25 \leq 1$ Comb: SLU, 80; Durata minima del carico nella combinazione: media
 Tx = 2; Ty = -283; Mt = 24



Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.17 \leq 19$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 24$

Asta 409: Trave in legno a falda Falda 1 fili 154-155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.06^2 + 8.08^2)} = 8.08 \leq 16$ Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.1$; $T_y = -287.4$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m * (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m * (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(2.7/85.3)^2 + 255.7/81 + 0.7 * 2.1/80.97 = 3.18 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 34087.9$; $M_y = 219.5$; $N = -216.2$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.26 \leq 1$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 2.3$; $T_y = -287.3$; $M_t = 53.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.37 \leq 19$ Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 53.1$

Asta 410: Trave in legno a falda Falda 1 fili 140-141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.01^2 + 8.11^2} = 8.11 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = 0.3$; $T_y = -288.2$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 222.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.8/85.3)^2 + 254.2/81 + 0.7 \cdot 0.6/80.97 = 3.14 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = 33891.1$; $M_y = 60.2$; $N = -140$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0 + 0 + 0.26 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 0.3$; $T_y = -288.2$; $M_t = -3.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 1.1$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.16 \leq 26.13$ Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo
 $M_t = -23.3$

Asta 411: Trave in legno a falda Falda 6 fili 239-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 243.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 243.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$
 $\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$
 $8.6/41.6 + 200.1/81 + 0.7 \cdot 6.2/81 = 2.73 > 1$ [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = 26686.1$; $M_y = 665.4$; $N = 687.8$

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{0.17^2 + 6.12^2} = 6.12 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 6.2$; $T_y = -217.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9
Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$



Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 0.07+0+0.15 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = 6.2; Ty = -217.6; Mt = -189.5

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot fv,d$
 1.34 <= 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = -189.5

Asta 412: Trave in legno a falda Falda 6 fili 258-259

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 243.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; kcr = 0.67
 $\tau_{d} \leq fv,d$
 $\sqrt{0.38^2 + 3.17^2} = 3.19 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 Tx = -13.6; Ty = -112.6

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1)
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$
 $(Sc_{0,d}/fc_{0,d})^2 + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$
 $(1.3/85.3)^2 + 144.3/81 + 0.7 \cdot 15.2/80.97 = 1.91 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 Mx = -19238; My = 1618; N = -102.7

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67
 $\tau_{tor,d}/(ksh \cdot fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$
 0.06+0+0.04 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Tx = -14; Ty = -112.5; Mt = 174.2

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 Kmod = 0.8
 $\tau_{tor,d} \leq Ksh \cdot fv,d$
 1.23 <= 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media
 Mt = 174.2

Asta 413: Trave in legno a falda Falda 6 fili 252-253

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 243.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.03^2 + 3.58^2)} = 3.58 \leq 16$ Comb: SLU, 72; Durata minima del carico nella combinazione: media
 $T_x = -1$; $T_y = -127.4$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(1.8/85.3)^2 + 156.7/81 + 0.7 \cdot 0.5/80.97 = 1.94 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -20896.5$; $M_y = 53.4$; $N = -147.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$
 $0.03 + 0 + 0.05 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = -1.3$; $T_y = -127.4$; $M_t = 77.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$
 $0.55 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $M_t = 77.4$

Asta 414: Trave in legno a falda Falda 6 fili 246-247

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 243.9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $k_{cr} = 0.67$
 $\tau_{d} \leq f_{v,d}$
 $\sqrt{(0.18^2 + 3.66^2)} = 3.66 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media
 $T_x = 6.3$; $T_y = -130.1$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0
 Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$
 $K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$
 $(2.1/85.3)^2 + 153.7/81 + 0.7 \cdot 8/80.97 = 1.97 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA
 $M_x = -20494$; $M_y = -852.5$; $N = -170.4$



Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02+0+0.05 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 6.3$; $T_y = -130.1$; $M_t = -51.4$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.37 \leq 19$ Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = -52.5$

Asta 415: Trave in legno a falda Falda 6 fili 228-229

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 189.7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 189.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.1^2 + 6.16^2} = 6.16 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 3.6$; $T_y = -219$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.5/85.3)^2 + 169.8/81 + 0.7 \cdot 2.8/80.97 = 2.12 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -22635.7$; $M_y = -302.5$; $N = -42.3$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 189.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.09+0+0.15 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 3.6$; $T_y = -219$; $M_t = -247.7$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 189.7

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.75 \leq 19$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -247.7$

Asta 416: Trave in legno a falda Falda 6 fili 219-220

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Lunghezza = 110.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 110.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.04^2 + 8.91^2)} = 8.91 \leq 16$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 1.4$; $T_y = -317$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1/85.3)^2 + 166.1/81 + 0.7 \cdot 0.5/80.97 = 2.06 > 1$ [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -22148.1$; $M_y = -53.4$; $N = -80$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 110.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$; $K_h = 1.084$ (formula 11.7.1); $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.13 + 0 + 0.31 \leq 1$ Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 1.4$; $T_y = -317$; $M_t = -349.8$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 110.4

Coefficiente parziale di sicurezza del materiale $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.47 \leq 19$ Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -349.8$

1.3 Verifiche superelementi in legno

Le unità di misura elencate nel capitolo sono in [cm] ove non espressamente specificato.

Descrizione: descrizione della sezione.

Tipo: tipo di sezione.

Base: base della sezione. [cm]

Altezza: altezza della sezione. [cm]

Area: area inerziale nel sistema geometrico centrato nel baricentro. [cm²]

Jx: momento d'inerzia attorno all'asse orizzontale baricentrico di definizione della sezione. [cm⁴]

Jy: momento d'inerzia attorno all'asse verticale baricentrico di definizione della sezione. [cm⁴]

Wx: modulo di resistenza elastico minimo relativo all'asse x. [cm³]

Wy: modulo di resistenza elastico minimo relativo all'asse y. [cm³]

Superelemento in legno a "Falda 1" 73-76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 485.3$ composto da:

asta 206: Trave in legno a falda Falda 1 fili 72-74 ($L = 262.8$)

asta 402: Trave in legno a falda Falda 1 fili 74-76 ($L = 222.5$)



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 254.1

Kdef = 0

Uinst tot in x = -0.03

Uinst tot in y = -6.54

Uinst tot = 6.54

Luce/Uinst,tot < limite

485.3/6.54=74.2 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 254.1

Kdef = 0

Uinst var in x = -0.02

Uinst var in y = -4.33

Uinst var = 4.33

Luce/Uinst,var < limite

485.3/4.33=112 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 254.1

Kdef = 0.6

Ufin in x = -0.04

Ufin in y = -7.87

Ufin = 7.87

Luce/Ufin < limite

485.3/7.87=61.7 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" 74(-967; -97)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 472.8 composto da:

asta 343: Trave in legno a falda Falda 1 fili 74-133 (L = 67.5)

asta 344: Trave in legno a falda Falda 1 fili 74-133 (L = 67.5)

asta 345: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

asta 346: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

asta 347: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

asta 348: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

asta 349: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 146.3

Kdef = 0

Uinst tot in x = -0.15



Uinst tot in y = 0.09
 Uinst tot = 0.15
 Luce/Uinst,tot > limite
 $472.8/0.15=3052.7 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 150.8
 Kdef = 0
 Uinst var in x = -0.12
 Uinst var in y = 0.07
 Uinst var = 0.12
 Luce/Uinst,var > limite
 $472.8/0.12=4104 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 148.6
 Kdef = 0.6
 Ufin in x = -0.18
 Ufin in y = 0.1
 Ufin = 0.18
 Luce/Ufin > limite
 $472.8/0.18=2620.9 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 444.5 composto da:
 asta 200: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)
 asta 201: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)
 asta 202: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)
 asta 203: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)
 asta 204: Trave in legno a falda Falda 1 fili 89-90 (L = 278.2)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 194.1
 Kdef = 0
 Uinst tot in x = -0.02
 Uinst tot in y = 2.61
 Uinst tot = 2.61
 Luce/Uinst,tot < limite
 $444.5/2.61=170.4 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 194.1
 Kdef = 0
 Uinst var in x = -0.02
 Uinst var in y = 1.72
 Uinst var = 1.72
 Luce/Uinst,var < limite
 $444.5/1.72=258.4 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 199.7
 Kdef = 0.6



Ufin in x = 0.02
 Ufin in y = 3.24
 Ufin = 3.24
 Luce/Ufin < limite
 $444.5/3.24=137.2 < 200$ - NON SODDISFATTA
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" 89-91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 667 composto da:

asta 200: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)
 asta 201: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)
 asta 202: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)
 asta 203: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)
 asta 204: Trave in legno a falda Falda 1 fili 89-90 (L = 278.2)
 asta 400: Trave in legno a falda Falda 1 fili 90-91 (L = 222.6)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 435.2

Kdef = 0

Uinst tot in x = -0.04

Uinst tot in y = -6.55

Uinst tot = 6.55

Luce/Uinst,tot < limite

$667/6.55=101.9 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 435.2

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -4.31

Uinst var = 4.31

Luce/Uinst,var < limite

$667/4.31=154.8 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 440.8

Kdef = 0.6

Ufin in x = -0.05

Ufin in y = -7.89

Ufin = 7.89

Luce/Ufin < limite

$667/7.89=84.5 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" 133-(-896; -97)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

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Dati generali

Superelemento di lunghezza complessiva $L = 270.2$ composto da:

asta 339: Trave in legno a falda Falda 1 fili 133-161 ($L = 67.6$)

asta 340: Trave in legno a falda Falda 1 fili 133-161 ($L = 67.6$)

asta 341: Trave in legno a falda Falda 1 fili 133-161 ($L = 67.6$)

asta 342: Trave in legno a falda Falda 1 fili 133-161 ($L = 67.5$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 141.9

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.04$

$U_{inst\ tot\ in\ y} = -0.15$

$U_{inst\ tot} = 0.15$

Luce/ $U_{inst,tot}$ > limite

$270.2/0.15 = 1754.8 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 141.9

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.02$

$U_{inst\ var\ in\ y} = -0.1$

$U_{inst\ var} = 0.1$

Luce/ $U_{inst,var}$ > limite

$270.2/0.1 = 2710.9 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 146.4

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.06$

$U_{fin\ in\ y} = -0.19$

$U_{fin} = 0.19$

Luce/ U_{fin} > limite

$270.2/0.19 = 1411.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 1" 161-(-225; -97)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 472.9$ composto da:

asta 332: Trave in legno a falda Falda 1 fili 161-217 ($L = 67.6$)

asta 333: Trave in legno a falda Falda 1 fili 161-217 ($L = 67.6$)

asta 334: Trave in legno a falda Falda 1 fili 161-217 ($L = 67.6$)

asta 335: Trave in legno a falda Falda 1 fili 161-217 ($L = 67.6$)

asta 336: Trave in legno a falda Falda 1 fili 161-217 ($L = 67.6$)

asta 337: Trave in legno a falda Falda 1 fili 161-217 ($L = 67.6$)

asta 338: Trave in legno a falda Falda 1 fili 161-217 ($L = 67.6$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 324.3

Kdef = 0

Uinst tot in x = -0.11

Uinst tot in y = 0.04

Uinst tot = 0.11

Luce/Uinst,tot > limite

$472.9/0.11=4368.8 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 317.5

Kdef = 0

Uinst var in x = -0.08

Uinst var in y = 0.03

Uinst var = 0.08

Luce/Uinst,var > limite

$472.9/0.08=5970.5 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 349

Kdef = 0.6

Ufin in x = -0.14

Ufin in y = -0.06

Ufin = 0.14

Luce/Ufin > limite

$472.9/0.14=3336.3 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" 201-203

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 666.9 composto da:

asta 171: Trave in legno a falda Falda 1 fili 201-202 (L = 41.5)

asta 172: Trave in legno a falda Falda 1 fili 201-202 (L = 41.6)

asta 173: Trave in legno a falda Falda 1 fili 201-202 (L = 41.6)

asta 174: Trave in legno a falda Falda 1 fili 201-202 (L = 41.6)

asta 175: Trave in legno a falda Falda 1 fili 201-202 (L = 278.2)

asta 387: Trave in legno a falda Falda 1 fili 202-203 (L = 222.6)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 435.1

Kdef = 0

Uinst tot in x = -0.04

Uinst tot in y = -5.08

Uinst tot = 5.08

Luce/Uinst,tot < limite

$666.9/5.08=131.2 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 435.1

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -3.31

Uinst var = 3.31



Luce/Uinst,var < limite
666.9/3.31=201.7 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 440.7

Kdef = 0.6

Ufin in x = 0.06

Ufin in y = -6.15

Ufin = 6.15

Luce/Ufin < limite

666.9/6.15=108.4 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" 201-(-764; 54)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 444.3 composto da:

asta 171: Trave in legno a falda Falda 1 fili 201-202 (L = 41.5)

asta 172: Trave in legno a falda Falda 1 fili 201-202 (L = 41.6)

asta 173: Trave in legno a falda Falda 1 fili 201-202 (L = 41.6)

asta 174: Trave in legno a falda Falda 1 fili 201-202 (L = 41.6)

asta 175: Trave in legno a falda Falda 1 fili 201-202 (L = 278.2)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 194

Kdef = 0

Uinst tot in x = 0.05

Uinst tot in y = 2.01

Uinst tot = 2.01

Luce/Uinst,tot < limite

444.3/2.01=220.8 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 194

Kdef = 0

Uinst var in x = 0.02

Uinst var in y = 1.32

Uinst var = 1.32

Luce/Uinst,var > limite

444.3/1.32=337.9 > 300 Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 199.6

Kdef = 0.6

Ufin in x = 0.08

Ufin in y = 2.51

Ufin = 2.51

Luce/Ufin < limite

444.3/2.51=177.1 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600



Superelemento in legno a "Falda 1" 217-(85; -97)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 377.9$ composto da:

asta 326: Trave in legno a falda Falda 1 fili 217-260 ($L = 67.6$)

asta 327: Trave in legno a falda Falda 1 fili 217-260 ($L = 67.6$)

asta 328: Trave in legno a falda Falda 1 fili 217-260 ($L = 67.6$)

asta 329: Trave in legno a falda Falda 1 fili 217-260 ($L = 67.6$)

asta 330: Trave in legno a falda Falda 1 fili 217-260 ($L = 67.6$)

asta 331: Trave in legno a falda Falda 1 fili 217-260 ($L = 40.1$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 162.1

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.18$

$U_{inst\ tot\ in\ y} = -0.28$

$U_{inst\ tot} = 0.28$

Luce/ $U_{inst,tot} >$ limite

$377.9/0.28 = 1347.1 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 164.4

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.12$

$U_{inst\ var\ in\ y} = -0.19$

$U_{inst\ var} = 0.19$

Luce/ $U_{inst,var} >$ limite

$377.9/0.19 = 1971.5 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 166.6

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.23$

$U_{fin\ in\ y} = -0.37$

$U_{fin} = 0.37$

Luce/ $U_{fin} >$ limite

$377.9/0.37 = 1024.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" 223-218

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 485.3$ composto da:

asta 177: Trave in legno a falda Falda 1 fili 216-217 ($L = 262.7$)

asta 389: Trave in legno a falda Falda 1 fili 217-218 ($L = 222.5$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

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Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 254
Kdef = 0
Uinst tot in x = -0.06
Uinst tot in y = -4.68
Uinst tot = 4.68
Luce/Uinst,tot < limite
 $485.3/4.68=103.8 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 254
Kdef = 0
Uinst var in x = -0.04
Uinst var in y = -3.05
Uinst var = 3.05
Luce/Uinst,var < limite
 $485.3/3.05=159 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 254
Kdef = 0.6
Ufin in x = -0.08
Ufin in y = -5.65
Ufin = 5.65
Luce/Ufin < limite
 $485.3/5.65=85.9 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-88; -322)-(-88; -243)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 87 composto da:
Asta 185: Trave in legno a falda Falda 1 fili 270-271

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 55.1
Kdef = 0
Uinst tot in x = 0
Uinst tot in y = -0.05
Uinst tot = 0.05
Luce/Uinst,tot > limite
 $87/0.05=1672.9 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 55.1
Kdef = 0
Uinst var in x = 0
Uinst var in y = -0.04
Uinst var = 0.04
Luce/Uinst,var > limite



87/0.04=2464.8 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 58

Kdef = 0.6

Ufin in x = 0.01

Ufin in y = -0.06

Ufin = 0.06

Luce/Ufin > limite

87/0.06=1401.4 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-156; -322)-(-156; -178)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 158.9 composto da:

Asta 184: Trave in legno a falda Falda 1 fili 266-267

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 100.6

Kdef = 0

Uinst tot in x = 0.01

Uinst tot in y = -0.19

Uinst tot = 0.19

Luce/Uinst,tot > limite

158.9/0.19=819.6 > 300 Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 95.3

Kdef = 0

Uinst var in x = 0.01

Uinst var in y = -0.13

Uinst var = 0.13

Luce/Uinst,var > limite

158.9/0.13=1193.9 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 100.6

Kdef = 0.6

Ufin in x = 0.02

Ufin in y = -0.23

Ufin = 0.23

Luce/Ufin > limite

158.9/0.23=688.6 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-223; -322)-(-223; -112)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

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Dati generali

Superelemento di lunghezza complessiva L= 230.8 composto da:

Asta 183: Trave in legno a falda Falda 1 fili 261-262

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 138.5

Kdef = 0

Uinst tot in x = 0.03

Uinst tot in y = -0.53

Uinst tot = 0.53

Luce/Uinst,tot > limite

$230.8/0.53=431.9 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 130.8

Kdef = 0

Uinst var in x = 0.02

Uinst var in y = -0.36

Uinst var = 0.36

Luce/Uinst,var > limite

$230.8/0.36=634 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 138.5

Kdef = 0.6

Ufin in x = 0.03

Ufin in y = -0.64

Ufin = 0.64

Luce/Ufin > limite

$230.8/0.64=362.1 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-291; -322)-256

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 302.8 composto da:

asta 182: Trave in legno a falda Falda 1 fili 254-255 (L = 262.7)

asta 394: Trave in legno a falda Falda 1 fili 255-256 (L = 40)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 175.2

Kdef = 0

Uinst tot in x = 0.05

Uinst tot in y = -1.28



Uinst tot = 1.28
Luce/Uinst,tot < limite
302.8/1.28=235.9 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 175.2
Kdef = 0
Uinst var in x = 0.03
Uinst var in y = -0.86
Uinst var = 0.86
Luce/Uinst,var > limite
302.8/0.86=353.7 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 175.2
Kdef = 0.6
Ufin in x = 0.07
Ufin in y = -1.54
Ufin = 1.54
Luce/Ufin < limite
302.8/1.54=196.5 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Variabile A = 0,700 + 0,180 = 0,880
Neve = 0,500 + 0,500 = 1,000
Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-359; -322)-250

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 365.1 composto da:
asta 181: Trave in legno a falda Falda 1 fili 248-249 (L = 262.7)
asta 393: Trave in legno a falda Falda 1 fili 249-250 (L = 102.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 201.4
Kdef = 0
Uinst tot in x = 0.11
Uinst tot in y = -2.3
Uinst tot = 2.3
Luce/Uinst,tot < limite
365.1/2.3=158.5 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 201.4
Kdef = 0
Uinst var in x = 0.07
Uinst var in y = -1.52
Uinst var = 1.52
Luce/Uinst,var < limite
365.1/1.52=240.4 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 201.4
Kdef = 0.6
Ufin in x = 0.14
Ufin in y = -2.77
Ufin = 2.77
Luce/Ufin < limite



365.1/2.77=131.6 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-426; -322)-244

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 435 composto da:

asta 180: Trave in legno a falda Falda 1 fili 242-243 (L = 262.7)

asta 392: Trave in legno a falda Falda 1 fili 243-244 (L = 172.3)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 227.7

Kdef = 0

Uinst tot in x = 0.06

Uinst tot in y = -3.4

Uinst tot = 3.4

Luce/Uinst,tot < limite

435/3.4=127.9 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 227.7

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -2.23

Uinst var = 2.23

Luce/Uinst,var < limite

435/2.23=195.2 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 227.7

Kdef = 0.6

Ufin in x = 0.08

Ufin in y = -4.11

Ufin = 4.11

Luce/Ufin < limite

435/4.11=106 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-494; -322)-238

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:

asta 179: Trave in legno a falda Falda 1 fili 236-237 (L = 262.7)

asta 391: Trave in legno a falda Falda 1 fili 237-238 (L = 222.5)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

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Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 236.5
Kdef = 0
Uinst tot in x = -0.08
Uinst tot in y = -4.08
Uinst tot = 4.08
Luce/Uinst,tot < limite
485.3/4.08=119.1 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 236.5
Kdef = 0
Uinst var in x = -0.05
Uinst var in y = -2.66
Uinst var = 2.66
Luce/Uinst,var < limite
485.3/2.66=182.1 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 236.5
Kdef = 0.6
Ufin in x = -0.1
Ufin in y = -4.92
Ufin = 4.92
Luce/Ufin < limite
485.3/4.92=98.5 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Variabile A = 0,700 + 0,180 = 0,880
Neve = 0,500 + 0,500 = 1,000
Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-561; -322)-227

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:
asta 178: Trave in legno a falda Falda 1 fili 225-226 (L = 262.7)
asta 390: Trave in legno a falda Falda 1 fili 226-227 (L = 222.5)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 245.2
Kdef = 0
Uinst tot in x = -0.06
Uinst tot in y = -4.41
Uinst tot = 4.41
Luce/Uinst,tot < limite
485.3/4.41=110 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 245.2
Kdef = 0



Uinst var in x = -0.04
 Uinst var in y = -2.88
 Uinst var = 2.88
 Luce/Uinst,var < limite
 $485.3/2.88=168.3 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 245.2
 Kdef = 0.6
 Ufin in x = -0.07
 Ufin in y = -5.33
 Ufin = 5.33
 Luce/Ufin < limite
 $485.3/5.33=91 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-696; -322)-212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 485.4 composto da:
 asta 176: Trave in legno a falda Falda 1 fili 210-211 (L = 262.7)
 asta 388: Trave in legno a falda Falda 1 fili 211-212 (L = 222.7)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 254
 Kdef = 0
 Uinst tot in x = -0.07
 Uinst tot in y = -4.88
 Uinst tot = 4.88
 Luce/Uinst,tot < limite
 $485.4/4.88=99.4 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 254
 Kdef = 0
 Uinst var in x = -0.05
 Uinst var in y = -3.18
 Uinst var = 3.18
 Luce/Uinst,var < limite
 $485.4/3.18=152.5 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 254
 Kdef = 0.6
 Ufin in x = -0.09
 Ufin in y = -5.91
 Ufin = 5.91
 Luce/Ufin < limite
 $485.4/5.91=82.2 < 200$ - NON SODDISFATTA
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$



Superelemento in legno a "Falda 1" (-832; -471)-193

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 650.5$ composto da:

asta 169: Trave in legno a falda Falda 1 fili 191-192 ($L = 165.2$)

asta 170: Trave in legno a falda Falda 1 fili 191-192 ($L = 262.7$)

asta 386: Trave in legno a falda Falda 1 fili 192-193 ($L = 222.6$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.05$

$U_{inst\ tot\ in\ y} = -5.28$

$U_{inst\ tot} = 5.28$

Luce/ $U_{inst,tot} < \text{limite}$

$650.5/5.28 = 123.2 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.04$

$U_{inst\ var\ in\ y} = -3.43$

$U_{inst\ var} = 3.43$

Luce/ $U_{inst,var} < \text{limite}$

$650.5/3.43 = 189.6 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.06$

$U_{fin\ in\ y} = -6.39$

$U_{fin} = 6.39$

Luce/ $U_{fin} < \text{limite}$

$650.5/6.39 = 101.8 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-832; -471)-(-831; 68)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 428$ composto da:

asta 169: Trave in legno a falda Falda 1 fili 191-192 ($L = 165.2$)

asta 170: Trave in legno a falda Falda 1 fili 191-192 ($L = 262.7$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

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Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 174

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.06$

$U_{inst\ tot\ in\ y} = 2.01$

$U_{inst\ tot} = 2.01$

Luce/ $U_{inst,tot}$ < limite

$428/2.01=213 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 174

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.02$

$U_{inst\ var\ in\ y} = 1.31$

$U_{inst\ var} = 1.31$

Luce/ $U_{inst,var}$ > limite

$428/1.31=326.9 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 179.5

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.08$

$U_{fin\ in\ y} = 2.51$

$U_{fin} = 2.51$

Luce/ U_{fin} < limite

$428/2.51=170.3 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-899; -471)-186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 650.5$ composto da:

asta 167: Trave in legno a falda Falda 1 fili 184-185 ($L = 165.2$)

asta 168: Trave in legno a falda Falda 1 fili 184-185 ($L = 262.7$)

asta 385: Trave in legno a falda Falda 1 fili 185-186 ($L = 222.6$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.06$

$U_{inst\ tot\ in\ y} = -5.5$

$U_{inst\ tot} = 5.5$

Luce/ $U_{inst,tot}$ < limite

$650.5/5.5=118.4 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.05$

$U_{inst\ var\ in\ y} = -3.57$

$U_{inst\ var} = 3.57$

Luce/ $U_{inst,var}$ < limite

$650.5/3.57=182.2 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA



Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.07$

$U_{fin} \text{ in } y = -6.65$

$U_{fin} = 6.65$

$Luce/U_{fin} < \text{limite}$

$650.5/6.65=97.8 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-899; -471)-(-899; 68)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 428$ composto da:

asta 167: Trave in legno a falda Falda 1 fili 184-185 ($L = 165.2$)

asta 168: Trave in legno a falda Falda 1 fili 184-185 ($L = 262.7$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 165.2

$K_{def} = 0$

$U_{inst} \text{ tot in } x = 0.05$

$U_{inst} \text{ tot in } y = 2.1$

$U_{inst} \text{ tot} = 2.1$

$Luce/U_{inst,tot} < \text{limite}$

$428/2.1=203.9 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 165.2

$K_{def} = 0$

$U_{inst} \text{ var in } x = 0.03$

$U_{inst} \text{ var in } y = 1.36$

$U_{inst} \text{ var} = 1.36$

$Luce/U_{inst,var} > \text{limite}$

$428/1.36=313.9 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 170.8

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0.07$

$U_{fin} \text{ in } y = 2.63$

$U_{fin} = 2.63$

$Luce/U_{fin} < \text{limite}$

$428/2.63=163 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-967; -471)-180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

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Dati generali

Superelemento di lunghezza complessiva $L = 650.5$ composto da:
asta 165: Trave in legno a falda Falda 1 fili 178-179 ($L = 165.2$)
asta 166: Trave in legno a falda Falda 1 fili 178-179 ($L = 262.7$)
asta 384: Trave in legno a falda Falda 1 fili 179-180 ($L = 222.6$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_{x,y} = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.06$

$U_{inst\ tot\ in\ y} = -5.73$

$U_{inst\ tot} = 5.73$

$Luce/U_{inst,tot} < \text{limite}$

$650.5/5.73 = 113.5 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.04$

$U_{inst\ var\ in\ y} = -3.72$

$U_{inst\ var} = 3.72$

$Luce/U_{inst,var} < \text{limite}$

$650.5/3.72 = 174.7 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.06$

$U_{fin\ in\ y} = -6.94$

$U_{fin} = 6.94$

$Luce/U_{fin} < \text{limite}$

$650.5/6.94 = 93.7 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-967; -471)-(-967; 68)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 428$ composto da:

asta 165: Trave in legno a falda Falda 1 fili 178-179 ($L = 165.2$)

asta 166: Trave in legno a falda Falda 1 fili 178-179 ($L = 262.7$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_{x,y} = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 165.2

$K_{def} = 0$



Uinst tot in x = 0.05
 Uinst tot in y = 2.2
 Uinst tot = 2.2
 Luce/Uinst,tot < limite
 $428/2.2=194.8 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 165.2
 Kdef = 0
 Uinst var in x = 0.03
 Uinst var in y = 1.43
 Uinst var = 1.43
 Luce/Uinst,var > limite
 $428/1.43=300.2 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 170.8
 Kdef = 0.6
 Ufin in x = 0.07
 Ufin in y = 2.75
 Ufin = 2.75
 Luce/Ufin < limite
 $428/2.75=155.6 < 200$ - NON SODDISFATTA
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-1034; -471)-171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 428 composto da:
 asta 129: Trave in legno a falda Falda 1 fili 170-171 (L = 165.2)
 asta 130: Trave in legno a falda Falda 1 fili 170-171 (L = 262.7)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0; \beta_y = 0$
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 165.2
 Kdef = 0
 Uinst tot in x = 0.07
 Uinst tot in y = 2.29
 Uinst tot = 2.29
 Luce/Uinst,tot < limite
 $428/2.29=186.6 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 165.2
 Kdef = 0
 Uinst var in x = 0.03
 Uinst var in y = 1.49
 Uinst var = 1.49
 Luce/Uinst,var < limite
 $428/1.49=287.3 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 170.8
 Kdef = 0.6
 Ufin in x = 0.09
 Ufin in y = 2.87



Ufin = 2.87
Luce/Ufin < limite
 $428/2.87=149.1 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-1034; -471)-172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 650.6 composto da:
asta 129: Trave in legno a falda Falda 1 fili 170-171 (L = 165.2)
asta 130: Trave in legno a falda Falda 1 fili 170-171 (L = 262.7)
asta 383: Trave in legno a falda Falda 1 fili 171-172 (L = 222.6)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2
Kdef = 0
Uinst tot in x = 0.05
Uinst tot in y = -5.99
Uinst tot = 5.99
Luce/Uinst,tot < limite
 $650.6/5.99=108.6 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2
Kdef = 0
Uinst var in x = -0.04
Uinst var in y = -3.89
Uinst var = 3.89
Luce/Uinst,var < limite
 $650.6/3.89=167.3 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7
Kdef = 0.6
Ufin in x = 0.07
Ufin in y = -7.25
Ufin = 7.25
Luce/Ufin < limite
 $650.6/7.25=89.7 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-1169; -471)-155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 650.5 composto da:
asta 324: Trave in legno a falda Falda 1 fili 153-154 (L = 428)
asta 409: Trave in legno a falda Falda 1 fili 154-155 (L = 222.5)

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Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 370.9

Kdef = 0

Uinst tot in x = -0.07

Uinst tot in y = -6.75

Uinst tot = 6.75

Luce/Uinst,tot < limite

650.5/6.75=96.3 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 370.9

Kdef = 0

Uinst var in x = -0.05

Uinst var in y = -4.37

Uinst var = 4.37

Luce/Uinst,var < limite

650.5/4.37=148.7 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 370.9

Kdef = 0.6

Ufin in x = -0.09

Ufin in y = -8.19

Ufin = 8.19

Luce/Ufin < limite

650.5/8.19=79.5 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 1" (-1237; -471)-150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 650.5 composto da:

asta 323: Trave in legno a falda Falda 1 fili 148-149 (L = 428)

asta 408: Trave in legno a falda Falda 1 fili 149-150 (L = 222.5)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 370.9

Kdef = 0

Uinst tot in x = -0.06

Uinst tot in y = -6.94

Uinst tot = 6.94

Luce/Uinst,tot < limite

650.5/6.94=93.7 < 300 Comb: SLE rara, 16 - NON SODDISFATTA



Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 370.9

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -4.5

Uinst var = 4.5

Luce/Uinst,var < limite

650.5/4.5=144.6 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 370.9

Kdef = 0.6

Ufin in x = -0.07

Ufin in y = -8.41

Ufin = 8.41

Luce/Ufin < limite

650.5/8.41=77.3 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 1" (-1304; -471)-141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 650.5 composto da:

asta 325: Trave in legno a falda Falda 1 fili 139-140 (L = 428)

asta 410: Trave in legno a falda Falda 1 fili 140-141 (L = 222.5)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 370.9

Kdef = 0

Uinst tot in x = -0.05

Uinst tot in y = -6.88

Uinst tot = 6.88

Luce/Uinst,tot < limite

650.5/6.88=94.6 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 370.9

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -4.46

Uinst var = 4.46

Luce/Uinst,var < limite

650.5/4.46=145.9 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 370.9

Kdef = 0.6

Ufin in x = -0.05

Ufin in y = -8.34

Ufin = 8.34

Luce/Ufin < limite

650.5/8.34=78 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600



Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 1" (-1440; -471)-122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 428 composto da:

asta 192: Trave in legno a falda Falda 1 fili 121-122 (L = 165.2)

asta 193: Trave in legno a falda Falda 1 fili 121-122 (L = 262.8)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 165.2

Kdef = 0

Uinst tot in x = -0.03

Uinst tot in y = 2.46

Uinst tot = 2.46

Luce/Uinst,tot < limite

$428/2.46=173.7 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 165.2

Kdef = 0

Uinst var in x = -0.03

Uinst var in y = 1.61

Uinst var = 1.61

Luce/Uinst,var < limite

$428/1.61=266.2 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 170.7

Kdef = 0.6

Ufin in x = -0.04

Ufin in y = 3.08

Ufin = 3.08

Luce/Ufin < limite

$428/3.08=139 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-1440; -471)-123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 650.6 composto da:

asta 192: Trave in legno a falda Falda 1 fili 121-122 (L = 165.2)

asta 193: Trave in legno a falda Falda 1 fili 121-122 (L = 262.8)

asta 396: Trave in legno a falda Falda 1 fili 122-123 (L = 222.6)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

Kdef = 0
Uinst tot in x = -0.06
Uinst tot in y = -6.43
Uinst tot = 6.43
Luce/Uinst,tot < limite
650.6/6.43=101.2 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

Kdef = 0
Uinst var in x = -0.05
Uinst var in y = -4.19
Uinst var = 4.19
Luce/Uinst,var < limite
650.6/4.19=155.4 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

Kdef = 0.6
Ufin in x = -0.07
Ufin in y = -7.78
Ufin = 7.78
Luce/Ufin < limite
650.6/7.78=83.7 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Variabile A = 0,700 + 0,180 = 0,880
Neve = 0,500 + 0,500 = 1,000
Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-1507; -471)-114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 428 composto da:
asta 194: Trave in legno a falda Falda 1 fili 113-114 (L = 165.2)
asta 195: Trave in legno a falda Falda 1 fili 113-114 (L = 262.8)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 165.2

Kdef = 0
Uinst tot in x = -0.04
Uinst tot in y = 2.45
Uinst tot = 2.45
Luce/Uinst,tot < limite
428/2.45=174.7 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 165.2

Kdef = 0
Uinst var in x = -0.03
Uinst var in y = 1.6
Uinst var = 1.6
Luce/Uinst,var < limite



428/1.6=267.5 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 170.7

Kdef = 0.6

Ufin in x = -0.04

Ufin in y = 3.06

Ufin = 3.06

Luce/Ufin < limite

428/3.06=139.8 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-1507; -471)-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 650.6 composto da:

asta 194: Trave in legno a falda Falda 1 fili 113-114 (L = 165.2)

asta 195: Trave in legno a falda Falda 1 fili 113-114 (L = 262.8)

asta 397: Trave in legno a falda Falda 1 fili 114-115 (L = 222.6)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

Kdef = 0

Uinst tot in x = -0.07

Uinst tot in y = -6.39

Uinst tot = 6.39

Luce/Uinst,tot < limite

650.6/6.39=101.9 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

Kdef = 0

Uinst var in x = -0.06

Uinst var in y = -4.17

Uinst var = 4.17

Luce/Uinst,var < limite

650.6/4.17=156.1 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

Kdef = 0.6

Ufin in x = -0.08

Ufin in y = -7.72

Ufin = 7.72

Luce/Ufin < limite

650.6/7.72=84.2 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600



Superelemento in legno a "Falda 1" (-1575; -471)-105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 428$ composto da:
asta 196: Trave in legno a falda Falda 1 fili 104-105 ($L = 165.2$)
asta 197: Trave in legno a falda Falda 1 fili 104-105 ($L = 262.8$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 165.2

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.03$

$U_{inst\ tot\ in\ y} = 2.45$

$U_{inst\ tot} = 2.45$

$Luce/U_{inst,tot} < \text{limite}$

$428/2.45 = 174.7 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 165.2

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.03$

$U_{inst\ var\ in\ y} = 1.6$

$U_{inst\ var} = 1.6$

$Luce/U_{inst,var} < \text{limite}$

$428/1.6 = 266.9 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 170.7

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.04$

$U_{fin\ in\ y} = 3.06$

$U_{fin} = 3.06$

$Luce/U_{fin} < \text{limite}$

$428/3.06 = 139.9 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-1575; -471)-106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 650.6$ composto da:

asta 196: Trave in legno a falda Falda 1 fili 104-105 ($L = 165.2$)

asta 197: Trave in legno a falda Falda 1 fili 104-105 ($L = 262.8$)

asta 398: Trave in legno a falda Falda 1 fili 105-106 ($L = 222.6$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

Kdef = 0

Uinst tot in x = -0.07

Uinst tot in y = -6.4

Uinst tot = 6.4

Luce/Uinst,tot < limite

650.6/6.4=101.6 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

Kdef = 0

Uinst var in x = -0.05

Uinst var in y = -4.19

Uinst var = 4.19

Luce/Uinst,var < limite

650.6/4.19=155.3 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

Kdef = 0.6

Ufin in x = -0.07

Ufin in y = -7.73

Ufin = 7.73

Luce/Ufin < limite

650.6/7.73=84.1 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-1642; -471)-98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 428 composto da:

asta 198: Trave in legno a falda Falda 1 fili 97-98 (L = 165.2)

asta 199: Trave in legno a falda Falda 1 fili 97-98 (L = 262.8)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 173.9

Kdef = 0

Uinst tot in x = -0.02

Uinst tot in y = 2.47

Uinst tot = 2.47

Luce/Uinst,tot < limite

428/2.47=173.4 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 173.9

Kdef = 0

Uinst var in x = -0.02

Uinst var in y = 1.62

Uinst var = 1.62

Luce/Uinst,var < limite

428/1.62=264 < 300 Comb: SLE rara, 17 - NON SODDISFATTA



Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 170.7

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.02$

$U_{fin} \text{ in } y = 3.08$

$U_{fin} = 3.08$

$Luce/U_{fin} < \text{limite}$

$428/3.08=139.1 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-1642; -471)-99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 650.5$ composto da:

asta 198: Trave in legno a falda Falda 1 fili 97-98 ($L = 165.2$)

asta 199: Trave in legno a falda Falda 1 fili 97-98 ($L = 262.8$)

asta 399: Trave in legno a falda Falda 1 fili 98-99 ($L = 222.6$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst} \text{ tot in } x = -0.04$

$U_{inst} \text{ tot in } y = -6.46$

$U_{inst} \text{ tot} = 6.46$

$Luce/U_{inst,tot} < \text{limite}$

$650.5/6.46=100.7 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst} \text{ var in } x = -0.04$

$U_{inst} \text{ var in } y = -4.24$

$U_{inst} \text{ var} = 4.24$

$Luce/U_{inst,var} < \text{limite}$

$650.5/4.24=153.4 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.05$

$U_{fin} \text{ in } y = -7.8$

$U_{fin} = 7.8$

$Luce/U_{fin} < \text{limite}$

$650.5/7.8=83.4 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$



Superelemento in legno a "Falda 1" (-1777; -322)-83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:
asta 205: Trave in legno a falda Falda 1 fili 81-82 (L = 262.8)
asta 401: Trave in legno a falda Falda 1 fili 82-83 (L = 222.5)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 254.1

Kdef = 0

Uinst tot in x = -0.04

Uinst tot in y = -6.59

Uinst tot = 6.59

Luce/Uinst,tot < limite

$485.3/6.59=73.7 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 254.1

Kdef = 0

Uinst var in x = -0.03

Uinst var in y = -4.35

Uinst var = 4.35

Luce/Uinst,var < limite

$485.3/4.35=111.5 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 254.1

Kdef = 0,6

Ufin in x = -0.05

Ufin in y = -7.93

Ufin = 7.93

Luce/Ufin < limite

$485.3/7.93=61.2 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-1912; -322)-67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:
asta 207: Trave in legno a falda Falda 1 fili 65-66 (L = 262.8)
asta 403: Trave in legno a falda Falda 1 fili 66-67 (L = 222.5)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 245.3

Kdef = 0

Uinst tot in x = -0.04

Uinst tot in y = -6.32

Uinst tot = 6.32

Luce/Uinst,tot < limite

485.3/6.32=76.8 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 245.3

Kdef = 0

Uinst var in x = -0.02

Uinst var in y = -4.19

Uinst var = 4.19

Luce/Uinst,var < limite

485.3/4.19=115.8 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 245.3

Kdef = 0.6

Ufin in x = -0.04

Ufin in y = -7.59

Ufin = 7.59

Luce/Ufin < limite

485.3/7.59=63.9 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 1" (-1980; -322)-58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:

asta 208: Trave in legno a falda Falda 1 fili 56-57 (L = 262.8)

asta 404: Trave in legno a falda Falda 1 fili 57-58 (L = 222.5)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 236.5

Kdef = 0

Uinst tot in x = 0.04

Uinst tot in y = -5.89

Uinst tot = 5.89

Luce/Uinst,tot < limite

485.3/5.89=82.4 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 236.5

Kdef = 0

Uinst var in x = 0.03

Uinst var in y = -3.91

Uinst var = 3.91

Luce/Uinst,var < limite

485.3/3.91=124 < 300 Comb: SLE rara, 17 - NON SODDISFATTA



Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 236.5

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0.05$

$U_{fin} \text{ in } y = -7.07$

$U_{fin} = 7.07$

$Luce/U_{fin} < \text{limite}$

$485.3/7.07=68.6 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-2048; -322)-51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 450.2$ composto da:

asta 209: Trave in legno a falda Falda 1 fili 49-50 ($L = 262.8$)

asta 405: Trave in legno a falda Falda 1 fili 50-51 ($L = 187.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 227.8

$K_{def} = 0$

$U_{inst} \text{ tot in } x = -0.1$

$U_{inst} \text{ tot in } y = -5.05$

$U_{inst} \text{ tot} = 5.05$

$Luce/U_{inst,tot} < \text{limite}$

$450.2/5.05=89.1 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 227.8

$K_{def} = 0$

$U_{inst} \text{ var in } x = -0.06$

$U_{inst} \text{ var in } y = -3.36$

$U_{inst} \text{ var} = 3.36$

$Luce/U_{inst,var} < \text{limite}$

$450.2/3.36=133.9 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 227.8

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.12$

$U_{fin} \text{ in } y = -6.07$

$U_{fin} = 6.07$

$Luce/U_{fin} < \text{limite}$

$450.2/6.07=74.2 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-2115; -322)-45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

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Dati generali

Superelemento di lunghezza complessiva $L = 377.8$ composto da:
 asta 210: Trave in legno a falda Falda 1 fili 43-44 ($L = 262.8$)
 asta 406: Trave in legno a falda Falda 1 fili 44-45 ($L = 115$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 210.3

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.18$

$U_{inst\ tot\ in\ y} = -3.53$

$U_{inst\ tot} = 3.53$

$Luce/U_{inst,tot} < \text{limite}$

$377.8/3.53 = 106.9 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 210.3

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.12$

$U_{inst\ var\ in\ y} = -2.36$

$U_{inst\ var} = 2.36$

$Luce/U_{inst,var} < \text{limite}$

$377.8/2.36 = 160.1 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 210.3

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.22$

$U_{fin\ in\ y} = -4.24$

$U_{fin} = 4.24$

$Luce/U_{fin} < \text{limite}$

$377.8/4.24 = 89.2 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-2183; -322)-39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 314.2$ composto da:

asta 211: Trave in legno a falda Falda 1 fili 37-38 ($L = 262.8$)

asta 407: Trave in legno a falda Falda 1 fili 38-39 ($L = 51.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 184

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.1$



Uinst tot in y = -2.02
 Uinst tot = 2.02
 Luce/Uinst,tot < limite
 $314.2/2.02=155.5 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 175.2
 Kdef = 0
 Uinst var in x = -0.06
 Uinst var in y = -1.36
 Uinst var = 1.36
 Luce/Uinst,var < limite
 $314.2/1.36=231.1 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 184
 Kdef = 0.6
 Ufin in x = -0.12
 Ufin in y = -2.42
 Ufin = 2.42
 Luce/Ufin < limite
 $314.2/2.42=130 < 200$ - NON SODDISFATTA
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Variabile A = $0,700 + 0,180 = 0,880$
 Neve = $0,500 + 0,500 = 1,000$
 Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-2242; -97)-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 387.1 composto da:
 asta 138: Trave in legno a falda Falda 1 fili 36-74 (L = 49.3)
 asta 139: Trave in legno a falda Falda 1 fili 36-74 (L = 67.6)
 asta 140: Trave in legno a falda Falda 1 fili 36-74 (L = 67.6)
 asta 141: Trave in legno a falda Falda 1 fili 36-74 (L = 67.6)
 asta 142: Trave in legno a falda Falda 1 fili 36-74 (L = 67.6)
 asta 143: Trave in legno a falda Falda 1 fili 36-74 (L = 67.6)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 220.5
 Kdef = 0
 Uinst tot in x = -0.41
 Uinst tot in y = -0.65
 Uinst tot = 0.65
 Luce/Uinst,tot > limite
 $387.1/0.65=597.3 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 220.5
 Kdef = 0
 Uinst var in x = -0.28
 Uinst var in y = -0.45
 Uinst var = 0.45
 Luce/Uinst,var > limite
 $387.1/0.45=867.9 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 226.6



Kdef = 0.6

Ufin in x = -0.46

Ufin in y = -0.7

Ufin = 0.7

Luce/Ufin > limite

$387.1/0.7=553 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-2250; -322)-(-2250; -104)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 239.9 composto da:

Asta 212: Trave in legno a falda Falda 1 fili 32-33

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_{x} = 0$; $\beta_{y} = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 144

Kdef = 0

Uinst tot in x = -0.05

Uinst tot in y = -0.81

Uinst tot = 0.81

Luce/Uinst,tot < limite

$239.9/0.81=296.2 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 136

Kdef = 0

Uinst var in x = -0.03

Uinst var in y = -0.56

Uinst var = 0.56

Luce/Uinst,var > limite

$239.9/0.56=432.1 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 144

Kdef = 0.6

Ufin in x = -0.06

Ufin in y = -0.96

Ufin = 0.96

Luce/Ufin > limite

$239.9/0.96=249 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-2318; -322)-(-2318; -172)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 165.7 composto da:

Asta 213: Trave in legno a falda Falda 1 fili 27-28



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 104.9

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.03$

$U_{inst\ tot\ in\ y} = -0.27$

$U_{inst\ tot} = 0.27$

Luce/ $U_{inst,tot}$ > limite

$165.7/0.27=604.7 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 99.4

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.02$

$U_{inst\ var\ in\ y} = -0.19$

$U_{inst\ var} = 0.19$

Luce/ $U_{inst,var}$ > limite

$165.7/0.19=875.4 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 104.9

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.03$

$U_{fin\ in\ y} = -0.32$

$U_{fin} = 0.32$

Luce/ U_{fin} > limite

$165.7/0.32=509.8 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 1" (-2385; -322)-(-2385; -239)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 91.3$ composto da:

Asta 214: Trave in legno a falda Falda 1 fili 23-24

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 60.9

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.01$

$U_{inst\ tot\ in\ y} = -0.07$

$U_{inst\ tot} = 0.07$

Luce/ $U_{inst,tot}$ > limite

$91.3/0.07=1306.1 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 57.8



Kdef = 0
Uinst var in x = -0.01
Uinst var in y = -0.05
Uinst var = 0.05
Luce/Uinst,var > limite
 $91.3/0.05=1896.3 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 60.9
Kdef = 0.6
Ufin in x = -0.01
Ufin in y = -0.08
Ufin = 0.08
Luce/Ufin > limite
 $91.3/0.08=1099.5 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 2" 24-(-2468; -256)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 92.5 composto da:
Asta 237: Trave in legno a falda Falda 2 fili 24-2

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 67.9
Kdef = 0
Uinst tot in x = 0.01
Uinst tot in y = 0.03
Uinst tot = 0.03
Luce/Uinst,tot > limite
 $92.5/0.03=3115.9 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 67.9
Kdef = 0
Uinst var in x = 0.01
Uinst var in y = 0.02
Uinst var = 0.02
Luce/Uinst,var > limite
 $92.5/0.02=4300.8 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 67.9
Kdef = 0.6
Ufin in x = 0.01
Ufin in y = 0.03
Ufin = 0.03
Luce/Ufin > limite
 $92.5/0.03=2673.6 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$



Superelemento in legno a "Falda 2" 25-(-2469; 505)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 92.2$ composto da:

Asta 321: Trave in legno a falda Falda 2 fili 25-14

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 21.5

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.02$

$U_{inst\ tot\ in\ y} = -0.05$

$U_{inst\ tot} = 0.05$

$Luce/U_{inst,tot} > \text{limite}$

$92.2/0.05 = 1926.8 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 21.5

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.01$

$U_{inst\ var\ in\ y} = -0.03$

$U_{inst\ var} = 0.03$

$Luce/U_{inst,var} > \text{limite}$

$92.2/0.03 = 2897 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 21.5

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.02$

$U_{fin\ in\ y} = -0.06$

$U_{fin} = 0.06$

$Luce/U_{fin} > \text{limite}$

$92.2/0.06 = 1604.4 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 2" 28-(-2468; -190)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 169.7$ composto da:

Asta 238: Trave in legno a falda Falda 2 fili 28-3

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 118.8



Kdef = 0
Uinst tot in x = 0.01
Uinst tot in y = 0.11
Uinst tot = 0.11
Luce/Uinst,tot > limite
169.7/0.11=1499 > 300 Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 118.8
Kdef = 0
Uinst var in x = 0
Uinst var in y = 0.08
Uinst var = 0.08
Luce/Uinst,var > limite
169.7/0.08=2064.1 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 118.8
Kdef = 0.6
Ufin in x = 0.01
Ufin in y = 0.13
Ufin = 0.13
Luce/Ufin > limite
169.7/0.13=1286.5 > 200
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Variabile A = 0,700 + 0,180 = 0,880
Neve = 0,500 + 0,500 = 1,000
Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 2" 29-(-2469; 432)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 168.8 composto da:
Asta 320: Trave in legno a falda Falda 2 fili 29-13

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 39.4
Kdef = 0
Uinst tot in x = -0.04
Uinst tot in y = -0.14
Uinst tot = 0.14
Luce/Uinst,tot > limite
168.8/0.14=1191.4 > 300 Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 39.4
Kdef = 0
Uinst var in x = -0.03
Uinst var in y = -0.09
Uinst var = 0.09
Luce/Uinst,var > limite
168.8/0.09=1800 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 39.4
Kdef = 0.6
Ufin in x = -0.05
Ufin in y = -0.17



$U_{fin} = 0.17$
Luce/ $U_{fin} >$ limite
 $168.8/0.17=990.2 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 2" 33-(-2468; -125)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 246.1$ composto da:
Asta 239: Trave in legno a falda Falda 2 fili 33-4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0; \beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 155.9
 $K_{def} = 0$
 $U_{inst\ tot\ in\ x} = 0.06$
 $U_{inst\ tot\ in\ y} = 0.28$
 $U_{inst\ tot} = 0.28$
Luce/ $U_{inst,tot} >$ limite
 $246.1/0.28=869.5 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 155.9
 $K_{def} = 0$
 $U_{inst\ var\ in\ x} = 0.04$
 $U_{inst\ var\ in\ y} = 0.21$
 $U_{inst\ var} = 0.21$
Luce/ $U_{inst,var} >$ limite
 $246.1/0.21=1192.5 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 155.9
 $K_{def} = 0.6$
 $U_{fin\ in\ x} = 0.08$
 $U_{fin\ in\ y} = 0.33$
 $U_{fin} = 0.33$
Luce/ $U_{fin} >$ limite
 $246.1/0.33=747.4 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 2" 34-(-2468; 359)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 245.4$ composto da:
Asta 319: Trave in legno a falda Falda 2 fili 34-12

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

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Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 65.4
Kdef = 0
Uinst tot in x = -0.19
Uinst tot in y = -0.3
Uinst tot = 0.3
Luce/Uinst,tot > limite
 $245.4/0.3=822.6 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 65.4
Kdef = 0
Uinst var in x = -0.13
Uinst var in y = -0.2
Uinst var = 0.2
Luce/Uinst,var > limite
 $245.4/0.2=1257.4 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 65.4
Kdef = 0.6
Ufin in x = -0.23
Ufin in y = -0.36
Ufin = 0.36
Luce/Ufin > limite
 $245.4/0.36=680.8 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 2" 39-(-2468; -59)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 322.5 composto da:
Asta 240: Trave in legno a falda Falda 2 fili 39-5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 204.3
Kdef = 0
Uinst tot in x = 0.24
Uinst tot in y = 0.3
Uinst tot = 0.3
Luce/Uinst,tot > limite
 $322.5/0.3=1092 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 204.3
Kdef = 0
Uinst var in x = 0.16



Uinst var in y = 0.23
Uinst var = 0.23
Luce/Uinst,var > limite
 $322.5/0.23=1413.7 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 215
Kdef = 0.6
Ufin in x = 0.29
Ufin in y = 0.34
Ufin = 0.34
Luce/Ufin > limite
 $322.5/0.34=959.8 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 2" 40-(-2468; 286)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 322 composto da:
Asta 318: Trave in legno a falda Falda 2 fili 40-11

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 85.9
Kdef = 0
Uinst tot in x = -0.38
Uinst tot in y = -0.39
Uinst tot = 0.39
Luce/Uinst,tot > limite
 $322/0.39=826.2 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 75.1
Kdef = 0
Uinst var in x = -0.25
Uinst var in y = -0.24
Uinst var = 0.25
Luce/Uinst,var > limite
 $322/0.25=1279.3 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 85.9
Kdef = 0.6
Ufin in x = -0.46
Ufin in y = -0.48
Ufin = 0.48
Luce/Ufin > limite
 $322/0.48=676.7 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$



Superelemento in legno a "Falda 2" 45-(-2468; 7)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 399 composto da:
Asta 241: Trave in legno a falda Falda 2 fili 45-6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 93.1

Kdef = 0

Uinst tot in x = 0.3

Uinst tot in y = -0.11

Uinst tot = 0.3

Luce/Uinst,tot > limite

$399/0.3=1313.7 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 93.1

Kdef = 0

Uinst var in x = 0.2

Uinst var in y = -0.04

Uinst var = 0.2

Luce/Uinst,var > limite

$399/0.2=2019.7 > 300$ Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 93.1

Kdef = 0.6

Ufin in x = 0.37

Ufin in y = -0.15

Ufin = 0.37

Luce/Ufin > limite

$399/0.37=1085.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 2" 51-(-2468; 73)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 475.4 composto da:
Asta 242: Trave in legno a falda Falda 2 fili 51-7

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 269.4

Kdef = 0

Uinst tot in x = 0.14



Uinst tot in y = -0.45
Uinst tot = 0.45
Luce/Uinst,tot > limite
 $475.4/0.45=1057.2 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 269.4
Kdef = 0
Uinst var in x = 0.09
Uinst var in y = -0.22
Uinst var = 0.22
Luce/Uinst,var > limite
 $475.4/0.22=2166.1 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 269.4
Kdef = 0.6
Ufin in x = 0.17
Ufin in y = -0.59
Ufin = 0.59
Luce/Ufin > limite
 $475.4/0.59=808.8 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 2" 52-(-2468; 140)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 475.2 composto da:
Asta 316: Trave in legno a falda Falda 2 fili 52-9

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 221.8
Kdef = 0
Uinst tot in x = -0.33
Uinst tot in y = -0.81
Uinst tot = 0.81
Luce/Uinst,tot > limite
 $475.2/0.81=588.2 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 221.8
Kdef = 0
Uinst var in x = -0.22
Uinst var in y = -0.45
Uinst var = 0.45
Luce/Uinst,var > limite
 $475.2/0.45=1047.4 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 221.8
Kdef = 0.6
Ufin in x = -0.4
Ufin in y = -1.02
Ufin = 1.02
Luce/Ufin > limite
 $475.2/1.02=465.7 > 200$
Coefficienti combinatori impiegati:



Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 2" 55-(-2906; -763)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 675.4$ composto da:

asta 113: Trave in legno a falda Falda 2 fili 55-1 ($L = 13.7$)
asta 114: Trave in legno a falda Falda 2 fili 55-1 ($L = 35$)
asta 115: Trave in legno a falda Falda 2 fili 55-1 ($L = 12.9$)
asta 116: Trave in legno a falda Falda 2 fili 55-1 ($L = 87.9$)
asta 117: Trave in legno a falda Falda 2 fili 55-1 ($L = 100.8$)
asta 118: Trave in legno a falda Falda 2 fili 55-1 ($L = 73.7$)
asta 119: Trave in legno a falda Falda 2 fili 55-1 ($L = 29.2$)
asta 120: Trave in legno a falda Falda 2 fili 55-1 ($L = 100.3$)
asta 121: Trave in legno a falda Falda 2 fili 55-1 ($L = 100.3$)
asta 122: Trave in legno a falda Falda 2 fili 55-1 ($L = 101.1$)
asta 123: Trave in legno a falda Falda 2 fili 55-1 ($L = 20.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 311.8

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.51$

$U_{inst\ tot\ in\ y} = -2.53$

$U_{inst\ tot} = 2.53$

Luce/ $U_{inst,tot} <$ limite

$675.4/2.53 = 267.4 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 311.8

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.32$

$U_{inst\ var\ in\ y} = -1.66$

$U_{inst\ var} = 1.66$

Luce/ $U_{inst,var} >$ limite

$675.4/1.66 = 407.9 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 320.2

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.63$

$U_{fin\ in\ y} = -3.05$

$U_{fin} = 3.05$

Luce/ $U_{fin} >$ limite

$675.4/3.05 = 221.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 3" 21-(-1581; -365)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 711.3$ composto da:

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asta 104: Trave in legno a falda Falda 3 fili 16-55 (L = 25.3)
asta 105: Trave in legno a falda Falda 3 fili 16-55 (L = 105.8)
asta 106: Trave in legno a falda Falda 3 fili 16-55 (L = 105.8)
asta 107: Trave in legno a falda Falda 3 fili 16-55 (L = 80)
asta 108: Trave in legno a falda Falda 3 fili 16-55 (L = 25.8)
asta 109: Trave in legno a falda Falda 3 fili 16-55 (L = 106.1)
asta 110: Trave in legno a falda Falda 3 fili 16-55 (L = 105.7)
asta 111: Trave in legno a falda Falda 3 fili 16-55 (L = 105.7)
asta 112: Trave in legno a falda Falda 3 fili 16-55 (L = 51.1)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 367.4

Kdef = 0

Uinst tot in x = 1.17

Uinst tot in y = -4.01

Uinst tot = 4.01

Luce/Uinst,tot < limite

711.3/4.01=177.5 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 367.4

Kdef = 0

Uinst var in x = 0.77

Uinst var in y = -2.64

Uinst var = 2.64

Luce/Uinst,var < limite

711.3/2.64=269.3 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 378.8

Kdef = 0.6

Ufin in x = 1.41

Ufin in y = -4.82

Ufin = 4.82

Luce/Ufin < limite

711.3/4.82=147.4 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 3" 25-(-2385; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 100.9 composto da:

Asta 313: Trave in legno a falda Falda 3 fili 25-26

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 33.6

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Kdef = 0
Uinst tot in x = -0.01
Uinst tot in y = -0.1
Uinst tot = 0.1
Luce/Uinst,tot > limite
100.9/0.1=1059.7 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 33.6
Kdef = 0
Uinst var in x = -0.01
Uinst var in y = -0.06
Uinst var = 0.06
Luce/Uinst,var > limite
100.9/0.06=1610.1 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 33.6
Kdef = 0.6
Ufin in x = -0.02
Ufin in y = -0.11
Ufin = 0.11
Luce/Ufin > limite
100.9/0.11=879.4 > 200
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 3" 29-(-2318; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 182.3 composto da:
Asta 312: Trave in legno a falda Falda 3 fili 29-30

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 60.8
Kdef = 0
Uinst tot in x = -0.03
Uinst tot in y = -0.3
Uinst tot = 0.3
Luce/Uinst,tot > limite
182.3/0.3=605.7 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 60.8
Kdef = 0
Uinst var in x = -0.02
Uinst var in y = -0.2
Uinst var = 0.2
Luce/Uinst,var > limite
182.3/0.2=928.4 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 60.8
Kdef = 0.6
Ufin in x = -0.04
Ufin in y = -0.36
Ufin = 0.36
Luce/Ufin > limite



$182.3/0.36=501.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 3" 31-(-1341; 377)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 503.6$ composto da:

asta 144: Trave in legno a falda Falda 3 fili 31-87 ($L = 84$)

asta 145: Trave in legno a falda Falda 3 fili 31-87 ($L = 67.6$)

asta 146: Trave in legno a falda Falda 3 fili 31-87 ($L = 67.6$)

asta 147: Trave in legno a falda Falda 3 fili 31-87 ($L = 67.6$)

asta 148: Trave in legno a falda Falda 3 fili 31-87 ($L = 67.6$)

asta 149: Trave in legno a falda Falda 3 fili 31-87 ($L = 67.6$)

asta 150: Trave in legno a falda Falda 3 fili 31-87 ($L = 81.9$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 232.6

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.66$

$U_{inst\ tot\ in\ y} = -1.43$

$U_{inst\ tot} = 1.43$

Luce/ $U_{inst,tot} >$ limite

$503.6/1.43=353.1 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 230.4

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.44$

$U_{inst\ var\ in\ y} = -0.94$

$U_{inst\ var} = 0.94$

Luce/ $U_{inst,var} >$ limite

$503.6/0.94=534.7 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 239.9

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.81$

$U_{fin\ in\ y} = -1.74$

$U_{fin} = 1.74$

Luce/ $U_{fin} >$ limite

$503.6/1.74=289.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 3" 34-(-2250; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 263.8$ composto da:

Asta 311: Trave in legno a falda Falda 3 fili 34-35



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 96.7

Kdef = 0

Uinst tot in x = -0.04

Uinst tot in y = -0.79

Uinst tot = 0.79

Luce/Uinst,tot > limite

263.8/0.79=335.9 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 96.7

Kdef = 0

Uinst var in x = -0.03

Uinst var in y = -0.51

Uinst var = 0.51

Luce/Uinst,var > limite

263.8/0.51=517.4 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 96.7

Kdef = 0.6

Ufin in x = -0.05

Ufin in y = -0.95

Ufin = 0.95

Luce/Ufin > limite

263.8/0.95=277.4 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 3" 40-(-2183; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 345.4 composto da:

asta 310: Trave in legno a falda Falda 3 fili 40-41 (L = 101.5)

asta 381: Trave in legno a falda Falda 3 fili 41-42 (L = 243.9)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 142.2

Kdef = 0

Uinst tot in x = -0.09

Uinst tot in y = -2.19

Uinst tot = 2.19

Luce/Uinst,tot < limite

345.4/2.19=157.9 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 142.2



Kdef = 0
Uinst var in x = -0.06
Uinst var in y = -1.43
Uinst var = 1.43
Luce/Uinst,var < limite
345.4/1.43=241.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 145.6
Kdef = 0.6
Ufin in x = -0.11
Ufin in y = -2.69
Ufin = 2.69
Luce/Ufin < limite
345.4/2.69=128.6 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000
Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 3" 46-(-2115; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 426.8 composto da:
asta 308: Trave in legno a falda Falda 3 fili 46-47 (L = 182.9)
asta 379: Trave in legno a falda Falda 3 fili 47-48 (L = 243.9)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 199.2
Kdef = 0
Uinst tot in x = -0.08
Uinst tot in y = -3.64
Uinst tot = 3.64
Luce/Uinst,tot < limite
426.8/3.64=117.2 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 199.2
Kdef = 0
Uinst var in x = -0.05
Uinst var in y = -2.38
Uinst var = 2.38
Luce/Uinst,var < limite
426.8/2.38=179 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 205.3
Kdef = 0.6
Ufin in x = -0.1
Ufin in y = -4.44
Ufin = 4.44
Luce/Ufin < limite
426.8/4.44=96.2 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000
Vento = 0,600 + 0,000 = 0,600



Superelemento in legno a "Falda 3" 52-(-2048; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 508.1$ composto da:

asta 309: Trave in legno a falda Falda 3 fili 52-53 ($L = 264.2$)

asta 380: Trave in legno a falda Falda 3 fili 53-54 ($L = 243.9$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 264.3

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.08$

$U_{inst\ tot\ in\ y} = -4.7$

$U_{inst\ tot} = 4.7$

Luce/ $U_{inst,tot} <$ limite

$508.1/4.7 = 108.2 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 264.3

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.05$

$U_{inst\ var\ in\ y} = -3.07$

$U_{inst\ var} = 3.07$

Luce/ $U_{inst,var} <$ limite

$508.1/3.07 = 165.4 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 273.1

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.1$

$U_{fin\ in\ y} = -5.68$

$U_{fin} = 5.68$

Luce/ $U_{fin} <$ limite

$508.1/5.68 = 89.4 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 3" 58-(-1980; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 547.5$ composto da:

asta 302: Trave in legno a falda Falda 3 fili 58-59 ($L = 303.6$)

asta 377: Trave in legno a falda Falda 3 fili 59-60 ($L = 243.9$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 283.3

Kdef = 0

Uinst tot in x = 0.05

Uinst tot in y = -4.78

Uinst tot = 4.78

Luce/Uinst,tot < limite

547.5/4.78=114.4 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 283.3

Kdef = 0

Uinst var in x = 0.04

Uinst var in y = -3.11

Uinst var = 3.11

Luce/Uinst,var < limite

547.5/3.11=176.1 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 283.3

Kdef = 0.6

Ufin in x = 0.05

Ufin in y = -5.79

Ufin = 5.79

Luce/Ufin < limite

547.5/5.79=94.6 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 3" 63-(-1113; -333)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 708.1 composto da:

asta 216: Trave in legno a falda Falda 3 fili 60-115 (L = 79.8)

asta 217: Trave in legno a falda Falda 3 fili 60-115 (L = 106.5)

asta 218: Trave in legno a falda Falda 3 fili 60-115 (L = 106.5)

asta 219: Trave in legno a falda Falda 3 fili 60-115 (L = 22.6)

asta 220: Trave in legno a falda Falda 3 fili 60-115 (L = 83.9)

asta 221: Trave in legno a falda Falda 3 fili 60-115 (L = 106.5)

asta 222: Trave in legno a falda Falda 3 fili 60-115 (L = 106.5)

asta 223: Trave in legno a falda Falda 3 fili 60-115 (L = 95.6)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 332.2

Kdef = 0

Uinst tot in x = 0.77

Uinst tot in y = -2.53

Uinst tot = 2.53

Luce/Uinst,tot < limite

708.1/2.53=280.3 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 329.4

Kdef = 0

Uinst var in x = 0.48

Uinst var in y = -1.6



Uinst var = 1.6

Luce/Uinst,var > limite

$708.1/1.6=442.2 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 342.7

Kdef = 0.6

Ufin in x = 0.93

Ufin in y = -3.08

Ufin = 3.08

Luce/Ufin > limite

$708.1/3.08=229.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 3" 67-69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 485.8 composto da:

asta 303: Trave in legno a falda Falda 3 fili 67-68 (L = 303.6)

asta 378: Trave in legno a falda Falda 3 fili 68-69 (L = 182.2)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 273.2

Kdef = 0

Uinst tot in x = 0.05

Uinst tot in y = -3.87

Uinst tot = 3.87

Luce/Uinst,tot < limite

$485.8/3.87=125.4 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 273.2

Kdef = 0

Uinst var in x = 0.04

Uinst var in y = -2.5

Uinst var = 2.5

Luce/Uinst,var < limite

$485.8/2.5=194.4 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 273.2

Kdef = 0.6

Ufin in x = 0.06

Ufin in y = -4.7

Ufin = 4.7

Luce/Ufin < limite

$485.8/4.7=103.4 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 3" 76-78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

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Dati generali

Superelemento di lunghezza complessiva L= 403.4 composto da:

asta 304: Trave in legno a falda Falda 3 fili 76-77 (L = 303.6)

asta 376: Trave in legno a falda Falda 3 fili 77-78 (L = 99.8)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 253

Kdef = 0

Uinst tot in x = 0.04

Uinst tot in y = -2.44

Uinst tot = 2.44

Luce/Uinst,tot < limite

$403.4/2.44=165.3 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 253

Kdef = 0

Uinst var in x = 0.03

Uinst var in y = -1.56

Uinst var = 1.56

Luce/Uinst,var < limite

$403.4/1.56=258 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 253

Kdef = 0.6

Ufin in x = 0.05

Ufin in y = -2.97

Ufin = 2.97

Luce/Ufin < limite

$403.4/2.97=136 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 3" 83-84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 321.1 composto da:

Asta 305: Trave in legno a falda Falda 3 fili 83-84

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 214

Kdef = 0

Uinst tot in x = 0.01

Uinst tot in y = -0.85

Uinst tot = 0.85



Luce/Uinst,tot > limite
 $321.1/0.85=377.1 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 214
 Kdef = 0
 Uinst var in x = 0.01
 Uinst var in y = -0.53
 Uinst var = 0.53
 Luce/Uinst,var > limite
 $321.1/0.53=607.4 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 214
 Kdef = 0.6
 Ufin in x = 0.01
 Ufin in y = -1.05
 Ufin = 1.05
 Luce/Ufin > limite
 $321.1/1.05=307.2 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 3" 91-92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 238.7 composto da:
 Asta 306: Trave in legno a falda Falda 3 fili 91-92

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 175
 Kdef = 0
 Uinst tot in x = -0.02
 Uinst tot in y = -0.28
 Uinst tot = 0.28
 Luce/Uinst,tot > limite
 $238.7/0.28=859.8 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 175
 Kdef = 0
 Uinst var in x = -0.01
 Uinst var in y = -0.17
 Uinst var = 0.17
 Luce/Uinst,var > limite
 $238.7/0.17=1378.1 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 175
 Kdef = 0.6
 Ufin in x = -0.02
 Ufin in y = -0.34
 Ufin = 0.34
 Luce/Ufin > limite
 $238.7/0.34=701.5 > 200$
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$



Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 3" 99-100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 156.3 composto da:

Asta 307: Trave in legno a falda Falda 3 fili 99-100

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 41.7

Kdef = 0

Uinst tot in x = -0.01

Uinst tot in y = 0.1

Uinst tot = 0.1

Luce/Uinst,tot > limite

156.3/0.1=1501.1 > 300 Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 41.7

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = 0.07

Uinst var = 0.07

Luce/Uinst,var > limite

156.3/0.07=2260.1 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 41.7

Kdef = 0.6

Ufin in x = -0.01

Ufin in y = 0.13

Ufin = 0.13

Luce/Ufin > limite

156.3/0.13=1245.2 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 3" 106-107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 74 composto da:

Asta 301: Trave in legno a falda Falda 3 fili 106-107

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 24.7

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = 0.04$

$U_{inst\ tot} = 0.04$

$Luce/U_{inst,tot} > \text{limite}$

$74/0.04=1806 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 24.7

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = 0.03$

$U_{inst\ var} = 0.03$

$Luce/U_{inst,var} > \text{limite}$

$74/0.03=2854 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 24.7

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0$

$U_{fin\ in\ y} = 0.05$

$U_{fin} = 0.05$

$Luce/U_{fin} > \text{limite}$

$74/0.05=1487.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 3"- "Falda 2" 46-(-2468; 213)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 398.7$ composto da:

Asta 317: Trave in legno a falda Falda 2 fili 46-10

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 146.2

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.5$

$U_{inst\ tot\ in\ y} = -0.56$

$U_{inst\ tot} = 0.56$

$Luce/U_{inst,tot} > \text{limite}$

$398.7/0.56=710.3 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 132.9

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.33$

$U_{inst\ var\ in\ y} = -0.34$

$U_{inst\ var} = 0.34$

$Luce/U_{inst,var} > \text{limite}$

$398.7/0.34=1179.8 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 146.2



Kdef = 0.6
Ufin in x = -0.61
Ufin in y = -0.7
Ufin = 0.7
Luce/Ufin > limite
 $398.7/0.7=571.9 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 3"- "Falda 2" 55-(-2468; 105)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 512.3 composto da:

Asta 315: Trave in legno a falda Falda 2 fili 55-8

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_{x,y} = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 256.2

Kdef = 0

Uinst tot in x = 0.07

Uinst tot in y = -0.92

Uinst tot = 0.92

Luce/Uinst,tot > limite

$512.3/0.92=557.5 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 256.2

Kdef = 0

Uinst var in x = 0.05

Uinst var in y = -0.51

Uinst var = 0.51

Luce/Uinst,var > limite

$512.3/0.51=1002.8 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 256.2

Kdef = 0.6

Ufin in x = 0.08

Ufin in y = -1.16

Ufin = 1.16

Luce/Ufin > limite

$512.3/1.16=440.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 70-71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 72.2 composto da:

asta 299: Trave in legno a falda Falda 4 fili 70-71 (L = 57.8)

asta 300: Trave in legno a falda Falda 4 fili 70-71 (L = 14.4)



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 21.2

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0$

$U_{inst\ tot\ in\ y} = -0.05$

$U_{inst\ tot} = 0.05$

Luce/ $U_{inst,tot}$ > limite

$72.2/0.05=1411.7 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 21.2

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = -0.03$

$U_{inst\ var} = 0.03$

Luce/ $U_{inst,var}$ > limite

$72.2/0.03=2165.3 > 300$ Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 74.2

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.01$

$U_{fin\ in\ y} = -0.07$

$U_{fin} = 0.07$

Luce/ U_{fin} > limite

$72.2/0.07=1064.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 79-80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 149.3$ composto da:

asta 297: Trave in legno a falda Falda 4 fili 79-80 ($L = 134.8$)

asta 298: Trave in legno a falda Falda 4 fili 79-80 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 35.9

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.03$

$U_{inst\ tot\ in\ y} = -0.11$

$U_{inst\ tot} = 0.11$

Luce/ $U_{inst,tot}$ > limite

$149.3/0.11=1342.7 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 35.9



Kdef = 0
Uinst var in x = 0.02
Uinst var in y = -0.07
Uinst var = 0.07
Luce/Uinst,var > limite
149.3/0.07=2065.1 > 300 Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 153.7
Kdef = 0.6
Ufin in x = 0.03
Ufin in y = -0.2
Ufin = 0.2
Luce/Ufin > limite
149.3/0.2=756.2 > 200
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 85-86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 226.3 composto da:
asta 295: Trave in legno a falda Falda 4 fili 85-86 (L = 211.8)
asta 296: Trave in legno a falda Falda 4 fili 85-86 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 63.5
Kdef = 0
Uinst tot in x = -0.03
Uinst tot in y = -0.47
Uinst tot = 0.47
Luce/Uinst,tot > limite
226.3/0.47=484.5 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 63.5
Kdef = 0
Uinst var in x = -0.02
Uinst var in y = -0.3
Uinst var = 0.3
Luce/Uinst,var > limite
226.3/0.3=743 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 63.5
Kdef = 0.6
Ufin in x = -0.03
Ufin in y = -0.56
Ufin = 0.56
Luce/Ufin > limite
226.3/0.56=400.8 > 200
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000



Superelemento in legno a "Falda 4" 93-94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 303.3$ composto da:

asta 293: Trave in legno a falda Falda 4 fili 93-94 ($L = 288.8$)

asta 294: Trave in legno a falda Falda 4 fili 93-94 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 96.3

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.07$

$U_{inst\ tot\ in\ y} = -1.48$

$U_{inst\ tot} = 1.48$

$Luce/U_{inst,tot} < \text{limite}$

$303.3/1.48 = 205.2 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 96.3

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.05$

$U_{inst\ var\ in\ y} = -0.97$

$U_{inst\ var} = 0.97$

$Luce/U_{inst,var} > \text{limite}$

$303.3/0.97 = 314 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 96.3

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.09$

$U_{fin\ in\ y} = -1.78$

$U_{fin} = 1.78$

$Luce/U_{fin} < \text{limite}$

$303.3/1.78 = 169.9 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 893.5$ composto da:

asta 151: Trave in legno a falda Falda 4 fili 95-198 ($L = 43.4$)

asta 152: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 153: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 154: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 155: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 156: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 157: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 158: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 159: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 160: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 161: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 162: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 163: Trave in legno a falda Falda 4 fili 95-198 ($L = 67.6$)

asta 164: Trave in legno a falda Falda 4 fili 95-198 ($L = 39.5$)



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 444.2

Kdef = 0

Uinst tot in x = 2.86

Uinst tot in y = -7.08

Uinst tot = 7.08

Luce/Uinst,tot < limite

$893.5/7.08=126.2 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 444.2

Kdef = 0

Uinst var in x = 1.9

Uinst var in y = -4.72

Uinst var = 4.72

Luce/Uinst,var < limite

$893.5/4.72=189.4 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 463.6

Kdef = 0.6

Ufin in x = 3.44

Ufin in y = -8.52

Ufin = 8.52

Luce/Ufin < limite

$893.5/8.52=104.9 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 4" 101-103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 380.3 composto da:

asta 292: Trave in legno a falda Falda 4 fili 101-102 (L = 49.4)

asta 374: Trave in legno a falda Falda 4 fili 102-103 (L = 316.4)

asta 375: Trave in legno a falda Falda 4 fili 102-103 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 123.3

Kdef = 0

Uinst tot in x = -0.02

Uinst tot in y = -3.75

Uinst tot = 3.75

Luce/Uinst,tot < limite

$380.3/3.75=101.4 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

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Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 123.3

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = -2.47

Uinst var = 2.47

Luce/Uinst,var < limite

$380.3/2.47=154.1 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 124.9

Kdef = 0.6

Ufin in x = -0.03

Ufin in y = -4.58

Ufin = 4.58

Luce/Ufin < limite

$380.3/4.58=83 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 102-103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:

asta 374: Trave in legno a falda Falda 4 fili 102-103 (L = 316.4)

asta 375: Trave in legno a falda Falda 4 fili 102-103 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 105.5

Kdef = 0

Uinst tot in x = -0.01

Uinst tot in y = -1.99

Uinst tot = 1.99

Luce/Uinst,tot < limite

$330.9/1.99=166.1 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 105.5

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = -1.3

Uinst var = 1.3

Luce/Uinst,var < limite

$330.9/1.3=254.1 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 105.5

Kdef = 0.6

Ufin in x = -0.01

Ufin in y = -2.41

Ufin = 2.41

Luce/Ufin < limite

$330.9/2.41=137.6 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$



Superelemento in legno a "Falda 4" 108-110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 457.3$ composto da:

asta 291: Trave in legno a falda Falda 4 fili 108-109 ($L = 126.4$)

asta 372: Trave in legno a falda Falda 4 fili 109-110 ($L = 316.4$)

asta 373: Trave in legno a falda Falda 4 fili 109-110 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 168.6

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.05$

$U_{inst\ tot\ in\ y} = -7.46$

$U_{inst\ tot} = 7.46$

Luce/ $U_{inst,tot} <$ limite

$457.3/7.46=61.3 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 168.6

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.03$

$U_{inst\ var\ in\ y} = -4.92$

$U_{inst\ var} = 4.92$

Luce/ $U_{inst,var} <$ limite

$457.3/4.92=92.9 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 172.8

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.06$

$U_{fin\ in\ y} = -9.09$

$U_{fin} = 9.09$

Luce/ $U_{fin} <$ limite

$457.3/9.09=50.3 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 109-110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 330.9$ composto da:

asta 372: Trave in legno a falda Falda 4 fili 109-110 ($L = 316.4$)

asta 373: Trave in legno a falda Falda 4 fili 109-110 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 94.9

Kdef = 0

Uinst tot in x = -0.05

Uinst tot in y = -1.87

Uinst tot = 1.87

Luce/Uinst,tot < limite

330.9/1.87=177.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 84.4

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -1.22

Uinst var = 1.22

Luce/Uinst,var < limite

330.9/1.22=271 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 94.9

Kdef = 0.6

Ufin in x = -0.05

Ufin in y = -2.26

Ufin = 2.26

Luce/Ufin < limite

330.9/2.26=146.7 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 116-118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 534.3 composto da:

asta 290: Trave in legno a falda Falda 4 fili 116-117 (L = 203.5)

asta 370: Trave in legno a falda Falda 4 fili 117-118 (L = 316.4)

asta 371: Trave in legno a falda Falda 4 fili 117-118 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 214

Kdef = 0

Uinst tot in x = 0.04

Uinst tot in y = -11.69

Uinst tot = 11.69

Luce/Uinst,tot < limite

534.3/11.69=45.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 214

Kdef = 0

Uinst var in x = 0.03

Uinst var in y = -7.72

Uinst var = 7.72

Luce/Uinst,var < limite

534.3/7.72=69.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 220.8



Kdef = 0.6
Ufin in x = 0.05
Ufin in y = -14.17
Ufin = 14.17
Luce/Ufin < limite
 $534.3/14.17=37.7 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 117-118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:
asta 370: Trave in legno a falda Falda 4 fili 117-118 (L = 316.4)
asta 371: Trave in legno a falda Falda 4 fili 117-118 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 253.2
Kdef = 0
Uinst tot in x = 0.04
Uinst tot in y = 1.69
Uinst tot = 1.69
Luce/Uinst,tot < limite
 $330.9/1.69=196 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 253.2
Kdef = 0
Uinst var in x = 0.02
Uinst var in y = 1.12
Uinst var = 1.12
Luce/Uinst,var < limite
 $330.9/1.12=295.8 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 253.2
Kdef = 0.6
Ufin in x = 0.05
Ufin in y = 2.03
Ufin = 2.03
Luce/Ufin < limite
 $330.9/2.03=163 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 123-125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:
asta 278: Trave in legno a falda Falda 4 fili 123-124 (L = 296.6)
asta 362: Trave in legno a falda Falda 4 fili 124-125 (L = 316.4)
asta 363: Trave in legno a falda Falda 4 fili 124-125 (L = 14.4)



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 296.6

Kdef = 0

Uinst tot in x = 0.04

Uinst tot in y = -16.69

Uinst tot = 16.69

Luce/Uinst,tot < limite

627.5/16.69=37.6 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 296.6

Kdef = 0

Uinst var in x = 0.03

Uinst var in y = -11.01

Uinst var = 11.01

Luce/Uinst,var < limite

627.5/11.01=57 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 306.4

Kdef = 0.6

Ufin in x = 0.04

Ufin in y = -20.1

Ufin = 20.1

Luce/Ufin < limite

627.5/20.1=31.2 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 124-125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:

asta 362: Trave in legno a falda Falda 4 fili 124-125 (L = 316.4)

asta 363: Trave in legno a falda Falda 4 fili 124-125 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 94.9

Kdef = 0

Uinst tot in x = 0.03

Uinst tot in y = -2.12

Uinst tot = 2.12

Luce/Uinst,tot < limite

330.9/2.12=156.2 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 94.9



Kdef = 0
Uinst var in x = 0.03
Uinst var in y = -1.38
Uinst var = 1.38
Luce/Uinst,var < limite
330.9/1.38=239.1 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 94.9
Kdef = 0.6
Ufin in x = 0.03
Ufin in y = -2.56
Ufin = 2.56
Luce/Ufin < limite
330.9/2.56=129.3 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Variabile A = 0,700 + 0,180 = 0,880
Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 834.6 composto da:

asta 93: Trave in legno a falda Falda 4 fili 126-61 (L = 123.8)
asta 94: Trave in legno a falda Falda 4 fili 126-61 (L = 102.4)
asta 95: Trave in legno a falda Falda 4 fili 126-61 (L = 102.4)
asta 96: Trave in legno a falda Falda 4 fili 126-61 (L = 65.7)
asta 97: Trave in legno a falda Falda 4 fili 126-61 (L = 36.7)
asta 98: Trave in legno a falda Falda 4 fili 126-61 (L = 102.4)
asta 99: Trave in legno a falda Falda 4 fili 126-61 (L = 102.5)
asta 100: Trave in legno a falda Falda 4 fili 126-61 (L = 102.5)
asta 101: Trave in legno a falda Falda 4 fili 126-61 (L = 66.4)
asta 102: Trave in legno a falda Falda 4 fili 126-61 (L = 18.9)
asta 103: Trave in legno a falda Falda 4 fili 126-61 (L = 10.8)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 357.2
Kdef = 0
Uinst tot in x = -3.14
Uinst tot in y = -10.88
Uinst tot = 10.88
Luce/Uinst,tot < limite
834.6/10.88=76.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 359.4
Kdef = 0
Uinst var in x = -2.07
Uinst var in y = -7.15
Uinst var = 7.15
Luce/Uinst,var < limite
834.6/7.15=116.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 368.1
Kdef = 0.6
Ufin in x = -3.78
Ufin in y = -13.12

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Ufin = 13.12

Luce/Ufin < limite

834.6/13.12=63.6 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 134-136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:

asta 277: Trave in legno a falda Falda 4 fili 134-135 (L = 296.6)

asta 360: Trave in legno a falda Falda 4 fili 135-136 (L = 316.4)

asta 361: Trave in legno a falda Falda 4 fili 135-136 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1

Kdef = 0

Uinst tot in x = -0.06

Uinst tot in y = -17.84

Uinst tot = 17.84

Luce/Uinst,tot < limite

627.5/17.84=35.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1

Kdef = 0

Uinst var in x = 0.04

Uinst var in y = -11.78

Uinst var = 11.78

Luce/Uinst,var < limite

627.5/11.78=53.3 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 317

Kdef = 0.6

Ufin in x = -0.07

Ufin in y = -21.49

Ufin = 21.49

Luce/Ufin < limite

627.5/21.49=29.2 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 135-136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:

asta 360: Trave in legno a falda Falda 4 fili 135-136 (L = 316.4)

asta 361: Trave in legno a falda Falda 4 fili 135-136 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 105.5
Kdef = 0
Uinst tot in x = 0.05
Uinst tot in y = -2.65
Uinst tot = 2.65
Luce/Uinst,tot < limite
 $330.9/2.65=125.1 < 300$ Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 94.9
Kdef = 0
Uinst var in x = 0.03
Uinst var in y = -1.73
Uinst var = 1.73
Luce/Uinst,var < limite
 $330.9/1.73=191.2 < 300$ Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 105.5
Kdef = 0.6
Ufin in x = 0.06
Ufin in y = -3.2
Ufin = 3.2
Luce/Ufin < limite
 $330.9/3.2=103.5 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 141-143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 627.5$ composto da:
asta 276: Trave in legno a falda Falda 4 fili 141-142 ($L = 296.6$)
asta 358: Trave in legno a falda Falda 4 fili 142-143 ($L = 316.4$)
asta 359: Trave in legno a falda Falda 4 fili 142-143 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1
Kdef = 0
Uinst tot in x = 0.11
Uinst tot in y = -18.56
Uinst tot = 18.56
Luce/Uinst,tot < limite
 $627.5/18.56=33.8 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1
Kdef = 0
Uinst var in x = 0.07



Uinst var in y = -12.25
Uinst var = 12.25
Luce/Uinst,var < limite
 $627.5/12.25=51.2 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9
Kdef = 0.6
Ufin in x = 0.14
Ufin in y = -22.35
Ufin = 22.35
Luce/Ufin < limite
 $627.5/22.35=28.1 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 142-143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:
asta 358: Trave in legno a falda Falda 4 fili 142-143 (L = 316.4)
asta 359: Trave in legno a falda Falda 4 fili 142-143 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 105.5
Kdef = 0
Uinst tot in x = 0.1
Uinst tot in y = -3.06
Uinst tot = 3.06
Luce/Uinst,tot < limite
 $330.9/3.06=108.3 < 300$ Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 105.5
Kdef = 0
Uinst var in x = 0.07
Uinst var in y = -2
Uinst var = 2
Luce/Uinst,var < limite
 $330.9/2=165.4 < 300$ Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 105.5
Kdef = 0.6
Ufin in x = 0.13
Ufin in y = -3.69
Ufin = 3.69
Luce/Ufin < limite
 $330.9/3.69=89.7 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$



Superelemento in legno a "Falda 4" 150-152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 627.5$ composto da:

asta 275: Trave in legno a falda Falda 4 fili 150-151 ($L = 296.6$)

asta 356: Trave in legno a falda Falda 4 fili 151-152 ($L = 316.4$)

asta 357: Trave in legno a falda Falda 4 fili 151-152 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.05$

$U_{inst\ tot\ in\ y} = -18.73$

$U_{inst\ tot} = 18.73$

Luce/ $U_{inst,tot}$ < limite

$627.5/18.73=33.5 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.03$

$U_{inst\ var\ in\ y} = -12.37$

$U_{inst\ var} = 12.37$

Luce/ $U_{inst,var}$ < limite

$627.5/12.37=50.7 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.06$

$U_{fin\ in\ y} = -22.57$

$U_{fin} = 22.57$

Luce/ U_{fin} < limite

$627.5/22.57=27.8 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 151-152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 330.9$ composto da:

asta 356: Trave in legno a falda Falda 4 fili 151-152 ($L = 316.4$)

asta 357: Trave in legno a falda Falda 4 fili 151-152 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 105.5



Kdef = 0
Uinst tot in x = -0.05
Uinst tot in y = -3.18
Uinst tot = 3.18
Luce/Uinst,tot < limite
330.9/3.18=104 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 105.5
Kdef = 0
Uinst var in x = -0.04
Uinst var in y = -2.08
Uinst var = 2.08
Luce/Uinst,var < limite
330.9/2.08=158.9 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 105.5
Kdef = 0.6
Ufin in x = -0.06
Ufin in y = -3.84
Ufin = 3.84
Luce/Ufin < limite
330.9/3.84=86.2 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Variabile A = 0,700 + 0,180 = 0,880
Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 155-157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:
asta 274: Trave in legno a falda Falda 4 fili 155-156 (L = 296.6)
asta 354: Trave in legno a falda Falda 4 fili 156-157 (L = 316.4)
asta 355: Trave in legno a falda Falda 4 fili 156-157 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1
Kdef = 0
Uinst tot in x = -0.1
Uinst tot in y = -18.35
Uinst tot = 18.35
Luce/Uinst,tot < limite
627.5/18.35=34.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1
Kdef = 0
Uinst var in x = -0.07
Uinst var in y = -12.12
Uinst var = 12.12
Luce/Uinst,var < limite
627.5/12.12=51.8 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9
Kdef = 0.6
Ufin in x = -0.12



Ufin in y = -22.11
Ufin = 22.11
Luce/Ufin < limite
627.5/22.11=28.4 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 156-157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:

asta 354: Trave in legno a falda Falda 4 fili 156-157 (L = 316.4)

asta 355: Trave in legno a falda Falda 4 fili 156-157 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 105.5

Kdef = 0

Uinst tot in x = -0.1

Uinst tot in y = -3.04

Uinst tot = 3.04

Luce/Uinst,tot < limite

330.9/3.04=108.8 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 105.5

Kdef = 0

Uinst var in x = -0.07

Uinst var in y = -1.99

Uinst var = 1.99

Luce/Uinst,var < limite

330.9/1.99=166.2 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 105.5

Kdef = 0.6

Ufin in x = -0.12

Ufin in y = -3.67

Ufin = 3.67

Luce/Ufin < limite

330.9/3.67=90.2 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 163-165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:

asta 273: Trave in legno a falda Falda 4 fili 163-164 (L = 296.6)

asta 352: Trave in legno a falda Falda 4 fili 164-165 (L = 316.4)

asta 353: Trave in legno a falda Falda 4 fili 164-165 (L = 14.4)



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1

Kdef = 0

Uinst tot in x = -0.11

Uinst tot in y = -17.46

Uinst tot = 17.46

Luce/Uinst,tot < limite

627.5/17.46=35.9 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1

Kdef = 0

Uinst var in x = -0.07

Uinst var in y = -11.52

Uinst var = 11.52

Luce/Uinst,var < limite

627.5/11.52=54.5 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9

Kdef = 0.6

Ufin in x = -0.13

Ufin in y = -21.04

Ufin = 21.04

Luce/Ufin < limite

627.5/21.04=29.8 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 164-165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:

asta 352: Trave in legno a falda Falda 4 fili 164-165 (L = 316.4)

asta 353: Trave in legno a falda Falda 4 fili 164-165 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 105.5

Kdef = 0

Uinst tot in x = -0.07

Uinst tot in y = -2.68

Uinst tot = 2.68

Luce/Uinst,tot < limite

330.9/2.68=123.4 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 94.9



Kdef = 0
 Uinst var in x = -0.05
 Uinst var in y = -1.75
 Uinst var = 1.75
 Luce/Uinst,var < limite
 $330.9/1.75=188.6 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 105.5
 Kdef = 0.6
 Ufin in x = -0.08
 Ufin in y = -3.24
 Ufin = 3.24
 Luce/Ufin < limite
 $330.9/3.24=102.2 < 200$ - NON SODDISFATTA
 Coefficienti combinatori impiegati:
 Pesi strutturali = 1,000 + 0,600 = 1,600
 Permanenti portati = 1,000 + 0,600 = 1,600
 Variabile A = 0,700 + 0,180 = 0,880
 Neve = 0,500 + 0,500 = 1,000
 Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 4" 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 834.6 composto da:

- asta 82: Trave in legno a falda Falda 4 fili 169-233 (L = 129.7)
- asta 83: Trave in legno a falda Falda 4 fili 169-233 (L = 102.4)
- asta 84: Trave in legno a falda Falda 4 fili 169-233 (L = 102.4)
- asta 85: Trave in legno a falda Falda 4 fili 169-233 (L = 59.9)
- asta 86: Trave in legno a falda Falda 4 fili 169-233 (L = 42.6)
- asta 87: Trave in legno a falda Falda 4 fili 169-233 (L = 102.5)
- asta 88: Trave in legno a falda Falda 4 fili 169-233 (L = 102.5)
- asta 89: Trave in legno a falda Falda 4 fili 169-233 (L = 102.5)
- asta 90: Trave in legno a falda Falda 4 fili 169-233 (L = 60.5)
- asta 91: Trave in legno a falda Falda 4 fili 169-233 (L = 18.9)
- asta 92: Trave in legno a falda Falda 4 fili 169-233 (L = 10.9)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 356.5
 Kdef = 0
 Uinst tot in x = 2.91
 Uinst tot in y = -9.91
 Uinst tot = 9.91
 Luce/Uinst,tot < limite
 $834.6/9.91=84.2 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 358.5
 Kdef = 0
 Uinst var in x = 1.92
 Uinst var in y = -6.5
 Uinst var = 6.5
 Luce/Uinst,var < limite
 $834.6/6.5=128.5 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 367.7
 Kdef = 0.6
 Ufin in x = 3.5



Ufin in y = -11.97

Ufin = 11.97

Luce/Ufin < limite

$834.6/11.97=69.7 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 172-174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:

asta 272: Trave in legno a falda Falda 4 fili 172-173 (L = 296.6)

asta 350: Trave in legno a falda Falda 4 fili 173-174 (L = 316.4)

asta 351: Trave in legno a falda Falda 4 fili 173-174 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1

Kdef = 0

Uinst tot in x = 0.13

Uinst tot in y = -16.13

Uinst tot = 16.13

Luce/Uinst,tot < limite

$627.5/16.13=38.9 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1

Kdef = 0

Uinst var in x = -0.08

Uinst var in y = -10.63

Uinst var = 10.63

Luce/Uinst,var < limite

$627.5/10.63=59 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9

Kdef = 0.6

Ufin in x = 0.17

Ufin in y = -19.44

Ufin = 19.44

Luce/Ufin < limite

$627.5/19.44=32.3 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 173-174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:

asta 350: Trave in legno a falda Falda 4 fili 173-174 (L = 316.4)

asta 351: Trave in legno a falda Falda 4 fili 173-174 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

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Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 94.9
 $K_{def} = 0$
 $U_{inst\ tot\ in\ x} = -0.09$
 $U_{inst\ tot\ in\ y} = -2.18$
 $U_{inst\ tot} = 2.18$
Luce/ $U_{inst,tot}$ < limite
 $330.9/2.18=151.4 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 94.9
 $K_{def} = 0$
 $U_{inst\ var\ in\ x} = -0.08$
 $U_{inst\ var\ in\ y} = -1.43$
 $U_{inst\ var} = 1.43$
Luce/ $U_{inst,var}$ < limite
 $330.9/1.43=231.6 < 300$ Comb: SLE rara, 17 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 94.9
 $K_{def} = 0.6$
 $U_{fin\ in\ x} = -0.11$
 $U_{fin\ in\ y} = -2.64$
 $U_{fin} = 2.64$
Luce/ U_{fin} < limite
 $330.9/2.64=125.4 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 4" 181-183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 529.9$ composto da:
asta 289: Trave in legno a falda Falda 4 fili 181-182 ($L = 199$)
asta 368: Trave in legno a falda Falda 4 fili 182-183 ($L = 316.4$)
asta 369: Trave in legno a falda Falda 4 fili 182-183 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 209.6
 $K_{def} = 0$
 $U_{inst\ tot\ in\ x} = -0.11$
 $U_{inst\ tot\ in\ y} = -11.15$
 $U_{inst\ tot} = 11.15$
Luce/ $U_{inst,tot}$ < limite
 $529.9/11.15=47.5 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 209.6



Kdef = 0
Uinst var in x = -0.05
Uinst var in y = -7.35
Uinst var = 7.35
Luce/Uinst,var < limite
529.9/7.35=72.1 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 216.2
Kdef = 0.6
Ufin in x = -0.14
Ufin in y = -13.51
Ufin = 13.51
Luce/Ufin < limite
529.9/13.51=39.2 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 182-183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:
asta 368: Trave in legno a falda Falda 4 fili 182-183 (L = 316.4)
asta 369: Trave in legno a falda Falda 4 fili 182-183 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 253.2
Kdef = 0
Uinst tot in x = -0.11
Uinst tot in y = 1.6
Uinst tot = 1.6
Luce/Uinst,tot < limite
330.9/1.6=206.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 253.2
Kdef = 0
Uinst var in x = -0.05
Uinst var in y = 1.06
Uinst var = 1.06
Luce/Uinst,var > limite
330.9/1.06=312.2 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 253.2
Kdef = 0.6
Ufin in x = -0.14
Ufin in y = 1.93
Ufin = 1.93
Luce/Ufin < limite
330.9/1.93=171.3 < 200 - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000



Superelemento in legno a "Falda 4" 188-190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 452.9 composto da:

asta 288: Trave in legno a falda Falda 4 fili 188-189 (L = 122)

asta 366: Trave in legno a falda Falda 4 fili 189-190 (L = 316.4)

asta 367: Trave in legno a falda Falda 4 fili 189-190 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 164.2

Kdef = 0

Uinst tot in x = 0.05

Uinst tot in y = -7.06

Uinst tot = 7.06

Luce/Uinst,tot < limite

452.9/7.06=64.1 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 164.2

Kdef = 0

Uinst var in x = 0.03

Uinst var in y = -4.66

Uinst var = 4.66

Luce/Uinst,var < limite

452.9/4.66=97.3 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 168.3

Kdef = 0.6

Ufin in x = 0.07

Ufin in y = -8.61

Ufin = 8.61

Luce/Ufin < limite

452.9/8.61=52.6 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 189-190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 330.9 composto da:

asta 366: Trave in legno a falda Falda 4 fili 189-190 (L = 316.4)

asta 367: Trave in legno a falda Falda 4 fili 189-190 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 94.9



Kdef = 0
 Uinst tot in x = 0.05
 Uinst tot in y = -1.86
 Uinst tot = 1.86
 Luce/Uinst,tot < limite
 $330.9/1.86=177.5 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 94.9
 Kdef = 0
 Uinst var in x = 0.04
 Uinst var in y = -1.22
 Uinst var = 1.22
 Luce/Uinst,var < limite
 $330.9/1.22=271.5 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 94.9
 Kdef = 0.6
 Ufin in x = 0.06
 Ufin in y = -2.25
 Ufin = 2.25
 Luce/Ufin < limite
 $330.9/2.25=146.9 < 200$ - NON SODDISFATTA
 Coefficienti combinatori impiegati:
 Pesi strutturali = $1,000 + 0,600 = 1,600$
 Permanenti portati = $1,000 + 0,600 = 1,600$
 Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 195-197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 375.9 composto da:
 asta 287: Trave in legno a falda Falda 4 fili 195-196 (L = 45)
 asta 364: Trave in legno a falda Falda 4 fili 196-197 (L = 316.4)
 asta 365: Trave in legno a falda Falda 4 fili 196-197 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
 Rapporto luce/freccia elastica limite = 300
 Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 129.4
 Kdef = 0
 Uinst tot in x = 0.06
 Uinst tot in y = -3.52
 Uinst tot = 3.52
 Luce/Uinst,tot < limite
 $375.9/3.52=106.8 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 129.4
 Kdef = 0
 Uinst var in x = 0.04
 Uinst var in y = -2.31
 Uinst var = 2.31
 Luce/Uinst,var < limite
 $375.9/2.31=162.6 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 130.9
 Kdef = 0.6
 Ufin in x = 0.08
 Ufin in y = -4.29



Ufin = 4.29
Luce/Ufin < limite
 $375.9/4.29=87.6 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 196-197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 330.9$ composto da:
asta 364: Trave in legno a falda Falda 4 fili 196-197 ($L = 316.4$)
asta 365: Trave in legno a falda Falda 4 fili 196-197 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 105.5
 $K_{def} = 0$
 $U_{inst\ tot\ in\ x} = 0.06$
 $U_{inst\ tot\ in\ y} = -1.99$
 $U_{inst\ tot} = 1.99$
 $Luce/U_{inst,tot} < limite$
 $330.9/1.99=166.7 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 105.5
 $K_{def} = 0$
 $U_{inst\ var\ in\ x} = 0.04$
 $U_{inst\ var\ in\ y} = -1.3$
 $U_{inst\ var} = 1.3$
 $Luce/U_{inst,var} < limite$
 $330.9/1.3=255 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 105.5
 $K_{def} = 0.6$
 $U_{fin\ in\ x} = 0.07$
 $U_{fin\ in\ y} = -2.4$
 $U_{fin} = 2.4$
 $Luce/U_{fin} < limite$
 $330.9/2.4=138 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 205-206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 298.9$ composto da:
asta 285: Trave in legno a falda Falda 4 fili 205-206 ($L = 284.4$)
asta 286: Trave in legno a falda Falda 4 fili 205-206 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

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$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 94.8

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.07$

$U_{inst\ tot\ in\ y} = -1.38$

$U_{inst\ tot} = 1.38$

Luce/ $U_{inst,tot}$ < limite

$298.9/1.38=217.2 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 94.8

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.04$

$U_{inst\ var\ in\ y} = -0.9$

$U_{inst\ var} = 0.9$

Luce/ $U_{inst,var}$ > limite

$298.9/0.9=332.4 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 94.8

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.09$

$U_{fin\ in\ y} = -1.66$

$U_{fin} = 1.66$

Luce/ U_{fin} < limite

$298.9/1.66=179.8 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 4" 214-215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 221.9$ composto da:

asta 283: Trave in legno a falda Falda 4 fili 214-215 ($L = 207.4$)

asta 284: Trave in legno a falda Falda 4 fili 214-215 ($L = 14.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 69.1

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.03$

$U_{inst\ tot\ in\ y} = -0.44$

$U_{inst\ tot} = 0.44$

Luce/ $U_{inst,tot}$ > limite

$221.9/0.44=505.6 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 69.1

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.02$

$U_{inst\ var\ in\ y} = -0.29$

$U_{inst\ var} = 0.29$

Luce/ $U_{inst,var}$ > limite



221.9/0.29=776.1 > 300 Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 69.1

Kdef = 0.6

Ufin in x = 0.04

Ufin in y = -0.53

Ufin = 0.53

Luce/Ufin > limite

221.9/0.53=418.2 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 221-222

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 144.8 composto da:

asta 281: Trave in legno a falda Falda 4 fili 221-222 (L = 130.4)

asta 282: Trave in legno a falda Falda 4 fili 221-222 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 34.8

Kdef = 0

Uinst tot in x = -0.03

Uinst tot in y = -0.11

Uinst tot = 0.11

Luce/Uinst,tot > limite

144.8/0.11=1308.5 > 300 Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 34.8

Kdef = 0

Uinst var in x = -0.02

Uinst var in y = -0.07

Uinst var = 0.07

Luce/Uinst,var > limite

144.8/0.07=2008 > 300 Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 149.2

Kdef = 0.6

Ufin in x = -0.03

Ufin in y = -0.17

Ufin = 0.17

Luce/Ufin > limite

144.8/0.17=854 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 4" 230-231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Superelemento di lunghezza complessiva L= 67.8 composto da:

asta 279: Trave in legno a falda Falda 4 fili 230-231 (L = 53.4)

asta 280: Trave in legno a falda Falda 4 fili 230-231 (L = 14.4)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 21.4

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = -0.05

Uinst tot = 0.05

Luce/Uinst,tot > limite

$67.8/0.05=1235.9 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 21.4

Kdef = 0

Uinst var in x = 0

Uinst var in y = -0.04

Uinst var = 0.04

Luce/Uinst,var > limite

$67.8/0.04=1895.3 > 300$ Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 21.4

Kdef = 0.6

Ufin in x = 0

Ufin in y = -0.07

Ufin = 0.07

Luce/Ufin > limite

$67.8/0.07=1022.3 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 5" 241-287

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 546.4 composto da:

asta 251: Trave in legno a falda Falda 5 fili 241-287 (L = 523.1)

asta 252: Trave in legno a falda Falda 5 fili 241-287 (L = 23.2)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 191.8

Kdef = 0

Uinst tot in x = -0.13

Uinst tot in y = -0.66



Uinst tot = 0.66
Luce/Uinst,tot > limite
 $546.4/0.66=822.1 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 174.4
Kdef = 0
Uinst var in x = -0.1
Uinst var in y = -0.37
Uinst var = 0.37
Luce/Uinst,var > limite
 $546.4/0.37=1467.9 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 191.8
Kdef = 0.6
Ufin in x = -0.16
Ufin in y = -0.84
Ufin = 0.84
Luce/Ufin > limite
 $546.4/0.84=648.9 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 5" 241-(373; 989)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 710.7 composto da:

asta 67: Trave in legno a falda Falda 5 fili 241-279 (L = 74.2)
asta 68: Trave in legno a falda Falda 5 fili 241-279 (L = 103.7)
asta 69: Trave in legno a falda Falda 5 fili 241-279 (L = 104.3)
asta 70: Trave in legno a falda Falda 5 fili 241-279 (L = 116.7)
asta 71: Trave in legno a falda Falda 5 fili 241-279 (L = 90.8)
asta 72: Trave in legno a falda Falda 5 fili 241-279 (L = 102.8)
asta 73: Trave in legno a falda Falda 5 fili 241-279 (L = 118.2)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 336.6
Kdef = 0
Uinst tot in x = 1.16
Uinst tot in y = -4.05
Uinst tot = 4.05
Luce/Uinst,tot < limite
 $710.7/4.05=175.6 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 336.6
Kdef = 0
Uinst var in x = 0.76
Uinst var in y = -2.65
Uinst var = 2.65
Luce/Uinst,var < limite
 $710.7/2.65=268 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 346.1



Kdef = 0.6
Ufin in x = 1.41
Ufin in y = -4.88
Ufin = 4.88
Luce/Ufin < limite
 $710.7/4.88=145.5 < 200$ - NON SODDISFATTA
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 5" 241-(375; -693)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 679.2 composto da:

asta 57: Trave in legno a falda Falda 5 fili 241-277 (L = 13.7)
asta 58: Trave in legno a falda Falda 5 fili 241-277 (L = 57.7)
asta 59: Trave in legno a falda Falda 5 fili 241-277 (L = 12.2)
asta 60: Trave in legno a falda Falda 5 fili 241-277 (L = 87)
asta 61: Trave in legno a falda Falda 5 fili 241-277 (L = 99.2)
asta 62: Trave in legno a falda Falda 5 fili 241-277 (L = 59)
asta 63: Trave in legno a falda Falda 5 fili 241-277 (L = 42)
asta 64: Trave in legno a falda Falda 5 fili 241-277 (L = 98.5)
asta 65: Trave in legno a falda Falda 5 fili 241-277 (L = 99.4)
asta 66: Trave in legno a falda Falda 5 fili 241-277 (L = 110.5)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 318.9

Kdef = 0

Uinst tot in x = -0.43

Uinst tot in y = -1.99

Uinst tot = 1.99

Luce/Uinst,tot > limite

$679.2/1.99=342 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 318.9

Kdef = 0

Uinst var in x = -0.26

Uinst var in y = -1.28

Uinst var = 1.28

Luce/Uinst,var > limite

$679.2/1.28=532 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 327.9

Kdef = 0.6

Ufin in x = -0.53

Ufin in y = -2.41

Ufin = 2.41

Luce/Ufin > limite

$679.2/2.41=281.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$



Superelemento in legno a "Falda 5" 244-286

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 491.5$ composto da:

asta 234: Trave in legno a falda Falda 5 fili 244-286 ($L = 468.2$)

asta 235: Trave in legno a falda Falda 5 fili 244-286 ($L = 23.2$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 171.7

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.19$

$U_{inst\ tot\ in\ y} = -0.22$

$U_{inst\ tot} = 0.22$

Luce/ $U_{inst,tot}$ > limite

$491.5/0.22=2225 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 374.6

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.12$

$U_{inst\ var\ in\ y} = -0.09$

$U_{inst\ var} = 0.12$

Luce/ $U_{inst,var}$ > limite

$491.5/0.12=4008.8 > 300$ Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 187.3

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.23$

$U_{fin\ in\ y} = -0.3$

$U_{fin} = 0.3$

Luce/ U_{fin} > limite

$491.5/0.3=1652 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 5" 245-288

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 491.8$ composto da:

asta 253: Trave in legno a falda Falda 5 fili 245-288 ($L = 468.6$)

asta 254: Trave in legno a falda Falda 5 fili 245-288 ($L = 23.2$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 171.8

Kdef = 0

Uinst tot in x = -0.46

Uinst tot in y = -0.58

Uinst tot = 0.58

Luce/Uinst,tot > limite

491.8/0.58=843.4 > 300 Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 156.2

Kdef = 0

Uinst var in x = -0.3

Uinst var in y = -0.32

Uinst var = 0.32

Luce/Uinst,var > limite

491.8/0.32=1520.9 > 300 Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 171.8

Kdef = 0.6

Ufin in x = -0.55

Ufin in y = -0.74

Ufin = 0.74

Luce/Ufin > limite

491.8/0.74=663 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 5" 250-285

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 415.2 composto da:

asta 232: Trave in legno a falda Falda 5 fili 250-285 (L = 392)

asta 233: Trave in legno a falda Falda 5 fili 250-285 (L = 23.2)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 91.5

Kdef = 0

Uinst tot in x = -0.23

Uinst tot in y = 0.11

Uinst tot = 0.23

Luce/Uinst,tot > limite

415.2/0.23=1819.9 > 300 Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 91.5

Kdef = 0

Uinst var in x = -0.15

Uinst var in y = 0.1

Uinst var = 0.15

Luce/Uinst,var > limite

415.2/0.15=2852.9 > 300 Comb: SLE rara, 16



Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 91.5

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.28$

$U_{fin} \text{ in } y = 0.13$

$U_{fin} = 0.28$

Luce/ $U_{fin} >$ limite

$415.2/0.28=1494.1 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 5" 251-289

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 415.7$ composto da:

asta 255: Trave in legno a falda Falda 5 fili 251-289 ($L = 392.4$)

asta 256: Trave in legno a falda Falda 5 fili 251-289 ($L = 23.3$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 91.6

$K_{def} = 0$

$U_{inst \text{ tot in } x} = 0.45$

$U_{inst \text{ tot in } y} = -0.4$

$U_{inst \text{ tot}} = 0.45$

Luce/ $U_{inst, tot} >$ limite

$415.7/0.45=928.6 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 91.6

$K_{def} = 0$

$U_{inst \text{ var in } x} = 0.29$

$U_{inst \text{ var in } y} = -0.24$

$U_{inst \text{ var}} = 0.29$

Luce/ $U_{inst, var} >$ limite

$415.7/0.29=1421.2 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 91.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0.54$

$U_{fin} \text{ in } y = -0.5$

$U_{fin} = 0.54$

Luce/ $U_{fin} >$ limite

$415.7/0.54=768.7 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 5" 256-284

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Superelemento di lunghezza complessiva L= 338.9 composto da:

asta 230: Trave in legno a falda Falda 5 fili 256-284 (L = 315.8)

asta 231: Trave in legno a falda Falda 5 fili 256-284 (L = 23.2)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 231.6

Kdef = 0

Uinst tot in x = -0.17

Uinst tot in y = 0.29

Uinst tot = 0.29

Luce/Uinst,tot > limite

$338.9/0.29=1169.7 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 221

Kdef = 0

Uinst var in x = -0.11

Uinst var in y = 0.22

Uinst var = 0.22

Luce/Uinst,var > limite

$338.9/0.22=1567.9 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 231.6

Kdef = 0.6

Ufin in x = -0.2

Ufin in y = 0.33

Ufin = 0.33

Luce/Ufin > limite

$338.9/0.33=1012 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 5" 257-290

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 340 composto da:

asta 257: Trave in legno a falda Falda 5 fili 257-290 (L = 316.8)

asta 258: Trave in legno a falda Falda 5 fili 257-290 (L = 23.3)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 73.9

Kdef = 0

Uinst tot in x = 0.31



Uinst tot in y = 0.26
Uinst tot = 0.31
Luce/Uinst,tot > limite
 $340/0.31=1089.1 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 73.9
Kdef = 0
Uinst var in x = 0.2
Uinst var in y = 0.18
Uinst var = 0.2
Luce/Uinst,var > limite
 $340/0.2=1668.4 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 73.9
Kdef = 0.6
Ufin in x = 0.38
Ufin in y = -0.32
Ufin = 0.38
Luce/Ufin > limite
 $340/0.38=901.3 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = 1,000 + 0,600 = 1,600
Permanenti portati = 1,000 + 0,600 = 1,600
Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 5" 262-283

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 262.7 composto da:
asta 228: Trave in legno a falda Falda 5 fili 262-283 (L = 239.5)
asta 229: Trave in legno a falda Falda 5 fili 262-283 (L = 23.2)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 175.6
Kdef = 0
Uinst tot in x = -0.05
Uinst tot in y = 0.24
Uinst tot = 0.24
Luce/Uinst,tot > limite
 $262.7/0.24=1113.8 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 175.6
Kdef = 0
Uinst var in x = -0.03
Uinst var in y = 0.17
Uinst var = 0.17
Luce/Uinst,var > limite
 $262.7/0.17=1543.3 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 175.6
Kdef = 0.6
Ufin in x = -0.06
Ufin in y = 0.28
Ufin = 0.28
Luce/Ufin > limite
 $262.7/0.28=953.7 > 200$



Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 5" 263-291

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 264$ composto da:

asta 259: Trave in legno a falda Falda 5 fili 263-291 ($L = 240.7$)

asta 260: Trave in legno a falda Falda 5 fili 263-291 ($L = 23.3$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 200.6

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.12$

$U_{inst\ tot\ in\ y} = 0.27$

$U_{inst\ tot} = 0.27$

Luce/ $U_{inst,tot} >$ limite

$264/0.27=984.7 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 200.6

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.08$

$U_{inst\ var\ in\ y} = 0.18$

$U_{inst\ var} = 0.18$

Luce/ $U_{inst,var} >$ limite

$264/0.18=1450.3 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 200.6

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.15$

$U_{fin\ in\ y} = 0.32$

$U_{fin} = 0.32$

Luce/ $U_{fin} >$ limite

$264/0.32=825.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 5" 267-282

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 186.4$ composto da:

asta 226: Trave in legno a falda Falda 5 fili 267-282 ($L = 163.3$)

asta 227: Trave in legno a falda Falda 5 fili 267-282 ($L = 23.2$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$



Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 130.6
Kdef = 0
Uinst tot in x = -0.01
Uinst tot in y = 0.12
Uinst tot = 0.12
Luce/Uinst,tot > limite
 $186.4/0.12=1561.5 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 125.2
Kdef = 0
Uinst var in x = -0.01
Uinst var in y = 0.09
Uinst var = 0.09
Luce/Uinst,var > limite
 $186.4/0.09=2185.7 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 130.6
Kdef = 0.6
Ufin in x = -0.02
Ufin in y = 0.14
Ufin = 0.14
Luce/Ufin > limite
 $186.4/0.14=1330.4 > 200$
Coefficienti combinatori impiegati:
Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Variabile A = $0,700 + 0,180 = 0,880$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 5" 268-292

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 187.9 composto da:
asta 261: Trave in legno a falda Falda 5 fili 268-292 (L = 164.6)
asta 262: Trave in legno a falda Falda 5 fili 268-292 (L = 23.3)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016
 $\beta_x = 0$; $\beta_y = 0$
Rapporto luce/freccia elastica limite = 300
Rapporto luce/freccia elastica differita = 200
Mensola Y: Nessuno; Mensola X: Nessuno
Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 137.2
Kdef = 0
Uinst tot in x = 0.03
Uinst tot in y = 0.16
Uinst tot = 0.16
Luce/Uinst,tot > limite
 $187.9/0.16=1159.6 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 137.2
Kdef = 0
Uinst var in x = 0.02
Uinst var in y = 0.11
Uinst var = 0.11



Luce/Uinst,var > limite

$187.9/0.11=1758.9 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 137.2

Kdef = 0.6

Ufin in x = 0.06

Ufin in y = 0.2

Ufin = 0.2

Luce/Ufin > limite

$187.9/0.2=962.8 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 5" 271-281

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 108.5 composto da:

asta 224: Trave in legno a falda Falda 5 fili 271-281 (L = 85.3)

asta 225: Trave in legno a falda Falda 5 fili 271-281 (L = 23.1)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 74

Kdef = 0

Uinst tot in x = -0.01

Uinst tot in y = 0.05

Uinst tot = 0.05

Luce/Uinst,tot > limite

$108.5/0.05=2221.8 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 71.1

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = 0.03

Uinst var = 0.03

Luce/Uinst,var > limite

$108.5/0.03=3194.9 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 74

Kdef = 0.6

Ufin in x = -0.03

Ufin in y = 0.06

Ufin = 0.06

Luce/Ufin > limite

$108.5/0.06=1876.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 5" 272-293

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

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Dati generali

Superelemento di lunghezza complessiva $L = 111.8$ composto da:

asta 263: Trave in legno a falda Falda 5 fili 272-293 ($L = 88.5$)

asta 264: Trave in legno a falda Falda 5 fili 272-293 ($L = 23.3$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 79.7

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.03$

$U_{inst\ tot\ in\ y} = 0.07$

$U_{inst\ tot} = 0.07$

Luce/ $U_{inst,tot}$ > limite

$111.8/0.07 = 1498.9 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 79.7

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.02$

$U_{inst\ var\ in\ y} = 0.05$

$U_{inst\ var} = 0.05$

Luce/ $U_{inst,var}$ > limite

$111.8/0.05 = 2351 > 300$ Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 79.7

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.06$

$U_{fin\ in\ y} = 0.09$

$U_{fin} = 0.09$

Luce/ U_{fin} > limite

$111.8/0.09 = 1230.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 6" 177-(-95; 1037)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 719.2$ composto da:

asta 74: Trave in legno a falda Falda 6 fili 177-240 ($L = 127.2$)

asta 75: Trave in legno a falda Falda 6 fili 177-240 ($L = 104.2$)

asta 76: Trave in legno a falda Falda 6 fili 177-240 ($L = 104.2$)

asta 77: Trave in legno a falda Falda 6 fili 177-240 ($L = 63.3$)

asta 78: Trave in legno a falda Falda 6 fili 177-240 ($L = 40.9$)

asta 79: Trave in legno a falda Falda 6 fili 177-240 ($L = 104.2$)

asta 80: Trave in legno a falda Falda 6 fili 177-240 ($L = 104.2$)

asta 81: Trave in legno a falda Falda 6 fili 177-240 ($L = 71.2$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 379.8

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.84$

$U_{inst\ tot\ in\ y} = -2.77$

$U_{inst\ tot} = 2.77$

$Luce/U_{inst,tot} < \text{limite}$

$719.2/2.77=260 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 381.9

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.54$

$U_{inst\ var\ in\ y} = -1.77$

$U_{inst\ var} = 1.77$

$Luce/U_{inst,var} > \text{limite}$

$719.2/1.77=407.3 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 388.9

$K_{def} = 0.6$

$U_{fin\ in\ x} = 1.03$

$U_{fin\ in\ y} = -3.37$

$U_{fin} = 3.37$

$Luce/U_{fin} > \text{limite}$

$719.2/3.37=213.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 6" 186-187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 96.9$ composto da:

Asta 271: Trave in legno a falda Falda 6 fili 186-187

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 29

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.01$

$U_{inst\ tot\ in\ y} = 0.06$

$U_{inst\ tot} = 0.06$

$Luce/U_{inst,tot} > \text{limite}$

$96.9/0.06=1681.2 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 29

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = 0.04$

$U_{inst\ var} = 0.04$

$Luce/U_{inst,var} > \text{limite}$

$96.9/0.04=2702.3 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 29

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.01$



Ufin in y = 0.07

Ufin = 0.07

Luce/Ufin > limite

$96.9/0.07=1371.3 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 6" 193-194

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 176.1 composto da:

Asta 270: Trave in legno a falda Falda 6 fili 193-194

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 35.2

Kdef = 0

Uinst tot in x = 0.02

Uinst tot in y = 0.08

Uinst tot = 0.08

Luce/Uinst,tot > limite

$176.1/0.08=2159.5 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 35.2

Kdef = 0

Uinst var in x = 0.01

Uinst var in y = 0.05

Uinst var = 0.05

Luce/Uinst,var > limite

$176.1/0.05=3314.8 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 35.2

Kdef = 0.6

Ufin in x = 0.02

Ufin in y = 0.1

Ufin = 0.1

Luce/Ufin > limite

$176.1/0.1=1781 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 6" 203-204

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 255.4 composto da:

Asta 269: Trave in legno a falda Falda 6 fili 203-204



Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 178.8

Kdef = 0

Uinst tot in x = 0.02

Uinst tot in y = -0.44

Uinst tot = 0.44

Luce/Uinst,tot > limite

255.4/0.44=575.5 > 300 Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 178.8

Kdef = 0

Uinst var in x = 0.01

Uinst var in y = -0.28

Uinst var = 0.28

Luce/Uinst,var > limite

255.4/0.28=906.6 > 300 Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 178.8

Kdef = 0.6

Ufin in x = 0.03

Ufin in y = -0.54

Ufin = 0.54

Luce/Ufin > limite

255.4/0.54=471.8 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 6" 209-(217; 377)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 507.7 composto da:

asta 131: Trave in legno a falda Falda 6 fili 209-265 (L = 94.1)

asta 132: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 133: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 134: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 135: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 136: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 137: Trave in legno a falda Falda 6 fili 209-265 (L = 75.8)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 278.7

Kdef = 0

Uinst tot in x = 0.75

Uinst tot in y = -1.69

Uinst tot = 1.69

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Luce/Uinst,tot > limite
 $507.7/1.69=301 > 300$ Comb: SLE rara, 17

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 281

Kdef = 0

Uinst var in x = 0.51

Uinst var in y = -1.12

Uinst var = 1.12

Luce/Uinst,var > limite

$507.7/1.12=453.1 > 300$ Comb: SLE rara, 17

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 284.1

Kdef = 0.6

Ufin in x = 0.89

Ufin in y = -2.01

Ufin = 2.01

Luce/Ufin > limite

$507.7/2.01=252.8 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 6" 212-213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 334.7 composto da:

Asta 268: Trave in legno a falda Falda 6 fili 212-213

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 223.1

Kdef = 0

Uinst tot in x = -0.01

Uinst tot in y = -1.03

Uinst tot = 1.03

Luce/Uinst,tot > limite

$334.7/1.03=324.7 > 300$ Comb: SLE rara, 9

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 223.1

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = -0.65

Uinst var = 0.65

Luce/Uinst,var > limite

$334.7/0.65=518.1 > 300$ Comb: SLE rara, 9

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 223.1

Kdef = 0.6

Ufin in x = -0.02

Ufin in y = -1.26

Ufin = 1.26

Luce/Ufin > limite

$334.7/1.26=265.3 > 200$

Coefficienti combinatori impiegati:



Pesi strutturali = $1,000 + 0,600 = 1,600$
Permanenti portati = $1,000 + 0,600 = 1,600$
Neve = $0,500 + 0,500 = 1,000$
Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 6" 218-220

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 414$ composto da:
asta 267: Trave in legno a falda Falda 6 fili 218-219 ($L = 303.6$)
asta 416: Trave in legno a falda Falda 6 fili 219-220 ($L = 110.4$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 253

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.05$

$U_{inst\ tot\ in\ y} = -2.96$

$U_{inst\ tot} = 2.96$

Luce/ $U_{inst,tot} < \text{limite}$

$414/2.96=140 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 253

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.04$

$U_{inst\ var\ in\ y} = -1.91$

$U_{inst\ var} = 1.91$

Luce/ $U_{inst,var} < \text{limite}$

$414/1.91=217.3 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 253

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.06$

$U_{fin\ in\ y} = -3.59$

$U_{fin} = 3.59$

Luce/ $U_{fin} < \text{limite}$

$414/3.59=115.3 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 6" 227-229

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 493.3$ composto da:

asta 266: Trave in legno a falda Falda 6 fili 227-228 ($L = 303.6$)

asta 415: Trave in legno a falda Falda 6 fili 228-229 ($L = 189.7$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

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Rapporto luce/freccia elastica differita = 200
 Mensola Y: Nessuno; Mensola X: Nessuno
 Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 273.2

Kdef = 0
 Uinst tot in x = -0.07
 Uinst tot in y = -4.42
 Uinst tot = 4.42
 Luce/Uinst,tot < limite
 $493.3/4.42=111.5 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 273.2

Kdef = 0
 Uinst var in x = -0.05
 Uinst var in y = -2.86
 Uinst var = 2.86
 Luce/Uinst,var < limite
 $493.3/2.86=172.2 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 273.2

Kdef = 0.6
 Ufin in x = -0.08
 Ufin in y = -5.36
 Ufin = 5.36
 Luce/Ufin < limite
 $493.3/5.36=92.1 < 200$ - NON SODDISFATTA
 Coefficienti combinatori impiegati:
 Pesi strutturali = 1,000 + 0,600 = 1,600
 Permanenti portati = 1,000 + 0,600 = 1,600
 Neve = 0,500 + 0,500 = 1,000
 Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 6" 238-235

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 547.5 composto da:
 asta 243: Trave in legno a falda Falda 6 fili 238-239 (L = 303.6)
 asta 411: Trave in legno a falda Falda 6 fili 239-240 (L = 243.9)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 283.3

Kdef = 0
 Uinst tot in x = 0.25
 Uinst tot in y = -5.28
 Uinst tot = 5.28
 Luce/Uinst,tot < limite
 $547.5/5.28=103.7 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 283.3

Kdef = 0
 Uinst var in x = 0.11
 Uinst var in y = -3.44
 Uinst var = 3.44
 Luce/Uinst,var < limite
 $547.5/3.44=159 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA



Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 283.3

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0.33$

$U_{fin} \text{ in } y = -6.38$

$U_{fin} = 6.38$

$Luce/U_{fin} < \text{limite}$

$547.5/6.38=85.8 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 6" 245-(-426; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 490.1$ composto da:

asta 250: Trave in legno a falda Falda 6 fili 245-246 ($L = 246.2$)

asta 414: Trave in legno a falda Falda 6 fili 246-247 ($L = 243.9$)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 246.2

$K_{def} = 0$

$U_{inst \text{ tot}} \text{ in } x = -0.07$

$U_{inst \text{ tot}} \text{ in } y = -4.85$

$U_{inst \text{ tot}} = 4.85$

$Luce/U_{inst, \text{ tot}} < \text{limite}$

$490.1/4.85=101.1 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 246.2

$K_{def} = 0$

$U_{inst \text{ var}} \text{ in } x = -0.04$

$U_{inst \text{ var}} \text{ in } y = -3.18$

$U_{inst \text{ var}} = 3.18$

$Luce/U_{inst, \text{ var}} < \text{limite}$

$490.1/3.18=154.2 < 300$ Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 254.4

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.09$

$U_{fin} \text{ in } y = -5.88$

$U_{fin} = 5.88$

$Luce/U_{fin} < \text{limite}$

$490.1/5.88=83.4 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Vento = $0,600 + 0,000 = 0,600$

Superelemento in legno a "Falda 6" 251-(-359; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati generali

Superelemento di lunghezza complessiva L= 411.4 composto da:

asta 249: Trave in legno a falda Falda 6 fili 251-252 (L = 167.5)

asta 413: Trave in legno a falda Falda 6 fili 252-253 (L = 243.9)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 183.7

Kdef = 0

Uinst tot in x = 0.09

Uinst tot in y = -3.6

Uinst tot = 3.6

Luce/Uinst,tot < limite

411.4/3.6=114.3 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 183.7

Kdef = 0

Uinst var in x = 0.05

Uinst var in y = -2.36

Uinst var = 2.36

Luce/Uinst,var < limite

411.4/2.36=174.3 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 189.3

Kdef = 0.6

Ufin in x = 0.11

Ufin in y = -4.39

Ufin = 4.39

Luce/Ufin < limite

411.4/4.39=93.7 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

Superelemento in legno a "Falda 6" 257-(-291; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 332.6 composto da:

asta 248: Trave in legno a falda Falda 6 fili 257-258 (L = 88.7)

asta 412: Trave in legno a falda Falda 6 fili 258-259 (L = 243.9)

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 137.5

Kdef = 0

Uinst tot in x = 0.11

Uinst tot in y = -2.07



Uinst tot = 2.07

Luce/Uinst,tot < limite

$332.6/2.07=160.9 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 137.5

Kdef = 0

Uinst var in x = 0.06

Uinst var in y = -1.35

Uinst var = 1.35

Luce/Uinst,var < limite

$332.6/1.35=245.8 < 300$ Comb: SLE rara, 8 - NON SODDISFATTA

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 140.4

Kdef = 0.6

Ufin in x = 0.13

Ufin in y = -2.54

Ufin = 2.54

Luce/Ufin < limite

$332.6/2.54=131 < 200$ - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Superelemento in legno a "Falda 6" 263-(-223; 596)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva L= 253.8 composto da:

Asta 247: Trave in legno a falda Falda 6 fili 263-264

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 93.1

Kdef = 0

Uinst tot in x = 0.05

Uinst tot in y = -0.67

Uinst tot = 0.67

Luce/Uinst,tot > limite

$253.8/0.67=380.4 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 93.1

Kdef = 0

Uinst var in x = 0.03

Uinst var in y = -0.43

Uinst var = 0.43

Luce/Uinst,var > limite

$253.8/0.43=587.2 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 93.1

Kdef = 0.6

Ufin in x = 0.06

Ufin in y = -0.81

Ufin = 0.81

Luce/Ufin > limite

$253.8/0.81=314 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600



Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 6" 268-(-156; 596)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 175.1$ composto da:

Asta 246: Trave in legno a falda Falda 6 fili 268-269

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 58.4

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.03$

$U_{inst\ tot\ in\ y} = -0.26$

$U_{inst\ tot} = 0.26$

Luce/ $U_{inst,tot}$ > limite

$175.1/0.26 = 672.4 > 300$ Comb: SLE rara, 8

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 58.4

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.02$

$U_{inst\ var\ in\ y} = -0.17$

$U_{inst\ var} = 0.17$

Luce/ $U_{inst,var}$ > limite

$175.1/0.17 = 1040.9 > 300$ Comb: SLE rara, 8

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 58.4

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.04$

$U_{fin\ in\ y} = -0.32$

$U_{fin} = 0.32$

Luce/ U_{fin} > limite

$175.1/0.32 = 554.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Neve = $0,500 + 0,500 = 1,000$

Superelemento in legno a "Falda 6" 272-(-88; 597)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Superelemento di lunghezza complessiva $L = 96.3$ composto da:

Asta 245: Trave in legno a falda Falda 6 fili 272-273

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$; $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 28.9

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.01$

$U_{inst\ tot\ in\ y} = -0.07$

$U_{inst\ tot} = 0.07$

$Luce/U_{inst,tot} > limite$

$96.3/0.07=1337.7 > 300$ Comb: SLE rara, 16

Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 28.9

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.01$

$U_{inst\ var\ in\ y} = -0.05$

$U_{inst\ var} = 0.05$

$Luce/U_{inst,var} > limite$

$96.3/0.05=2087.4 > 300$ Comb: SLE rara, 16

Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 28.9

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.02$

$U_{fin\ in\ y} = -0.09$

$U_{fin} = 0.09$

$Luce/U_{fin} > limite$

$96.3/0.09=1100.3 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = $1,000 + 0,600 = 1,600$

Permanenti portati = $1,000 + 0,600 = 1,600$

Variabile A = $0,700 + 0,180 = 0,880$

Neve = $0,500 + 0,500 = 1,000$

1.4 Verifica sismica globale

Desc.: descrizione.

Stato limite: (muratura) $V=Taglio$; $PF=Pressoflessione$; $PFFP=Pressoflessione\ fuori\ piano$; $R=Ribaltamento$.

Molt.: moltiplicatore minimo della azione sismica che produce lo stato limite.

Comb.: combinazione.

PGA: accelerazione al suolo.

iPGA (ζ): indicatore di rischio sismico in termini di PGA ovvero rapporto tra l'azione sismica massima sopportabile dall'elemento e l'azione sismica massima che si utilizzerebbe nel progetto nuovo (§C8.3).

TR: tempo di ritorno.

$(TR/TR_{rif})^{A.41}$: indicatore di rischio sismico in termini di periodo di ritorno.

fa: fattore di accelerazione.

Stato limite: (muratura) $V=Taglio$; $PF=Presso\ flessione$; $PFFP=Pressoflessione\ fuori\ piano$; $R=Ribaltamento$.

Coeff.s.: coefficiente minimo prodotto dallo stato limite.

Verifica: stato di verifica.

Maschio: maschio.

Stato limite: (maschio muratura) $V=Taglio$; $PF=Presso\ flessione$; $PFFP=Presso\ flessione\ fuori\ piano$; $R=Ribaltamento$.

Trave: trave di collegamento in muratura.

Stato limite: (trave muratura) $V=Taglio$; $F=Flessione$.

S, L.: stato limite di riferimento.

TR,C: periodo di ritorno di capacità.

PGA,C: accelerazione di aggancio di capacità.

TR,Rif: periodo di ritorno di riferimento.

PGA,Rif: accelerazione di aggancio di riferimento.

Tipo rottura: tipo di rottura che fornisce il valore minimo degli elementi considerati.

PAM: perdita media annua attesa.

Classe PAM: classe di rischio PAM.

IS-V: indice di sicurezza.

Classe IS-V: classe di rischio IS-V.

Verifica di elementi dotati di indicatori di rischio sismico mediante analisi con fattore q

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.) § C8.7.1

Accelerazioni e tempi di ritorno

Accelerazione di aggancio SLO ($ag/g_{SLO}*S*ST$) $PGA,SLOrif = 0.081$

Accelerazione di aggancio SLD ($ag/g_{SLD}*S*ST$) $PGA,SLDrif = 0.101$



Accelerazione di aggancio SLV (ag/g_SLV*S*ST) PGA,SLVrif = 0.244

Tr,SLOrif = 30 anni

Tr,SLDrif = 50 anni

Tr,SLVrif = 475 anni

Moltiplicatori minimi delle condizioni sismiche

(Il valore di ζE corrisponde al valore di I.R. PGA secondo quanto riportato nella Circolare 7 21-01-19 §C8.3)

Rottura a taglio

Moltiplicatore: 0

Maschio 19

Lunghezza: 30.4; altezza: 269; spessore: 30; sezione a quota: 173

Combinazione SLV 1 N = 17 V par.= 14 l'= 0 fvd= 0.83 Vt scorrimento= 0 Vt fess. diag.= 0

Tempo di ritorno 0 anni

Indicatore $iTr=(Tr/Tr,SLVrif)^{.41} = 0$

PGA 0

Indicatore $iPGA=PGA/PGA,SLVrif = 0$

Fattore di accelerazione $fa = 0$

Rottura a flessione

Moltiplicatore: 0

Maschio 19

Lunghezza: 30.4; altezza: 269; spessore: 30 sezione a quota 173

Combinazione SLV 1 N = 17 M = -487 $\sigma_0 = 0$ fd = 14.38 Mu = 0

Tempo di ritorno 0 anni

Indicatore $iTr=(Tr/Tr,SLVrif)^{.41} = 0$

PGA 0

Indicatore $iPGA=PGA/PGA,SLVrif = 0$

Fattore di accelerazione $fa = 0$

Rottura a pressoflessione nel piano ortogonale

Moltiplicatore: 0.087

Maschio 264

Lunghezza: 14.7; altezza: 949.8; spessore: 30; sezione a quota: 1019.2

Combinazione SLV 9 fd= 14.38 Ta= 0.5 Wa= 0.05 N= -80 M= 1170 Mc= 1189

Tempo di ritorno 0 anni

Indicatore $iTr=(Tr/Tr,SLVrif)^{.41} = 0$

PGA 0

Indicatore $iPGA=PGA/PGA,SLVrif = 0$

Fattore di accelerazione $fa = 0$

Rottura per meccanismi locali di collasso

Moltiplicatore: 0

Maschio 19

Lunghezza: 30.4; altezza: 269; spessore: 30 f.agg.= 0 a.lim.= 0

Combinazione SLV 1 N top= 17 N base= -239 T orto= -2 $\alpha_0 = 0$ M*= 0 e*= 0 a0*= 0

Tempo di ritorno 0 anni

Indicatore $iTr=(Tr/Tr,SLVrif)^{.41} = 0$

PGA 0

Indicatore $iPGA=PGA/PGA,SLVrif = 0$

Fattore di accelerazione $fa = 0$

Indicatori minimi riferiti al solo materiale muratura

Desc.	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	fa
Maschio 19	PF	0	SLV 1	0	0	0	0	0
Maschio 19	V	0	SLV 1	0	0	0	0	0
Maschio 264	PFFP	0.087	SLV 9	0	0	0	0	0
Maschio 19	R	0	SLV 1	0	0	0	0	0
Trave di accoppiamento 10	PF	0	SLV 1	0	0	0	0	0
Trave di accoppiamento 1	V	0	SLV 1	0	0	0	0	0

Coefficienti di sicurezza riferiti al solo materiale muratura

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PF SLU	6.582	SLU 76	Si
Maschio 1	V SLU	4.645	SLU 76	Si
Maschio 1	PF	2.635	SLV 11	Si
Maschio 1	V	1.53	SLV 9	Si
Maschio 1	PFFP	10.919	SLV 15	Si
Maschio 1	R	0.224	SLV 5	No
Maschio 2	PF SLU	12.78	SLU 81	Si
Maschio 2	V SLU	4.563	SLU 81	Si
Maschio 2	PF	1.988	SLV 9	Si
Maschio 2	V	1.44	SLV 9	Si
Maschio 2	PFFP	8.981	SLV 13	Si
Maschio 2	R	0.234	SLV 11	No
Maschio 3	PF SLU	10.631	SLU 48	Si
Maschio 3	V SLU	3.674	SLU 43	Si
Maschio 3	PF	0	SLV 10	No
Maschio 3	V	0	SLV 5	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 3	PFFP	7.202	SLV 9	Si
Maschio 3	R	0	SLV 10	No
Maschio 4	PF SLU	4.359	SLU 78	Si
Maschio 4	V SLU	2.408	SLU 77	Si
Maschio 4	PF	3.237	SLV 13	Si
Maschio 4	V	0.531	SLV 9	No
Maschio 4	PFFP	18.121	SLV 9	Si
Maschio 4	R	0.124	SLV 9	No
Maschio 5	PF SLU	10.886	SLU 83	Si
Maschio 5	V SLU	2.934	SLU 83	Si
Maschio 5	PF	1.48	SLV 5	Si
Maschio 5	V	0.889	SLV 5	No
Maschio 5	PFFP	32.6	SLV 9	Si
Maschio 5	R	0	SLV 5	No
Maschio 6	PF SLU	16.849	SLU 84	Si
Maschio 6	V SLU	12.433	SLU 51	Si
Maschio 6	PF	1.505	SLV 9	Si
Maschio 6	V	0.785	SLV 9	No
Maschio 6	PFFP	28.385	SLV 9	Si
Maschio 6	R	0.124	SLV 11	No
Maschio 7	PF SLU	0	SLU 83	No
Maschio 7	V SLU	1.276	SLU 83	Si
Maschio 7	PF	0.859	SLV 11	No
Maschio 7	V	1.043	SLV 7	Si
Maschio 7	PFFP	24.156	SLV 5	Si
Maschio 7	R	0.099	SLV 7	No
Maschio 8	PF SLU	4.014	SLU 5	Si
Maschio 8	V SLU	2.315	SLU 44	Si
Maschio 8	PF	2.107	SLV 15	Si
Maschio 8	V	0.561	SLV 7	No
Maschio 8	PFFP	10.853	SLV 11	Si
Maschio 8	R	0.16	SLV 7	No
Maschio 9	PF SLU	2.134	SLU 73	Si
Maschio 9	V SLU	1.492	SLU 68	Si
Maschio 9	PF	1.974	SLV 15	Si
Maschio 9	V	0.568	SLV 5	No
Maschio 9	PFFP	14.502	SLV 11	Si
Maschio 9	R	0.121	SLV 11	No
Maschio 10	PF SLU	0.647	SLU 84	No
Maschio 10	V SLU	1.965	SLU 73	Si
Maschio 10	PF	1.249	SLV 13	Si
Maschio 10	V	0.575	SLV 13	No
Maschio 10	PFFP	33.098	SLV 7	Si
Maschio 10	R	0.024	SLV 7	No
Maschio 11	PF SLU	1.179	SLU 84	Si
Maschio 11	V SLU	1.267	SLU 82	Si
Maschio 11	PF	0	SLV 15	No
Maschio 11	V	0	SLV 15	No
Maschio 11	PFFP	37.324	SLV 3	Si
Maschio 11	R	0.128	SLV 7	No
Maschio 12	PF SLU	4.592	SLU 77	Si
Maschio 12	V SLU	2.243	SLU 52	Si
Maschio 12	PF	2.116	SLV 7	Si
Maschio 12	V	0.738	SLV 5	No
Maschio 12	PFFP	16.005	SLV 11	Si
Maschio 12	R	0.052	SLV 9	No
Maschio 13	PF SLU	0.93	SLU 84	No
Maschio 13	V SLU	1.549	SLU 81	Si
Maschio 13	PF	0	SLV 12	No
Maschio 13	V	0	SLV 7	No
Maschio 13	PFFP	2.261	SLV 11	Si
Maschio 13	R	0	SLV 12	No
Maschio 14	PF SLU	4.372	SLU 84	Si
Maschio 14	V SLU	2.324	SLU 84	Si
Maschio 14	PF	0	SLV 16	No
Maschio 14	V	0	SLV 11	No
Maschio 14	PFFP	3.376	SLV 15	Si
Maschio 14	R	0	SLV 16	No
Maschio 15	PF SLU	3.861	SLU 79	Si
Maschio 15	V SLU	9.807	SLU 29	Si
Maschio 15	PF	1.191	SLV 11	Si
Maschio 15	V	0.535	SLV 11	No
Maschio 15	PFFP	19.441	SLV 11	Si
Maschio 15	R	0.104	SLV 7	No
Maschio 16	PF SLU	8.007	SLU 82	Si
Maschio 16	V SLU	0.801	SLU 83	No
Maschio 16	PF	2.008	SLV 11	Si
Maschio 16	V	0.658	SLV 5	No
Maschio 16	PFFP	16.625	SLV 7	Si
Maschio 16	R	0.112	SLV 5	No
Maschio 18	PF SLU	5.243	SLU 84	Si
Maschio 18	V SLU	6.286	SLU 52	Si
Maschio 18	PF	4.719	SLV 1	Si
Maschio 18	V	1.103	SLV 5	Si
Maschio 18	PFFP	49.61	SLV 1	Si
Maschio 18	R	0.329	SLV 5	No
Maschio 19	PF SLU	0	SLU 84	No
Maschio 19	V SLU	0	SLU 1	No
Maschio 19	PF	0	SLV 16	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 19	V	0	SLD 1	No
Maschio 19	PFFP	0	SLV 12	No
Maschio 19	R	0	SLV 16	No
Maschio 21	PF SLU	0	SLU 84	No
Maschio 21	V SLU	0	SLU 1	No
Maschio 21	PF	0	SLV 16	No
Maschio 21	V	0	SLD 1	No
Maschio 21	PFFP	5.771	SLV 11	Si
Maschio 21	R	0	SLV 16	No
Maschio 23	PF SLU	4.321	SLU 28	Si
Maschio 23	V SLU	1.43	SLU 70	Si
Maschio 23	PF	0	SLV 3	No
Maschio 23	V	0	SLV 3	No
Maschio 23	PFFP	0	SLV 8	No
Maschio 23	R	0.593	SLV 7	No
Maschio 25	PF SLU	1.19	SLU 48	Si
Maschio 25	V SLU	1.339	SLU 45	Si
Maschio 25	PF	1.072	SLV 9	Si
Maschio 25	V	0.25	SLV 9	No
Maschio 25	PFFP	16.628	SLV 1	Si
Maschio 25	R	0.037	SLV 3	No
Maschio 26	PF SLU	8.817	SLU 84	Si
Maschio 26	V SLU	1.636	SLU 83	Si
Maschio 26	PF	2.339	SLV 13	Si
Maschio 26	V	0.937	SLV 3	No
Maschio 26	PFFP	33.311	SLV 13	Si
Maschio 26	R	0.262	SLV 7	No
Maschio 27	PF SLU	5.813	SLU 84	Si
Maschio 27	V SLU	4.645	SLU 82	Si
Maschio 27	PF	1.792	SLV 13	Si
Maschio 27	V	0.931	SLV 3	No
Maschio 27	PFFP	41.896	SLV 5	Si
Maschio 27	R	0.234	SLV 11	No
Maschio 28	PF SLU	0	SLU 73	No
Maschio 28	V SLU	4.82	SLU 83	Si
Maschio 28	PF	1.268	SLV 15	Si
Maschio 28	V	3.15	SLV 13	Si
Maschio 28	PFFP	38.126	SLV 1	Si
Maschio 28	R	0.246	SLV 11	No
Maschio 29	PF SLU	0	SLU 73	No
Maschio 29	V SLU	10.203	SLU 78	Si
Maschio 29	PF	1.325	SLV 15	Si
Maschio 29	V	4.879	SLV 15	Si
Maschio 29	PFFP	35.482	SLV 1	Si
Maschio 29	R	0	SLV 3	No
Maschio 30	PF SLU	0	SLU 81	No
Maschio 30	V SLU	3.623	SLU 84	Si
Maschio 30	PF	1.172	SLV 13	Si
Maschio 30	V	1.911	SLV 13	Si
Maschio 30	PFFP	33.452	SLV 9	Si
Maschio 30	R	0	SLV 9	No
Maschio 31	PF SLU	4.038	SLU 83	Si
Maschio 31	V SLU	4.325	SLU 82	Si
Maschio 31	PF	1.189	SLV 13	Si
Maschio 31	V	0.592	SLV 13	No
Maschio 31	PFFP	39.281	SLV 9	Si
Maschio 31	R	0.27	SLV 7	No
Maschio 32	PF SLU	0.683	SLU 83	No
Maschio 32	V SLU	15.222	SLU 84	Si
Maschio 32	PF	1.597	SLV 15	Si
Maschio 32	V	3.536	SLV 15	Si
Maschio 32	PFFP	43.587	SLV 9	Si
Maschio 32	R	0.279	SLV 5	No
Maschio 33	PF SLU	6.419	SLU 84	Si
Maschio 33	V SLU	1.509	SLU 83	Si
Maschio 33	PF	1.946	SLV 15	Si
Maschio 33	V	0.859	SLV 15	No
Maschio 33	PFFP	36.439	SLV 1	Si
Maschio 33	R	0.252	SLV 5	No
Maschio 34	PF SLU	3.94	SLU 44	Si
Maschio 34	V SLU	8.713	SLU 44	Si
Maschio 34	PF	0	SLV 11	No
Maschio 34	V	0	SLV 11	No
Maschio 34	PFFP	10.185	SLV 11	Si
Maschio 34	R	0.072	SLV 7	No
Maschio 35	PF SLU	7.65	SLU 79	Si
Maschio 35	V SLU	20.006	SLU 82	Si
Maschio 35	PF	1.922	SLV 13	Si
Maschio 35	V	1.209	SLV 13	Si
Maschio 35	PFFP	12.019	SLV 15	Si
Maschio 35	R	0.046	SLV 9	No
Maschio 36	PF SLU	2.873	SLU 83	Si
Maschio 36	V SLU	7.692	SLU 79	Si
Maschio 36	PF	1.995	SLV 5	Si
Maschio 36	V	1.234	SLV 15	Si
Maschio 36	PFFP	15.942	SLV 9	Si
Maschio 36	R	0.121	SLV 5	No
Maschio 37	PF SLU	14.2	SLU 48	Si
Maschio 37	V SLU	4.658	SLU 82	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 37	PF	4.834	SLV 1	Si
Maschio 37	V	1.042	SLV 1	Si
Maschio 37	PFFP	22.066	SLV 9	Si
Maschio 37	R	0.132	SLV 5	No
Maschio 38	PF SLU	20.08	SLU 48	Si
Maschio 38	V SLU	7.168	SLU 84	Si
Maschio 38	PF	5.14	SLV 13	Si
Maschio 38	V	1.063	SLV 13	Si
Maschio 38	PFFP	20.908	SLV 5	Si
Maschio 38	R	0.074	SLV 9	No
Maschio 39	PF SLU	5.686	SLU 82	Si
Maschio 39	V SLU	5.362	SLU 84	Si
Maschio 39	PF	1.533	SLV 1	Si
Maschio 39	V	1.079	SLV 13	Si
Maschio 39	PFFP	7.79	SLV 1	Si
Maschio 39	R	0.23	SLV 11	No
Maschio 40	PF SLU	5.15	SLU 82	Si
Maschio 40	V SLU	1.344	SLU 79	Si
Maschio 40	PF	2.785	SLV 11	Si
Maschio 40	V	0.886	SLV 9	No
Maschio 40	PFFP	32.266	SLV 11	Si
Maschio 40	R	0.274	SLV 5	No
Maschio 41	PF SLU	3.951	SLU 79	Si
Maschio 41	V SLU	3.474	SLU 79	Si
Maschio 41	PF	2.842	SLV 11	Si
Maschio 41	V	1.114	SLV 9	Si
Maschio 41	PFFP	246.436	SLV 11	Si
Maschio 41	R	1.068	SLV 5	Si
Maschio 42	PF SLU	11.771	SLU 82	Si
Maschio 42	V SLU	3.164	SLU 52	Si
Maschio 42	PF	4.856	SLV 11	Si
Maschio 42	V	1.057	SLV 7	Si
Maschio 42	PFFP	34.832	SLV 13	Si
Maschio 42	R	0.182	SLV 5	No
Maschio 44	PF SLU	1.751	SLU 82	Si
Maschio 44	V SLU	1.176	SLU 82	Si
Maschio 44	PF	3.423	SLV 7	Si
Maschio 44	V	0.911	SLV 7	No
Maschio 44	PFFP	22.742	SLV 9	Si
Maschio 44	R	0.097	SLV 7	No
Maschio 45	PF SLU	2.055	SLU 79	Si
Maschio 45	V SLU	8.403	SLU 29	Si
Maschio 45	PF	1.249	SLV 7	Si
Maschio 45	V	0.613	SLV 7	No
Maschio 45	PFFP	20.947	SLV 7	Si
Maschio 45	R	0.107	SLV 7	No
Maschio 46	PF SLU	5.264	SLU 38	Si
Maschio 46	V SLU	2.497	SLU 84	Si
Maschio 46	PF	0	SLV 3	No
Maschio 46	V	0	SLV 3	No
Maschio 46	PFFP	3.257	SLV 7	Si
Maschio 46	R	0.112	SLV 9	No
Maschio 47	PF SLU	3.291	SLU 41	Si
Maschio 47	V SLU	3.745	SLU 83	Si
Maschio 47	PF	0	SLV 12	No
Maschio 47	V	0	SLV 3	No
Maschio 47	PFFP	9.372	SLV 7	Si
Maschio 47	R	0	SLV 12	No
Maschio 48	PF SLU	3.564	SLU 83	Si
Maschio 48	V SLU	3.382	SLU 2	Si
Maschio 48	PF	2.469	SLV 11	Si
Maschio 48	V	1.286	SLV 11	Si
Maschio 48	PFFP	22.722	SLV 15	Si
Maschio 48	R	0.125	SLV 5	No
Maschio 49	PF SLU	1.29	SLU 84	Si
Maschio 49	V SLU	1.397	SLU 84	Si
Maschio 49	PF	0	SLV 3	No
Maschio 49	V	0	SLV 3	No
Maschio 49	PFFP	34.145	SLV 15	Si
Maschio 49	R	0.12	SLV 11	No
Maschio 50	PF SLU	0.983	SLU 84	No
Maschio 50	V SLU	1.588	SLU 73	Si
Maschio 50	PF	1.298	SLV 3	Si
Maschio 50	V	0.935	SLV 1	No
Maschio 50	PFFP	26.857	SLV 11	Si
Maschio 50	R	0	SLV 7	No
Maschio 51	PF SLU	2.423	SLU 47	Si
Maschio 51	V SLU	1.589	SLU 76	Si
Maschio 51	PF	1.967	SLV 1	Si
Maschio 51	V	0.627	SLV 13	No
Maschio 51	PFFP	12.883	SLV 7	Si
Maschio 51	R	0.117	SLV 7	No
Maschio 52	PF SLU	3.811	SLU 5	Si
Maschio 52	V SLU	2.253	SLU 47	Si
Maschio 52	PF	1.578	SLV 3	Si
Maschio 52	V	0.449	SLV 11	No
Maschio 52	PFFP	7.482	SLV 7	Si
Maschio 52	R	0.169	SLV 11	No
Maschio 53	PF SLU	0.477	SLU 83	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 53	V SLU	30.217	SLU 35	Si
Maschio 53	PF	1.716	SLV 7	Si
Maschio 53	V	1.327	SLV 11	Si
Maschio 53	PFFP	27.257	SLV 9	Si
Maschio 53	R	0.118	SLV 7	No
Maschio 54	PF SLU	4.649	SLU 81	Si
Maschio 54	V SLU	3.691	SLU 81	Si
Maschio 54	PF	1.654	SLV 11	Si
Maschio 54	V	0.443	SLV 5	No
Maschio 54	PFFP	15.13	SLV 15	Si
Maschio 54	R	0.255	SLV 7	No
Maschio 55	PF SLU	10.229	SLU 43	Si
Maschio 55	V SLU	7.004	SLU 50	Si
Maschio 55	PF	0	SLV 6	No
Maschio 55	V	0	SLV 5	No
Maschio 55	PFFP	6.953	SLV 5	Si
Maschio 55	R	0	SLV 5	No
Maschio 56	PF SLU	10.876	SLU 76	Si
Maschio 56	V SLU	3.607	SLU 76	Si
Maschio 56	PF	2.425	SLV 7	Si
Maschio 56	V	1.522	SLV 9	Si
Maschio 56	PFFP	11.906	SLV 3	Si
Maschio 56	R	0.262	SLV 9	No
Maschio 57	PF SLU	10.196	SLU 76	Si
Maschio 57	V SLU	3.202	SLU 83	Si
Maschio 57	PF	1.86	SLV 5	Si
Maschio 57	V	1.562	SLV 11	Si
Maschio 57	PFFP	9.849	SLV 1	Si
Maschio 57	R	0.258	SLV 11	No
Maschio 58	PF SLU	3.411	SLU 76	Si
Maschio 58	V SLU	15.236	SLU 26	Si
Maschio 58	PF	1.83	SLV 9	Si
Maschio 58	V	1.44	SLV 9	Si
Maschio 58	PFFP	4.024	SLV 15	Si
Maschio 58	R	0.039	SLV 5	No
Maschio 59	PF SLU	2.575	SLU 83	Si
Maschio 59	V SLU	0.932	SLU 84	No
Maschio 59	PF	0	SLV 9	No
Maschio 59	V	0	SLV 9	No
Maschio 59	PFFP	0	SLV 10	No
Maschio 59	R	0	SLV 10	No
Maschio 60	PF SLU	1.878	SLU 83	Si
Maschio 60	V SLU	1.57	SLU 81	Si
Maschio 60	PF	0	SLV 5	No
Maschio 60	V	0	SLV 5	No
Maschio 60	PFFP	3.636	SLV 5	Si
Maschio 60	R	0.035	SLV 5	No
Maschio 61	PF SLU	1.431	SLU 76	Si
Maschio 61	V SLU	0.599	SLU 76	No
Maschio 61	PF	0	SLV 15	No
Maschio 61	V	0	SLV 15	No
Maschio 61	PFFP	1.423	SLV 11	Si
Maschio 61	R	0.039	SLV 9	No
Maschio 62	PF SLU	1.782	SLU 2	Si
Maschio 62	V SLU	1.374	SLU 44	Si
Maschio 62	PF	0	SLV 3	No
Maschio 62	V	0	SLV 3	No
Maschio 62	PFFP	5.629	SLV 5	Si
Maschio 62	R	0.035	SLV 7	No
Maschio 63	PF SLU	0.696	SLU 84	No
Maschio 63	V SLU	1.99	SLU 73	Si
Maschio 63	PF	0	SLV 13	No
Maschio 63	V	0	SLV 13	No
Maschio 63	PFFP	7.438	SLV 11	Si
Maschio 63	R	0.043	SLV 5	No
Maschio 64	PF SLU	0	SLU 83	No
Maschio 64	V SLU	2.072	SLU 81	Si
Maschio 64	PF	2.113	SLV 15	Si
Maschio 64	V	0.608	SLV 7	No
Maschio 64	PFFP	4.92	SLV 9	Si
Maschio 64	R	0.02	SLV 3	No
Maschio 65	PF SLU	0	SLU 77	No
Maschio 65	V SLU	0.796	SLU 83	No
Maschio 65	PF	1.049	SLV 1	Si
Maschio 65	V	0.135	SLV 1	No
Maschio 65	PFFP	6.802	SLV 9	Si
Maschio 65	R	0	SLV 5	No
Maschio 66	PF SLU	0.285	SLU 84	No
Maschio 66	V SLU	1.118	SLU 80	Si
Maschio 66	PF	0	SLV 8	No
Maschio 66	V	0	SLV 7	No
Maschio 66	PFFP	6.691	SLV 11	Si
Maschio 66	R	0.032	SLV 7	No
Maschio 67	PF SLU	3.857	SLU 52	Si
Maschio 67	V SLU	2.482	SLU 2	Si
Maschio 67	PF	2.305	SLV 9	Si
Maschio 67	V	0.465	SLV 7	No
Maschio 67	PFFP	3.03	SLV 15	Si
Maschio 67	R	0.02	SLV 1	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 68	PF SLU	1.318	SLU 82	Si
Maschio 68	V SLU	0.704	SLU 82	No
Maschio 68	PF	0	SLV 1	No
Maschio 68	V	0	SLV 1	No
Maschio 68	PFFP	1.542	SLV 3	Si
Maschio 68	R	0.029	SLV 11	No
Maschio 69	PF SLU	0	SLU 52	No
Maschio 69	V SLU	3.843	SLU 79	Si
Maschio 69	PF	0.954	SLV 11	No
Maschio 69	V	0.579	SLV 11	No
Maschio 69	PFFP	5.159	SLV 15	Si
Maschio 69	R	0.015	SLV 15	No
Maschio 70	PF SLU	3.394	SLU 83	Si
Maschio 70	V SLU	2.376	SLU 83	Si
Maschio 70	PF	1.747	SLV 15	Si
Maschio 70	V	1.273	SLV 9	Si
Maschio 70	PFFP	14.847	SLV 11	Si
Maschio 70	R	0.169	SLV 11	No
Maschio 71	PF SLU	0.53	SLU 83	No
Maschio 71	V SLU	0.309	SLU 50	No
Maschio 71	PF	0	SLD 1	No
Maschio 71	V	0	SLD 1	No
Maschio 71	PFFP	0	SLV 11	No
Maschio 71	R	0.255	SLV 5	No
Maschio 73	PF SLU	3.406	SLU 83	Si
Maschio 73	V SLU	6.06	SLU 82	Si
Maschio 73	PF	3.404	SLV 15	Si
Maschio 73	V	0.94	SLV 11	No
Maschio 73	PFFP	14.518	SLV 1	Si
Maschio 73	R	0.077	SLV 5	No
Maschio 74	PF SLU	0	SLU 1	No
Maschio 74	V SLU	0	SLU 1	No
Maschio 74	PF	0	SLV 6	No
Maschio 74	V	0	SLD 3	No
Maschio 74	PFFP	7.494	SLV 7	Si
Maschio 74	R	0	SLV 10	No
Maschio 75	PF SLU	0	SLU 62	No
Maschio 75	V SLU	2.307	SLU 77	Si
Maschio 75	PF	0	SLV 6	No
Maschio 75	V	0	SLV 5	No
Maschio 75	PFFP	0	SLV 6	No
Maschio 75	R	0.036	SLV 11	No
Maschio 76	PF SLU	2.208	SLU 83	Si
Maschio 76	V SLU	1.936	SLU 83	Si
Maschio 76	PF	1.535	SLV 13	Si
Maschio 76	V	0.799	SLV 3	No
Maschio 76	PFFP	8.426	SLV 13	Si
Maschio 76	R	0.038	SLV 5	No
Maschio 77	PF SLU	1.314	SLU 83	Si
Maschio 77	V SLU	3.061	SLU 82	Si
Maschio 77	PF	2.52	SLV 1	Si
Maschio 77	V	0.774	SLV 3	No
Maschio 77	PFFP	10.375	SLV 5	Si
Maschio 77	R	0.035	SLV 9	No
Maschio 78	PF SLU	11.14	SLU 82	Si
Maschio 78	V SLU	3.08	SLU 82	Si
Maschio 78	PF	4.399	SLV 13	Si
Maschio 78	V	0.773	SLV 15	No
Maschio 78	PFFP	9.072	SLV 9	Si
Maschio 78	R	0.034	SLV 9	No
Maschio 79	PF SLU	2.855	SLU 83	Si
Maschio 79	V SLU	1.543	SLU 83	Si
Maschio 79	PF	2.193	SLV 3	Si
Maschio 79	V	0.828	SLV 15	No
Maschio 79	PFFP	9.12	SLV 1	Si
Maschio 79	R	0.031	SLV 7	No
Maschio 80	PF SLU	0.852	SLU 82	No
Maschio 80	V SLU	19.526	SLU 60	Si
Maschio 80	PF	0.714	SLV 7	No
Maschio 80	V	0.1	SLV 7	No
Maschio 80	PFFP	5.212	SLV 11	Si
Maschio 80	R	0.013	SLV 13	No
Maschio 81	PF SLU	2.798	SLU 83	Si
Maschio 81	V SLU	1.262	SLU 82	Si
Maschio 81	PF	0	SLV 13	No
Maschio 81	V	0	SLV 13	No
Maschio 81	PFFP	5.27	SLV 13	Si
Maschio 81	R	0.042	SLV 7	No
Maschio 82	PF SLU	7.558	SLU 84	Si
Maschio 82	V SLU	6.714	SLU 84	Si
Maschio 82	PF	2.353	SLV 13	Si
Maschio 82	V	0.866	SLV 13	No
Maschio 82	PFFP	6.631	SLV 9	Si
Maschio 82	R	0.038	SLV 7	No
Maschio 83	PF SLU	8.645	SLU 83	Si
Maschio 83	V SLU	11.023	SLU 84	Si
Maschio 83	PF	2.208	SLV 1	Si
Maschio 83	V	0.848	SLV 13	No
Maschio 83	PFFP	6.16	SLV 5	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 83	R	0.037	SLV 5	No
Maschio 84	PF SLU	3.965	SLU 77	Si
Maschio 84	V SLU	1.051	SLU 84	Si
Maschio 84	PF	0.995	SLV 1	No
Maschio 84	V	0.218	SLV 1	No
Maschio 84	PFFP	5.918	SLV 5	Si
Maschio 84	R	0.04	SLV 11	No
Maschio 85	PF SLU	1.343	SLU 83	Si
Maschio 85	V SLU	1.924	SLU 79	Si
Maschio 85	PF	1.519	SLV 13	Si
Maschio 85	V	1.269	SLV 5	Si
Maschio 85	PFFP	18.511	SLV 11	Si
Maschio 85	R	0.123	SLV 7	No
Maschio 86	PF SLU	2.513	SLU 83	Si
Maschio 86	V SLU	6.929	SLU 52	Si
Maschio 86	PF	2.875	SLV 5	Si
Maschio 86	V	1.05	SLV 7	Si
Maschio 86	PFFP	15.631	SLV 15	Si
Maschio 86	R	0.073	SLV 11	No
Maschio 87	PF SLU	0	SLU 52	No
Maschio 87	V SLU	2.908	SLU 79	Si
Maschio 87	PF	0.845	SLV 7	No
Maschio 87	V	0.475	SLV 7	No
Maschio 87	PFFP	5.315	SLV 3	Si
Maschio 87	R	0.017	SLV 15	No
Maschio 88	PF SLU	1.206	SLU 82	Si
Maschio 88	V SLU	0.773	SLU 82	No
Maschio 88	PF	0	SLV 16	No
Maschio 88	V	0	SLV 3	No
Maschio 88	PFFP	0	SLV 16	No
Maschio 88	R	0.03	SLV 7	No
Maschio 89	PF SLU	0	SLU 1	No
Maschio 89	V SLU	0	SLU 1	No
Maschio 89	PF	0	SLV 12	No
Maschio 89	V	0	SLD 3	No
Maschio 89	PFFP	2.26	SLV 11	Si
Maschio 89	R	0	SLV 16	No
Maschio 90	PF SLU	0	SLU 57	No
Maschio 90	V SLU	2.619	SLU 52	Si
Maschio 90	PF	1.868	SLV 5	Si
Maschio 90	V	0.83	SLV 11	No
Maschio 90	PFFP	4.748	SLV 11	Si
Maschio 90	R	0.02	SLV 3	No
Maschio 91	PF SLU	0.674	SLU 84	No
Maschio 91	V SLU	0.92	SLU 84	No
Maschio 91	PF	0	SLV 12	No
Maschio 91	V	0	SLV 7	No
Maschio 91	PFFP	3.347	SLV 7	Si
Maschio 91	R	0.035	SLV 11	No
Maschio 92	PF SLU	0	SLU 74	No
Maschio 92	V SLU	2.888	SLU 83	Si
Maschio 92	PF	1.943	SLV 7	Si
Maschio 92	V	0.778	SLV 11	No
Maschio 92	PFFP	4.775	SLV 9	Si
Maschio 92	R	0.02	SLV 15	No
Maschio 93	PF SLU	0	SLU 1	No
Maschio 93	V SLU	0	SLU 1	No
Maschio 93	PF	0	SLD 5	No
Maschio 93	V	0	SLD 1	No
Maschio 93	PFFP	1.512	SLV 13	Si
Maschio 93	R	0.041	SLV 11	No
Maschio 94	PF SLU	0	SLU 20	No
Maschio 94	V SLU	1.017	SLU 82	Si
Maschio 94	PF	0	SLD 9	No
Maschio 94	V	0	SLD 9	No
Maschio 94	PFFP	5.841	SLV 1	Si
Maschio 94	R	0	SLV 10	No
Maschio 95	PF SLU	0	SLU 57	No
Maschio 95	V SLU	1.828	SLU 73	Si
Maschio 95	PF	0	SLV 3	No
Maschio 95	V	0	SLV 3	No
Maschio 95	PFFP	6.44	SLV 7	Si
Maschio 95	R	0.04	SLV 11	No
Maschio 96	PF SLU	1.524	SLU 2	Si
Maschio 96	V SLU	0.91	SLU 44	No
Maschio 96	PF	0.914	SLV 5	No
Maschio 96	V	0.108	SLV 5	No
Maschio 96	PFFP	4.412	SLV 9	Si
Maschio 96	R	0.035	SLV 11	No
Maschio 97	PF SLU	1.321	SLU 2	Si
Maschio 97	V SLU	0.511	SLU 73	No
Maschio 97	PF	0	SLV 3	No
Maschio 97	V	0	SLV 3	No
Maschio 97	PFFP	2.414	SLV 3	Si
Maschio 97	R	0	SLV 8	No
Maschio 98	PF SLU	2.593	SLU 77	Si
Maschio 98	V SLU	1.329	SLU 83	Si
Maschio 98	PF	0	SLV 1	No
Maschio 98	V	0	SLV 1	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 98	PFFP	2.627	SLV 9	Si
Maschio 98	R	0	SLV 10	No
Maschio 99	PF SLU	1.979	SLU 81	Si
Maschio 99	V SLU	0.825	SLU 84	No
Maschio 99	PF	0	SLV 1	No
Maschio 99	V	0	SLV 1	No
Maschio 99	PFFP	0	SLV 6	No
Maschio 99	R	0	SLV 10	No
Maschio 100	PF SLU	2.813	SLU 76	Si
Maschio 100	V SLU	20.148	SLU 5	Si
Maschio 100	PF	1.872	SLV 5	Si
Maschio 100	V	1.722	SLV 5	Si
Maschio 100	PFFP	5.128	SLV 1	Si
Maschio 100	R	0.041	SLV 11	No
Maschio 101	PF SLU	13.102	SLU 81	Si
Maschio 101	V SLU	3.317	SLU 81	Si
Maschio 101	PF	2.953	SLV 13	Si
Maschio 101	V	1.344	SLV 7	Si
Maschio 101	PFFP	3.905	SLV 15	Si
Maschio 101	R	0.04	SLV 5	No
Maschio 102	PF SLU	5.588	SLU 76	Si
Maschio 102	V SLU	2.179	SLU 76	Si
Maschio 102	PF	1.992	SLV 9	Si
Maschio 102	V	1.217	SLV 9	Si
Maschio 102	PFFP	2.367	SLV 13	Si
Maschio 102	R	0.039	SLV 7	No
Maschio 103	PF SLU	6.933	SLU 82	Si
Maschio 103	V SLU	2.277	SLU 82	Si
Maschio 103	PF	1.5	SLV 13	Si
Maschio 103	V	0.965	SLV 1	No
Maschio 103	PFFP	2.456	SLV 9	Si
Maschio 103	R	0.037	SLV 11	No
Maschio 104	PF SLU	13.444	SLU 30	Si
Maschio 104	V SLU	5.649	SLU 61	Si
Maschio 104	PF	1.919	SLV 1	Si
Maschio 104	V	0.769	SLV 13	No
Maschio 104	PFFP	3.88	SLV 5	Si
Maschio 104	R	0.021	SLV 5	No
Maschio 105	PF SLU	4.237	SLU 76	Si
Maschio 105	V SLU	1.005	SLU 73	Si
Maschio 105	PF	1.658	SLV 15	Si
Maschio 105	V	0.697	SLV 3	No
Maschio 105	PFFP	2.777	SLV 11	Si
Maschio 105	R	0.032	SLV 7	No
Maschio 106	PF SLU	6.283	SLU 73	Si
Maschio 106	V SLU	8.291	SLU 52	Si
Maschio 106	PF	1.908	SLV 3	Si
Maschio 106	V	0.711	SLV 15	No
Maschio 106	PFFP	3.479	SLV 7	Si
Maschio 106	R	0.033	SLV 11	No
Maschio 107	PF SLU	2.544	SLU 73	Si
Maschio 107	V SLU	5.657	SLU 52	Si
Maschio 107	PF	0	SLV 13	No
Maschio 107	V	0	SLV 13	No
Maschio 107	PFFP	3.678	SLV 11	Si
Maschio 107	R	0.041	SLV 7	No
Maschio 108	PF SLU	5.941	SLU 29	Si
Maschio 108	V SLU	7.908	SLU 81	Si
Maschio 108	PF	6.24	SLV 5	Si
Maschio 108	V	0.743	SLV 9	No
Maschio 108	PFFP	3.294	SLV 9	Si
Maschio 108	R	0.018	SLV 1	No
Maschio 109	PF SLU	2.993	SLU 82	Si
Maschio 109	V SLU	2.288	SLU 82	Si
Maschio 109	PF	0	SLV 14	No
Maschio 109	V	0	SLD 1	No
Maschio 109	PFFP	4.24	SLV 5	Si
Maschio 109	R	0	SLV 14	No
Maschio 110	PF SLU	2.379	SLU 82	Si
Maschio 110	V SLU	2.639	SLU 73	Si
Maschio 110	PF	0	SLV 8	No
Maschio 110	V	0	SLV 3	No
Maschio 110	PFFP	2.428	SLV 11	Si
Maschio 110	R	0	SLV 8	No
Maschio 111	PF SLU	5.15	SLU 76	Si
Maschio 111	V SLU	4.191	SLU 2	Si
Maschio 111	PF	4.154	SLV 13	Si
Maschio 111	V	0.741	SLV 11	No
Maschio 111	PFFP	2.718	SLV 15	Si
Maschio 111	R	0.019	SLV 1	No
Maschio 112	PF SLU	4.037	SLU 73	Si
Maschio 112	V SLU	1.655	SLU 82	Si
Maschio 112	PF	1.121	SLV 15	Si
Maschio 112	V	0.318	SLV 15	No
Maschio 112	PFFP	4.141	SLV 1	Si
Maschio 112	R	0	SLV 5	No
Maschio 113	PF SLU	4.136	SLU 82	Si
Maschio 113	V SLU	6.298	SLU 29	Si
Maschio 113	PF	3.354	SLV 5	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 113	V	1.278	SLV 11	Si
Maschio 113	PFFP	3.411	SLV 15	Si
Maschio 113	R	0.02	SLV 3	No
Maschio 115	PF SLU	0	SLV 1	No
Maschio 115	V SLU	0	SLV 1	No
Maschio 115	PF	0	SLV 16	No
Maschio 115	V	0	SLD 1	No
Maschio 115	PFFP	0	SLV 12	No
Maschio 115	R	0	SLV 12	No
Maschio 116	PF SLU	1.076	SLV 77	Si
Maschio 116	V SLU	3.188	SLV 29	Si
Maschio 116	PF	0	SLV 6	No
Maschio 116	V	0	SLV 1	No
Maschio 116	PFFP	1.386	SLV 5	Si
Maschio 116	R	0	SLV 12	No
Maschio 117	PF SLU	3.976	SLV 71	Si
Maschio 117	V SLU	23.419	SLV 43	Si
Maschio 117	PF	1.294	SLV 7	Si
Maschio 117	V	0.371	SLV 7	No
Maschio 117	PFFP	2.821	SLV 11	Si
Maschio 117	R	0.02	SLV 13	No
Maschio 118	PF SLU	1.195	SLV 51	Si
Maschio 118	V SLU	1000	SLV 1	Si
Maschio 118	PF	0	SLV 12	No
Maschio 118	V	0	SLD 3	No
Maschio 118	PFFP	0	SLV 12	No
Maschio 118	R	0	SLV 12	No
Maschio 119	PF SLU	0	SLV 1	No
Maschio 119	V SLU	0	SLV 1	No
Maschio 119	PF	0	SLV 8	No
Maschio 119	V	0	SLD 1	No
Maschio 119	PFFP	0	SLV 6	No
Maschio 119	R	0	SLV 8	No
Maschio 120	PF SLU	5.662	SLV 82	Si
Maschio 120	V SLU	5.741	SLV 82	Si
Maschio 120	PF	0	SLV 13	No
Maschio 120	V	0	SLV 13	No
Maschio 120	PFFP	2.715	SLV 13	Si
Maschio 120	R	0	SLV 5	No
Maschio 121	PF SLU	25.486	SLV 82	Si
Maschio 121	V SLU	11.807	SLV 51	Si
Maschio 121	PF	2.438	SLV 13	Si
Maschio 121	V	0.845	SLV 13	No
Maschio 121	PFFP	5.351	SLV 9	Si
Maschio 121	R	0.039	SLV 7	No
Maschio 122	PF SLU	15.27	SLV 80	Si
Maschio 122	V SLU	10.034	SLV 51	Si
Maschio 122	PF	2.42	SLV 1	Si
Maschio 122	V	0.832	SLV 1	No
Maschio 122	PFFP	5.433	SLV 5	Si
Maschio 122	R	0.033	SLV 5	No
Maschio 123	PF SLU	5.159	SLV 82	Si
Maschio 123	V SLU	6.531	SLV 82	Si
Maschio 123	PF	0	SLV 1	No
Maschio 123	V	0	SLV 1	No
Maschio 123	PFFP	2.74	SLV 1	Si
Maschio 123	R	0.006	SLV 5	No
Maschio 124	PF SLU	5.167	SLV 77	Si
Maschio 124	V SLU	3.487	SLV 41	Si
Maschio 124	PF	2.805	SLV 13	Si
Maschio 124	V	0.939	SLV 15	No
Maschio 124	PFFP	5.844	SLV 13	Si
Maschio 124	R	0.023	SLV 11	No
Maschio 125	PF SLU	10.976	SLV 77	Si
Maschio 125	V SLU	7.103	SLV 61	Si
Maschio 125	PF	2.683	SLV 1	Si
Maschio 125	V	0.678	SLV 3	No
Maschio 125	PFFP	7.945	SLV 5	Si
Maschio 125	R	0.028	SLV 9	No
Maschio 126	PF SLU	5.873	SLV 57	Si
Maschio 126	V SLU	12.251	SLV 44	Si
Maschio 126	PF	0	SLV 1	No
Maschio 126	V	0	SLV 1	No
Maschio 126	PFFP	9.036	SLV 9	Si
Maschio 126	R	0	SLV 9	No
Maschio 127	PF SLU	3.35	SLV 84	Si
Maschio 127	V SLU	7.94	SLV 52	Si
Maschio 127	PF	1.221	SLV 15	Si
Maschio 127	V	0.578	SLV 15	No
Maschio 127	PFFP	8.367	SLV 13	Si
Maschio 127	R	0.025	SLV 9	No
Maschio 128	PF SLU	4.454	SLV 78	Si
Maschio 128	V SLU	4.466	SLV 77	Si
Maschio 128	PF	1.055	SLV 15	Si
Maschio 128	V	0.34	SLV 15	No
Maschio 128	PFFP	8.881	SLV 9	Si
Maschio 128	R	0.029	SLV 9	No
Maschio 129	PF SLU	5.207	SLV 77	Si
Maschio 129	V SLU	2.283	SLV 41	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 129	PF	2,317	SLV 3	Si
Maschio 129	V	0,831	SLV 15	No
Maschio 129	PFFP	5,854	SLV 1	Si
Maschio 129	R	0,024	SLV 7	No
Maschio 131	PF SLU	6,295	SLU 82	Si
Maschio 131	V SLU	4,702	SLU 29	Si
Maschio 131	PF	3,607	SLV 5	Si
Maschio 131	V	1,284	SLV 7	Si
Maschio 131	PFFP	3,946	SLV 15	Si
Maschio 131	R	0,015	SLV 15	No
Maschio 132	PF SLU	3,991	SLU 82	Si
Maschio 132	V SLU	1,796	SLU 82	Si
Maschio 132	PF	0,974	SLV 3	No
Maschio 132	V	0,131	SLV 3	No
Maschio 132	PFFP	3,128	SLV 15	Si
Maschio 132	R	0,006	SLV 7	No
Maschio 133	PF SLU	5,944	SLU 76	Si
Maschio 133	V SLU	4,443	SLU 2	Si
Maschio 133	PF	4,683	SLV 1	Si
Maschio 133	V	0,858	SLV 11	No
Maschio 133	PFFP	3,554	SLV 7	Si
Maschio 133	R	0,019	SLV 1	No
Maschio 134	PF SLU	2,974	SLU 73	Si
Maschio 134	V SLU	4,333	SLU 65	Si
Maschio 134	PF	0	SLV 12	No
Maschio 134	V	0	SLV 3	No
Maschio 134	PFFP	1,446	SLV 7	Si
Maschio 134	R	0	SLV 12	No
Maschio 135	PF SLU	10,534	SLU 61	Si
Maschio 135	V SLU	6,526	SLU 83	Si
Maschio 135	PF	6,564	SLV 5	Si
Maschio 135	V	0,779	SLV 5	No
Maschio 135	PFFP	3,144	SLV 9	Si
Maschio 135	R	0,017	SLV 3	No
Maschio 136	PF SLU	0,256	SLU 79	No
Maschio 136	V SLU	0,341	SLU 82	No
Maschio 136	PF	0	SLV 14	No
Maschio 136	V	0	SLD 5	No
Maschio 136	PFFP	0	SLV 14	No
Maschio 136	R	0	SLV 10	No
Maschio 137	PF SLU	2,004	SLU 79	Si
Maschio 137	V SLU	18,487	SLU 84	Si
Maschio 137	PF	0	SLV 1	No
Maschio 137	V	0	SLV 1	No
Maschio 137	PFFP	3,856	SLV 5	Si
Maschio 137	R	0	SLV 16	No
Maschio 138	PF SLU	2,065	SLU 82	Si
Maschio 138	V SLU	6,207	SLU 79	Si
Maschio 138	PF	0	SLV 1	No
Maschio 138	V	0	SLV 1	No
Maschio 138	PFFP	3,44	SLV 7	Si
Maschio 138	R	0,039	SLV 11	No
Maschio 139	PF SLU	5,6	SLU 73	Si
Maschio 139	V SLU	4,439	SLU 84	Si
Maschio 139	PF	1,916	SLV 15	Si
Maschio 139	V	0,671	SLV 3	No
Maschio 139	PFFP	3,545	SLV 11	Si
Maschio 139	R	0,035	SLV 9	No
Maschio 140	PF SLU	5,593	SLU 31	Si
Maschio 140	V SLU	1,067	SLU 73	Si
Maschio 140	PF	1,489	SLV 3	Si
Maschio 140	V	0,68	SLV 15	No
Maschio 140	PFFP	2,614	SLV 7	Si
Maschio 140	R	0,031	SLV 11	No
Maschio 141	PF SLU	11,539	SLU 30	Si
Maschio 141	V SLU	5,744	SLU 82	Si
Maschio 141	PF	1,326	SLV 13	Si
Maschio 141	V	0,51	SLV 13	No
Maschio 141	PFFP	3,622	SLV 13	Si
Maschio 141	R	0	SLV 13	No
Maschio 142	PF SLU	7,467	SLU 82	Si
Maschio 142	V SLU	2,004	SLU 82	Si
Maschio 142	PF	1,547	SLV 1	Si
Maschio 142	V	0,879	SLV 13	No
Maschio 142	PFFP	2,313	SLV 5	Si
Maschio 142	R	0,038	SLV 7	No
Maschio 143	PF SLU	10,379	SLU 76	Si
Maschio 143	V SLU	23,412	SLU 5	Si
Maschio 143	PF	2,781	SLV 5	Si
Maschio 143	V	1,937	SLV 7	Si
Maschio 143	PFFP	4,127	SLV 1	Si
Maschio 143	R	0,04	SLV 11	No
Maschio 144	PF SLU	18,034	SLU 81	Si
Maschio 144	V SLU	3,528	SLU 80	Si
Maschio 144	PF	3,77	SLV 11	Si
Maschio 144	V	1,474	SLV 7	Si
Maschio 144	PFFP	2,557	SLV 11	Si
Maschio 144	R	0,037	SLV 5	No
Maschio 145	PF SLU	11,089	SLU 44	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 145	V SLU	2.411	SLU 76	Si
Maschio 145	PF	2.561	SLV 9	Si
Maschio 145	V	1.517	SLV 5	Si
Maschio 145	PFFP	1.82	SLV 13	Si
Maschio 145	R	0.037	SLV 7	No
Maschio 146	PF SLU	9.882	SLU 61	Si
Maschio 146	V SLU	2.813	SLU 82	Si
Maschio 146	PF	1.084	SLV 13	Si
Maschio 146	V	0.387	SLV 13	No
Maschio 146	PFFP	1.898	SLV 9	Si
Maschio 146	R	0.017	SLV 9	No
Maschio 147	PF SLU	0	SLU 8	No
Maschio 147	V SLU	0	SLU 8	No
Maschio 147	PF	0	SLV 4	No
Maschio 147	V	0	SLV 1	No
Maschio 147	PFFP	0	SLV 3	No
Maschio 147	R	0	SLV 4	No
Maschio 148	PF SLU	4.885	SLU 82	Si
Maschio 148	V SLU	1.347	SLU 82	Si
Maschio 148	PF	2.564	SLV 3	Si
Maschio 148	V	1.017	SLV 3	Si
Maschio 148	PFFP	1.997	SLV 11	Si
Maschio 148	R	0.035	SLV 9	No
Maschio 149	PF SLU	7.235	SLU 72	Si
Maschio 149	V SLU	4.676	SLU 30	Si
Maschio 149	PF	1.832	SLV 1	Si
Maschio 149	V	0.904	SLV 1	No
Maschio 149	PFFP	2.416	SLV 7	Si
Maschio 149	R	0.023	SLV 7	No
Maschio 150	PF SLU	3.78	SLU 52	Si
Maschio 150	V SLU	4.357	SLU 29	Si
Maschio 150	PF	0	SLV 9	No
Maschio 150	V	0	SLV 9	No
Maschio 150	PFFP	1.305	SLV 15	Si
Maschio 150	R	0	SLV 1	No
Maschio 151	PF SLU	3.951	SLU 29	Si
Maschio 151	V SLU	7.01	SLU 51	Si
Maschio 151	PF	3.244	SLV 9	Si
Maschio 151	V	0.86	SLV 9	No
Maschio 151	PFFP	1.746	SLV 9	Si
Maschio 151	R	0.019	SLV 15	No
Maschio 152	PF SLU	3.132	SLU 71	Si
Maschio 152	V SLU	5.018	SLU 29	Si
Maschio 152	PF	0	SLV 10	No
Maschio 152	V	0	SLV 5	No
Maschio 152	PFFP	1.66	SLV 9	Si
Maschio 152	R	0	SLV 10	No
Maschio 153	PF SLU	2.926	SLU 52	Si
Maschio 153	V SLU	3.837	SLU 73	Si
Maschio 153	PF	0	SLV 3	No
Maschio 153	V	0	SLV 3	No
Maschio 153	PFFP	1.11	SLV 11	Si
Maschio 153	R	0	SLV 8	No
Maschio 154	PF SLU	4.71	SLU 26	Si
Maschio 154	V SLU	3.703	SLU 71	Si
Maschio 154	PF	3.009	SLV 13	Si
Maschio 154	V	0.861	SLV 11	No
Maschio 154	PFFP	1.641	SLV 15	Si
Maschio 154	R	0.019	SLV 1	No
Maschio 155	PF SLU	5.127	SLU 82	Si
Maschio 155	V SLU	1.628	SLU 82	Si
Maschio 155	PF	0	SLV 10	No
Maschio 155	V	0	SLV 1	No
Maschio 155	PFFP	0	SLV 6	No
Maschio 155	R	0	SLV 10	No
Maschio 156	PF SLU	13.63	SLU 82	Si
Maschio 156	V SLU	5.128	SLU 29	Si
Maschio 156	PF	5.681	SLV 5	Si
Maschio 156	V	1.439	SLV 11	Si
Maschio 156	PFFP	1.593	SLV 13	Si
Maschio 156	R	0.019	SLV 1	No
Maschio 157	PF SLU	0	SLU 1	No
Maschio 157	V SLU	0	SLU 1	No
Maschio 157	PF	0	SLV 16	No
Maschio 157	V	0	SLD 1	No
Maschio 157	PFFP	0	SLV 16	No
Maschio 157	R	0	SLV 16	No
Maschio 158	PF SLU	1.304	SLU 29	Si
Maschio 158	V SLU	1.203	SLU 29	Si
Maschio 158	PF	0	SLV 12	No
Maschio 158	V	0	SLD 1	No
Maschio 158	PFFP	0	SLV 10	No
Maschio 158	R	0	SLV 12	No
Maschio 159	PF SLU	3.38	SLU 79	Si
Maschio 159	V SLU	25.913	SLU 43	Si
Maschio 159	PF	1.733	SLV 7	Si
Maschio 159	V	0.721	SLV 7	No
Maschio 159	PFFP	1.689	SLV 15	Si
Maschio 159	R	0.018	SLV 3	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 160	PF SLU	2.29	SLU 37	Si
Maschio 160	V SLU	15.08	SLU 84	Si
Maschio 160	PF	0	SLV 3	No
Maschio 160	V	0	SLV 3	No
Maschio 160	PFFP	0	SLV 3	No
Maschio 160	R	0	SLV 5	No
Maschio 161	PF SLU	0	SLU 84	No
Maschio 161	V SLU	0	SLU 1	No
Maschio 161	PF	0	SLV 16	No
Maschio 161	V	0	SLD 1	No
Maschio 161	PFFP	0	SLV 9	No
Maschio 161	R	0	SLV 16	No
Maschio 162	PF SLU	2.284	SLU 9	Si
Maschio 162	V SLU	4.983	SLU 30	Si
Maschio 162	PF	0	SLV 15	No
Maschio 162	V	0	SLV 15	No
Maschio 162	PFFP	1.458	SLV 13	Si
Maschio 162	R	0.033	SLV 7	No
Maschio 163	PF SLU	14.623	SLU 9	Si
Maschio 163	V SLU	14.907	SLU 39	Si
Maschio 163	PF	1.984	SLV 13	Si
Maschio 163	V	0.86	SLV 13	No
Maschio 163	PFFP	3.351	SLV 9	Si
Maschio 163	R	0.004	SLV 9	No
Maschio 164	PF SLU	22.663	SLU 9	Si
Maschio 164	V SLU	12.387	SLU 9	Si
Maschio 164	PF	1.905	SLV 3	Si
Maschio 164	V	0.827	SLV 3	No
Maschio 164	PFFP	3.351	SLV 1	Si
Maschio 164	R	0.011	SLV 5	No
Maschio 165	PF SLU	5.67	SLU 9	Si
Maschio 165	V SLU	6.536	SLU 38	Si
Maschio 165	PF	0	SLV 1	No
Maschio 165	V	0	SLV 1	No
Maschio 165	PFFP	1.595	SLV 1	Si
Maschio 165	R	0.032	SLV 11	No
Maschio 166	PF SLU	5.941	SLU 77	Si
Maschio 166	V SLU	2.485	SLU 41	Si
Maschio 166	PF	2.97	SLV 13	Si
Maschio 166	V	1.091	SLV 1	Si
Maschio 166	PFFP	2.824	SLV 15	Si
Maschio 166	R	0.012	SLV 9	No
Maschio 167	PF SLU	17.915	SLU 69	Si
Maschio 167	V SLU	14.088	SLU 61	Si
Maschio 167	PF	4.984	SLV 15	Si
Maschio 167	V	0.761	SLV 13	No
Maschio 167	PFFP	5.242	SLV 13	Si
Maschio 167	R	0.03	SLV 11	No
Maschio 168	PF SLU	3.082	SLU 41	Si
Maschio 168	V SLU	3.844	SLU 41	Si
Maschio 168	PF	0	SLV 1	No
Maschio 168	V	0	SLV 1	No
Maschio 168	PFFP	5.253	SLV 11	Si
Maschio 168	R	0	SLV 3	No
Maschio 169	PF SLU	7.302	SLU 61	Si
Maschio 169	V SLU	12.63	SLU 29	Si
Maschio 169	PF	1.525	SLV 1	Si
Maschio 169	V	0.934	SLV 1	No
Maschio 169	PFFP	5.602	SLV 1	Si
Maschio 169	R	0	SLV 5	No
Maschio 170	PF SLU	6.209	SLU 77	Si
Maschio 170	V SLU	4.744	SLU 77	Si
Maschio 170	PF	1.028	SLV 15	Si
Maschio 170	V	0.302	SLV 15	No
Maschio 170	PFFP	5.686	SLV 1	Si
Maschio 170	R	0.022	SLV 5	No
Maschio 171	PF SLU	5.292	SLU 77	Si
Maschio 171	V SLU	2.182	SLU 41	Si
Maschio 171	PF	2.958	SLV 15	Si
Maschio 171	V	0.988	SLV 15	No
Maschio 171	PFFP	2.909	SLV 1	Si
Maschio 171	R	0.013	SLV 7	No
Maschio 172	PF SLU	0.927	SLU 79	No
Maschio 172	V SLU	2.233	SLU 75	Si
Maschio 172	PF	0	SLD 5	No
Maschio 172	V	0	SLD 5	No
Maschio 172	PFFP	1.148	SLV 3	Si
Maschio 172	R	0.026	SLV 11	No
Maschio 173	PF SLU	13.152	SLU 66	Si
Maschio 173	V SLU	8.251	SLU 61	Si
Maschio 173	PF	7.33	SLV 11	Si
Maschio 173	V	1.149	SLV 7	Si
Maschio 173	PFFP	7.011	SLV 7	Si
Maschio 173	R	0.052	SLV 7	No
Maschio 175	PF SLU	5.873	SLU 27	Si
Maschio 175	V SLU	1.859	SLU 71	Si
Maschio 175	PF	4.692	SLV 5	Si
Maschio 175	V	1.32	SLV 9	Si
Maschio 175	PFFP	3.247	SLV 3	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 175	R	0.031	SLV 9	No
Maschio 176	PF SLU	9.831	SLU 61	Si
Maschio 176	V SLU	3.81	SLU 29	Si
Maschio 176	PF	5.012	SLV 9	Si
Maschio 176	V	1.406	SLV 7	Si
Maschio 176	PFFP	1.918	SLV 5	Si
Maschio 176	R	0.019	SLV 15	No
Maschio 177	PF SLU	3.051	SLU 40	Si
Maschio 177	V SLU	1.691	SLU 82	Si
Maschio 177	PF	0	SLV 3	No
Maschio 177	V	0	SLV 3	No
Maschio 177	PFFP	1.48	SLV 15	Si
Maschio 177	R	0	SLV 7	No
Maschio 178	PF SLU	5.24	SLU 26	Si
Maschio 178	V SLU	4.444	SLU 71	Si
Maschio 178	PF	4.093	SLV 7	Si
Maschio 178	V	0.921	SLV 7	No
Maschio 178	PFFP	1.712	SLV 3	Si
Maschio 178	R	0.014	SLV 11	No
Maschio 179	PF SLU	3.137	SLU 44	Si
Maschio 179	V SLU	4.438	SLU 73	Si
Maschio 179	PF	0	SLV 12	No
Maschio 179	V	0	SLV 3	No
Maschio 179	PFFP	0	SLV 8	No
Maschio 179	R	0	SLV 12	No
Maschio 180	PF SLU	4.5	SLU 29	Si
Maschio 180	V SLU	6.721	SLU 37	Si
Maschio 180	PF	3.264	SLV 5	Si
Maschio 180	V	0.907	SLV 5	No
Maschio 180	PFFP	1.769	SLV 9	Si
Maschio 180	R	0.019	SLV 3	No
Maschio 181	PF SLU	0	SLU 71	No
Maschio 181	V SLU	1.09	SLU 79	Si
Maschio 181	PF	0	SLV 5	No
Maschio 181	V	0	SLV 5	No
Maschio 181	PFFP	0	SLV 5	No
Maschio 181	R	0	SLV 6	No
Maschio 182	PF SLU	0	SLU 3	No
Maschio 182	V SLU	538.135	SLU 80	Si
Maschio 182	PF	0	SLV 10	No
Maschio 182	V	0	SLD 5	No
Maschio 182	PFFP	0	SLV 1	No
Maschio 182	R	0	SLV 16	No
Maschio 183	PF SLU	3.279	SLU 73	Si
Maschio 183	V SLU	6.477	SLU 71	Si
Maschio 183	PF	0	SLV 1	No
Maschio 183	V	0	SLV 1	No
Maschio 183	PFFP	1.111	SLV 7	Si
Maschio 183	R	0.037	SLV 11	No
Maschio 184	PF SLU	11.665	SLU 65	Si
Maschio 184	V SLU	22.338	SLU 26	Si
Maschio 184	PF	1.771	SLV 13	Si
Maschio 184	V	0.936	SLV 13	No
Maschio 184	PFFP	2.601	SLV 11	Si
Maschio 184	R	0.019	SLV 15	No
Maschio 185	PF SLU	5.271	SLU 82	Si
Maschio 185	V SLU	1.53	SLU 82	Si
Maschio 185	PF	2.483	SLV 15	Si
Maschio 185	V	1.004	SLV 15	Si
Maschio 185	PFFP	2.198	SLV 7	Si
Maschio 185	R	0.036	SLV 5	No
Maschio 186	PF SLU	1.76	SLU 9	Si
Maschio 186	V SLU	21.055	SLU 40	Si
Maschio 186	PF	0	SLV 16	No
Maschio 186	V	0	SLV 13	No
Maschio 186	PFFP	0	SLV 15	No
Maschio 186	R	0	SLV 16	No
Maschio 187	PF SLU	8.727	SLU 61	Si
Maschio 187	V SLU	2.684	SLU 82	Si
Maschio 187	PF	1.132	SLV 1	Si
Maschio 187	V	0.445	SLV 1	No
Maschio 187	PFFP	1.885	SLV 5	Si
Maschio 187	R	0.018	SLV 5	No
Maschio 188	PF SLU	31.06	SLU 34	Si
Maschio 188	V SLU	27.972	SLU 81	Si
Maschio 188	PF	3.71	SLV 5	Si
Maschio 188	V	1.949	SLV 7	Si
Maschio 188	PFFP	2.786	SLV 1	Si
Maschio 188	R	0.04	SLV 11	No
Maschio 189	PF SLU	2.613	SLU 35	Si
Maschio 189	V SLU	4.732	SLU 78	Si
Maschio 189	PF	1.789	SLV 7	Si
Maschio 189	V	2.246	SLV 7	Si
Maschio 189	PFFP	0	SLV 3	No
Maschio 189	R	0	SLV 12	No
Maschio 190	PF SLU	4.406	SLU 30	Si
Maschio 190	V SLU	3.238	SLU 80	Si
Maschio 190	PF	2.09	SLV 9	Si
Maschio 190	V	2.394	SLV 5	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 190	PFFP	0	SLV 9	No
Maschio 190	R	0	SLV 10	No
Maschio 191	PF SLU	1.33	SLU 38	Si
Maschio 191	V SLU	0.701	SLU 38	No
Maschio 191	PF	0	SLV 1	No
Maschio 191	V	0	SLV 1	No
Maschio 191	PFFP	1.362	SLV 1	Si
Maschio 191	R	0.007	SLV 5	No
Maschio 192	PF SLU	0	SLU 84	No
Maschio 192	V SLU	0	SLV 1	No
Maschio 192	PF	0	SLV 16	No
Maschio 192	V	0	SLD 1	No
Maschio 192	PFFP	0	SLV 10	No
Maschio 192	R	0	SLV 16	No
Maschio 193	PF SLU	1.452	SLU 38	Si
Maschio 193	V SLU	1.033	SLU 38	Si
Maschio 193	PF	1.184	SLV 5	Si
Maschio 193	V	0.915	SLV 1	No
Maschio 193	PFFP	1.235	SLV 11	Si
Maschio 193	R	0	SLV 1	No
Maschio 194	PF SLU	3.904	SLU 31	Si
Maschio 194	V SLU	3.812	SLU 38	Si
Maschio 194	PF	1.485	SLV 5	Si
Maschio 194	V	1.297	SLV 5	Si
Maschio 194	PFFP	1.026	SLV 11	Si
Maschio 194	R	0	SLV 5	No
Maschio 195	PF SLU	0	SLU 84	No
Maschio 195	V SLU	0	SLU 1	No
Maschio 195	PF	0	SLV 16	No
Maschio 195	V	0	SLD 1	No
Maschio 195	PFFP	0	SLV 12	No
Maschio 195	R	0	SLV 16	No
Maschio 196	PF SLU	1.282	SLU 29	Si
Maschio 196	V SLU	1.32	SLU 29	Si
Maschio 196	PF	0	SLV 16	No
Maschio 196	V	0	SLD 1	No
Maschio 196	PFFP	0	SLV 16	No
Maschio 196	R	0	SLV 16	No
Maschio 197	PF SLU	1.224	SLU 30	Si
Maschio 197	V SLU	5.163	SLU 51	Si
Maschio 197	PF	0	SLV 5	No
Maschio 197	V	0	SLV 5	No
Maschio 197	PFFP	0	SLV 1	No
Maschio 197	R	0.022	SLV 9	No
Maschio 198	PF SLU	1.748	SLU 80	Si
Maschio 198	V SLU	4.36	SLU 80	Si
Maschio 198	PF	1.665	SLV 13	Si
Maschio 198	V	0.499	SLV 13	No
Maschio 198	PFFP	2.614	SLV 9	Si
Maschio 198	R	0	SLV 13	No
Maschio 199	PF SLU	1.044	SLU 38	Si
Maschio 199	V SLU	0.299	SLU 38	No
Maschio 199	PF	0	SLV 6	No
Maschio 199	V	0	SLD 7	No
Maschio 199	PFFP	0	SLV 1	No
Maschio 199	R	0	SLV 6	No
Maschio 200	PF SLU	1.161	SLU 29	Si
Maschio 200	V SLU	0.892	SLU 80	No
Maschio 200	PF	1.049	SLV 5	Si
Maschio 200	V	1.327	SLV 1	Si
Maschio 200	PFFP	0	SLV 1	No
Maschio 200	R	0.012	SLV 15	No
Maschio 201	PF SLU	0	SLU 1	No
Maschio 201	V SLU	0	SLU 1	No
Maschio 201	PFFP	0	SLV 12	No
Maschio 201	R	0	SLV 14	No
Maschio 202	PF SLU	4.378	SLU 27	Si
Maschio 202	V SLU	1000	SLU 1	Si
Maschio 202	PFFP	0	SLV 10	No
Maschio 202	R	0.047	SLV 7	No
Maschio 203	PF SLU	1.13	SLU 42	Si
Maschio 203	V SLU	3.475	SLU 38	Si
Maschio 203	PF	0	SLV 16	No
Maschio 203	V	0	SLD 5	No
Maschio 203	PFFP	0	SLV 9	No
Maschio 203	R	0	SLV 16	No
Maschio 204	PF SLU	0	SLU 20	No
Maschio 204	V SLU	0	SLU 16	No
Maschio 204	PF	0	SLV 8	No
Maschio 204	V	0	SLD 3	No
Maschio 204	PFFP	0	SLV 8	No
Maschio 204	R	0.006	SLV 7	No
Maschio 205	PF SLU	0	SLU 84	No
Maschio 205	V SLU	0	SLU 1	No
Maschio 205	PF	0	SLV 16	No
Maschio 205	V	0	SLD 1	No
Maschio 205	PFFP	0	SLV 10	No
Maschio 205	R	0	SLV 16	No
Maschio 206	PF SLU	0	SLU 84	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 206	V SLU	0	SLU 1	No
Maschio 206	PF	0	SLV 14	No
Maschio 206	V	0	SLD 1	No
Maschio 206	PFFP	0	SLV 10	No
Maschio 206	R	0	SLV 14	No
Maschio 207	PF SLU	7.471	SLU 37	Si
Maschio 207	V SLU	5.63	SLU 79	Si
Maschio 207	PF	0	SLV 3	No
Maschio 207	V	0	SLV 3	No
Maschio 207	PFFP	1.091	SLV 7	Si
Maschio 207	R	0	SLV 12	No
Maschio 208	PF SLU	15.271	SLU 39	Si
Maschio 208	V SLU	13.837	SLU 81	Si
Maschio 208	PF	0	SLV 15	No
Maschio 208	V	0	SLV 15	No
Maschio 208	PFFP	1.134	SLV 7	Si
Maschio 208	R	0	SLV 16	No
Maschio 209	PF SLU	0	SLU 84	No
Maschio 209	V SLU	0	SLU 1	No
Maschio 209	PF	0	SLV 10	No
Maschio 209	V	0	SLD 1	No
Maschio 209	PFFP	0	SLV 1	No
Maschio 209	R	0	SLV 10	No
Maschio 210	PF SLU	2.881	SLU 9	Si
Maschio 210	V SLU	2.435	SLU 41	Si
Maschio 210	PF	1.058	SLV 13	Si
Maschio 210	V	0.968	SLV 13	No
Maschio 210	PFFP	0	SLV 13	No
Maschio 210	R	0.059	SLV 5	No
Maschio 211	PF SLU	8.232	SLU 39	Si
Maschio 211	V SLU	10.862	SLU 30	Si
Maschio 211	PF	1.677	SLV 13	Si
Maschio 211	V	1.114	SLV 13	Si
Maschio 211	PFFP	2.526	SLV 13	Si
Maschio 211	R	0.007	SLV 11	No
Maschio 212	PF SLU	1.782	SLU 39	Si
Maschio 212	V SLU	2.433	SLU 41	Si
Maschio 212	PF	0	SLD 1	No
Maschio 212	V	0	SLD 1	No
Maschio 212	PFFP	1.657	SLV 7	Si
Maschio 212	R	0	SLV 3	No
Maschio 213	PF SLU	9.204	SLU 44	Si
Maschio 213	V SLU	5.468	SLU 29	Si
Maschio 213	PF	0	SLV 4	No
Maschio 213	V	0	SLD 1	No
Maschio 213	PFFP	0	SLV 1	No
Maschio 213	R	0	SLV 4	No
Maschio 214	PF SLU	7.389	SLU 60	Si
Maschio 214	V SLU	4.328	SLU 79	Si
Maschio 214	PF	0.994	SLV 1	No
Maschio 214	V	0.255	SLV 1	No
Maschio 214	PFFP	2.838	SLV 5	Si
Maschio 214	R	0.025	SLV 11	No
Maschio 215	PF SLU	2.364	SLU 37	Si
Maschio 215	V SLU	1.891	SLU 37	Si
Maschio 215	PF	2.114	SLV 15	Si
Maschio 215	V	1.956	SLV 15	Si
Maschio 215	PFFP	1.106	SLV 1	Si
Maschio 215	R	0.048	SLV 5	No
Maschio 216	PF SLU	0	SLU 5	No
Maschio 216	V SLU	0	SLU 5	No
Maschio 216	PF	0	SLV 8	No
Maschio 216	V	0	SLD 1	No
Maschio 216	PFFP	1.044	SLV 7	Si
Maschio 216	R	0	SLV 8	No
Maschio 217	PF SLU	1.251	SLU 30	Si
Maschio 217	V SLU	1.593	SLU 80	Si
Maschio 217	PF	1.279	SLV 9	Si
Maschio 217	V	2.154	SLV 15	Si
Maschio 217	PFFP	0	SLV 1	No
Maschio 217	R	0.005	SLV 3	No
Maschio 218	PF SLU	1.677	SLU 30	Si
Maschio 218	V SLU	1.343	SLU 30	Si
Maschio 218	PF	0	SLD 9	No
Maschio 218	V	0	SLD 9	No
Maschio 218	PFFP	0	SLV 1	No
Maschio 218	R	0.027	SLV 11	No
Maschio 219	PF SLU	1.177	SLU 29	Si
Maschio 219	V SLU	5.943	SLU 41	Si
Maschio 219	PF	0	SLV 5	No
Maschio 219	V	0	SLV 5	No
Maschio 219	PFFP	0.978	SLV 13	No
Maschio 219	R	0.022	SLV 5	No
Maschio 220	PF SLU	0	SLU 6	No
Maschio 220	V SLU	1.159	SLU 78	Si
Maschio 220	PF	0.757	SLV 13	No
Maschio 220	V	0.171	SLV 13	No
Maschio 220	PFFP	2.347	SLV 5	Si
Maschio 220	R	0	SLV 8	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 221	PF SLU	0	SLU 3	No
Maschio 221	V SLU	28.215	SLU 80	Si
Maschio 221	PF	0	SLV 4	No
Maschio 221	V	0	SLV 1	No
Maschio 221	PFFP	0	SLV 6	No
Maschio 221	R	0	SLV 8	No
Maschio 222	PF SLU	0	SLU 84	No
Maschio 222	V SLU	0	SLU 1	No
Maschio 222	PF	0	SLV 14	No
Maschio 222	V	0	SLD 1	No
Maschio 222	PFFP	0	SLV 10	No
Maschio 222	R	0	SLV 14	No
Maschio 223	PF SLU	1.689	SLU 30	Si
Maschio 223	V SLU	1.225	SLU 38	Si
Maschio 223	PF	0	SLV 15	No
Maschio 223	V	0	SLV 15	No
Maschio 223	PFFP	1.276	SLV 9	Si
Maschio 223	R	0.01	SLV 9	No
Maschio 224	PF SLU	5.934	SLU 43	Si
Maschio 224	V SLU	23.799	SLU 81	Si
Maschio 224	PF	1.479	SLV 9	Si
Maschio 224	V	2.541	SLV 11	Si
Maschio 224	PFFP	1.23	SLV 3	Si
Maschio 224	R	0	SLV 1	No
Maschio 225	PF SLU	2.456	SLU 40	Si
Maschio 225	V SLU	2.291	SLU 81	Si
Maschio 225	PF	0	SLV 16	No
Maschio 225	V	0	SLD 13	No
Maschio 225	PFFP	0	SLV 16	No
Maschio 225	R	0	SLV 12	No
Maschio 226	PF SLU	2.473	SLU 19	Si
Maschio 226	V SLU	2.407	SLU 81	Si
Maschio 226	PF	0	SLV 10	No
Maschio 226	V	0	SLV 5	No
Maschio 226	PFFP	0	SLV 1	No
Maschio 226	R	0	SLV 10	No
Maschio 227	PF SLU	2.982	SLU 19	Si
Maschio 227	V SLU	2.072	SLU 82	Si
Maschio 227	PF	0	SLV 3	No
Maschio 227	V	0	SLV 3	No
Maschio 227	PFFP	0	SLV 11	No
Maschio 227	R	0	SLV 1	No
Maschio 228	PF SLU	4.292	SLU 52	Si
Maschio 228	V SLU	6.164	SLU 29	Si
Maschio 228	PF	0	SLV 12	No
Maschio 228	V	0	SLV 1	No
Maschio 228	PFFP	0	SLV 12	No
Maschio 228	R	0	SLV 12	No
Maschio 229	PF SLU	1.611	SLU 31	Si
Maschio 229	V SLU	2.206	SLU 31	Si
Maschio 229	PF	0	SLV 12	No
Maschio 229	V	0	SLD 7	No
Maschio 229	PFFP	0	SLV 16	No
Maschio 229	R	0	SLV 16	No
Maschio 230	PF SLU	7.007	SLU 10	Si
Maschio 230	V SLU	22.098	SLU 34	Si
Maschio 230	PF	1.846	SLV 9	Si
Maschio 230	V	2.75	SLV 13	Si
Maschio 230	PFFP	1.139	SLV 7	Si
Maschio 230	R	0	SLV 5	No
Maschio 231	PF SLU	2.386	SLU 31	Si
Maschio 231	V SLU	1.892	SLU 78	Si
Maschio 231	PF	1.256	SLV 11	Si
Maschio 231	V	1.272	SLV 11	Si
Maschio 231	PFFP	1.189	SLV 11	Si
Maschio 231	R	0	SLV 5	No
Maschio 234	PF SLU	6.763	SLU 80	Si
Maschio 234	V SLU	1.822	SLU 84	Si
Maschio 234	PF	0	SLV 8	No
Maschio 234	V	0	SLV 3	No
Maschio 234	PFFP	2.537	SLV 7	Si
Maschio 234	R	0	SLV 8	No
Maschio 235	PF SLU	0	SLU 1	No
Maschio 235	V SLU	0	SLU 1	No
Maschio 235	PF	0	SLD 1	No
Maschio 235	V	0	SLD 1	No
Maschio 235	PFFP	16.994	SLV 7	Si
Maschio 235	R	0.337	SLV 9	No
Maschio 236	PF SLU	2.072	SLU 84	Si
Maschio 236	V SLU	1.516	SLU 84	Si
Maschio 236	PF	0	SLV 16	No
Maschio 236	V	0	SLV 11	No
Maschio 236	PFFP	19.167	SLV 11	Si
Maschio 236	R	0	SLV 16	No
Maschio 237	PF SLU	0	SLU 1	No
Maschio 237	V SLU	0	SLU 1	No
Maschio 237	PF	0	SLD 1	No
Maschio 237	V	0	SLD 1	No
Maschio 237	PFFP	3.705	SLV 7	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 237	R	0.018	SLV 11	No
Maschio 238	PF SLU	0	SLU 1	No
Maschio 238	V SLU	0	SLU 1	No
Maschio 238	PF	0	SLD 1	No
Maschio 238	V	0	SLD 1	No
Maschio 238	PFFP	1.144	SLV 7	Si
Maschio 238	R	0	SLV 11	No
Maschio 239	PF SLU	23.702	SLU 38	Si
Maschio 239	V SLU	15.932	SLU 60	Si
Maschio 239	PF	1.542	SLV 11	Si
Maschio 239	V	2.122	SLV 15	Si
Maschio 239	PFFP	7.683	SLV 11	Si
Maschio 239	R	0.297	SLV 9	No
Maschio 240	PF SLU	8.406	SLU 59	Si
Maschio 240	V SLU	10.082	SLU 44	Si
Maschio 240	PF	0	SLV 16	No
Maschio 240	V	0	SLD 7	No
Maschio 240	PFFP	0	SLV 16	No
Maschio 240	R	0	SLV 12	No
Maschio 241	PF SLU	6.191	SLU 79	Si
Maschio 241	V SLU	8.245	SLU 44	Si
Maschio 241	PF	0	SLV 16	No
Maschio 241	V	0	SLV 1	No
Maschio 241	PFFP	0	SLV 8	No
Maschio 241	R	0	SLV 16	No
Maschio 242	PF SLU	0	SLU 79	No
Maschio 242	V SLU	0	SLU 4	No
Maschio 242	PF	0	SLV 12	No
Maschio 242	V	0	SLD 1	No
Maschio 242	PFFP	0	SLV 1	No
Maschio 242	R	0	SLV 16	No
Maschio 243	PF SLU	0	SLU 84	No
Maschio 243	V SLU	0	SLU 2	No
Maschio 243	PF	0	SLV 14	No
Maschio 243	V	0	SLD 1	No
Maschio 243	PFFP	0	SLV 1	No
Maschio 243	R	0	SLV 14	No
Maschio 244	PF SLU	0	SLU 1	No
Maschio 244	V SLU	0	SLU 1	No
Maschio 244	PF	0	SLV 10	No
Maschio 244	V	0	SLD 1	No
Maschio 244	PFFP	0	SLV 10	No
Maschio 244	R	0	SLV 10	No
Maschio 245	PF SLU	2.563	SLU 2	Si
Maschio 245	V SLU	6.152	SLU 38	Si
Maschio 245	PF	0	SLV 12	No
Maschio 245	V	0	SLD 11	No
Maschio 245	PFFP	0	SLV 12	No
Maschio 245	R	0	SLV 14	No
Maschio 246	PF SLU	1.345	SLU 2	Si
Maschio 246	V SLU	2.865	SLU 44	Si
Maschio 246	PF	0	SLV 12	No
Maschio 246	V	0	SLD 1	No
Maschio 246	PFFP	0	SLV 12	No
Maschio 246	R	0	SLV 16	No
Maschio 247	PF SLU	3.713	SLU 43	Si
Maschio 247	V SLU	2.455	SLU 80	Si
Maschio 247	PF	0	SLV 12	No
Maschio 247	V	0	SLD 1	No
Maschio 247	PFFP	0	SLV 1	No
Maschio 247	R	0	SLV 12	No
Maschio 248	PF SLU	0	SLU 84	No
Maschio 248	V SLU	0	SLU 1	No
Maschio 248	PFFP	0	SLV 10	No
Maschio 248	R	0	SLV 16	No
Maschio 249	PF SLU	4.964	SLU 41	Si
Maschio 249	V SLU	6.794	SLU 52	Si
Maschio 249	PF	1.42	SLV 5	Si
Maschio 249	V	0.454	SLV 5	No
Maschio 249	PFFP	4.471	SLV 5	Si
Maschio 249	R	0.032	SLV 9	No
Maschio 250	PF SLU	0	SLU 84	No
Maschio 250	V SLU	0	SLU 1	No
Maschio 250	PFFP	0	SLV 1	No
Maschio 250	R	0	SLV 14	No
Maschio 251	PF SLU	3.793	SLU 80	Si
Maschio 251	V SLU	3.001	SLU 79	Si
Maschio 251	PF	0	SLV 16	No
Maschio 251	V	0	SLD 15	No
Maschio 251	PFFP	0	SLV 16	No
Maschio 251	R	0	SLV 16	No
Maschio 252	PF SLU	2.247	SLU 83	Si
Maschio 252	V SLU	3.65	SLU 60	Si
Maschio 252	PF	0	SLV 8	No
Maschio 252	V	0	SLD 1	No
Maschio 252	PFFP	0	SLV 8	No
Maschio 252	R	0	SLV 8	No
Maschio 253	PF SLU	6.647	SLU 84	Si
Maschio 253	V SLU	2.078	SLU 84	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 253	PF	0	SLV 12	No
Maschio 253	V	0	SLV 3	No
Maschio 253	PFFP	6.662	SLV 11	Si
Maschio 253	R	0	SLV 12	No
Maschio 254	PF SLU	0	SLU 1	No
Maschio 254	V SLU	0	SLU 1	No
Maschio 254	PF	0	SLD 1	No
Maschio 254	V	0	SLD 1	No
Maschio 254	PFFP	1.382	SLV 7	Si
Maschio 254	R	0	SLV 11	No
Maschio 255	PF SLU	7.419	SLU 76	Si
Maschio 255	V SLU	7.042	SLU 82	Si
Maschio 255	PF	0	SLV 16	No
Maschio 255	V	0	SLD 15	No
Maschio 255	PFFP	0	SLV 16	No
Maschio 255	R	0	SLV 12	No
Maschio 256	PF SLU	6.374	SLU 80	Si
Maschio 256	V SLU	6.081	SLU 78	Si
Maschio 256	PF	0	SLV 8	No
Maschio 256	V	0	SLV 1	No
Maschio 256	PFFP	0	SLV 8	No
Maschio 256	R	0.041	SLV 5	No
Maschio 257	PF SLU	0	SLU 1	No
Maschio 257	V SLU	0	SLU 1	No
Maschio 257	PF	0	SLV 2	No
Maschio 257	V	0	SLD 1	No
Maschio 257	PFFP	0	SLV 1	No
Maschio 257	R	0	SLV 2	No
Maschio 258	PF SLU	2.309	SLU 43	Si
Maschio 258	V SLU	2.467	SLU 38	Si
Maschio 258	PF	0	SLV 16	No
Maschio 258	V	0	SLD 7	No
Maschio 258	PFFP	0	SLV 1	No
Maschio 258	R	0	SLV 16	No
Maschio 259	PF SLU	0.916	SLU 83	No
Maschio 259	V SLU	1.796	SLU 41	Si
Maschio 259	PF	0	SLV 7	No
Maschio 259	V	0	SLV 7	No
Maschio 259	PFFP	2.477	SLV 11	Si
Maschio 259	R	0.012	SLV 11	No
Maschio 260	PF SLU	21.047	SLU 69	Si
Maschio 260	V SLU	8.486	SLU 61	Si
Maschio 260	PF	4.868	SLV 11	Si
Maschio 260	V	1.043	SLV 7	Si
Maschio 260	PFFP	7.756	SLV 7	Si
Maschio 260	R	0.032	SLV 7	No
Maschio 261	PF SLU	3.509	SLU 82	Si
Maschio 261	V SLU	3.843	SLU 29	Si
Maschio 261	PF	3.304	SLV 7	Si
Maschio 261	V	1.17	SLV 9	Si
Maschio 261	PFFP	2.043	SLV 5	Si
Maschio 261	R	0.002	SLV 3	No
Maschio 262	PF SLU	1.593	SLU 44	Si
Maschio 262	V SLU	3.069	SLU 44	Si
Maschio 262	PF	0	SLV 16	No
Maschio 262	V	0	SLD 1	No
Maschio 262	PFFP	0	SLV 1	No
Maschio 262	R	0	SLV 12	No
Maschio 263	PF SLU	2.403	SLU 2	Si
Maschio 263	V SLU	7.511	SLU 34	Si
Maschio 263	PF	0	SLV 10	No
Maschio 263	V	0	SLD 1	No
Maschio 263	PFFP	0	SLV 1	No
Maschio 263	R	0	SLV 10	No
Maschio 264	PF SLU	0	SLU 79	No
Maschio 264	V SLU	0	SLU 6	No
Maschio 264	PF	0	SLV 14	No
Maschio 264	V	0	SLD 1	No
Maschio 264	PFFP	0	SLV 14	No
Maschio 264	R	0	SLV 16	No
Maschio 265	PF SLU	0	SLU 84	No
Maschio 265	V SLU	0	SLU 1	No
Maschio 265	PF	0	SLV 14	No
Maschio 265	V	0	SLD 1	No
Maschio 265	PFFP	0	SLV 1	No
Maschio 265	R	0	SLV 16	No

Verifica maschio in muratura

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (€)	TR	(TR/TRrif)^.41	Verifica
1	PF	1.213	SLV 15	0.292	1.197	813	1.247	Si
	V	1.207	SLV 15	0.291	1.191	802	1.24	Si
	PFFP	1.251	SLV 15	0.301	1.232	887	1.292	Si
	R	0.233	SLV 5	0.051	0.21	10	0.205	No
2	PF	1.155	SLV 13	0.279	1.144	709	1.178	Si
	V	1.127	SLV 9	0.274	1.122	670	1.151	Si
	PFFP	1.213	SLV 13	0.292	1.197	813	1.247	Si
3	R	0.243	SLV 11	0.055	0.226	12	0.221	No
	PF	0.693	SLV 9	0.165	0.674	171	0.658	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
	V	0.686	SLV 9	0.163	0.667	167	0.651	No
	PFFP	1.249	SLV 9	0.303	1.24	903	1.301	Si
	R	0.167	SLV 5	0.035	0.143	4	0.141	No
4	PF	1.551	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.472	SLV 7	0.11	0.451	66	0.445	No
	PFFP	2.103	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.178	SLV 5	0.038	0.157	5	0.155	No
5	PF	1.271	SLV 5	0.308	1.261	951	1.329	Si
	V	0.95	SLV 5	0.231	0.947	410	0.941	No
	PFFP	2.821	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.08	SLV 11	0	0	0	0	No
6	PF	1.455	SLV 9	0.352	1.441	1471	1.59	Si
	V	0.872	SLV 9	0.211	0.863	321	0.852	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.127	SLV 5	0.026	0.107	2	0.106	No
7	PF	0.844	SLV 11	0.204	0.834	293	0.82	No
	V	1.056	SLV 7	0.258	1.054	556	1.067	Si
	PFFP	2.313	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.107	SLV 7	0.02	0.08	1	0.08	No
8	PF	1.166	SLV 11	0.283	1.16	740	1.199	Si
	V	0.618	SLV 7	0.146	0.598	129	0.586	No
	PFFP	1.41	SLV 11	0.341	1.397	1329	1.525	Si
	R	0.183	SLV 7	0.038	0.157	5	0.155	No
9	PF	2.043	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.494	SLV 5	0.115	0.471	73	0.464	No
	PFFP	1.911	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.16	SLV 7	0.035	0.143	4	0.141	No
10	PF	1.753	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.527	SLV 13	0.124	0.508	88	0.501	No
	PFFP	2.859	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.152	SLV 7	0.031	0.127	3	0.125	No
11	PF	0.632	SLV 15	0.15	0.614	138	0.602	No
	V	0.502	SLV 15	0.118	0.485	79	0.479	No
	PFFP	2.471	SLV 3	0.362	1.483	1618	1.653	Si
	R	0.19	SLV 11	0.041	0.169	6	0.167	No
12	PF	2.593	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.71	SLV 5	0.17	0.694	183	0.676	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.066	SLV 5	0	0	0	0	No
13	PF	0.352	SLV 7	0.081	0.332	31	0.327	No
	V	0.402	SLV 7	0.093	0.38	43	0.373	No
	PFFP	1.047	SLV 11	0.255	1.046	542	1.056	Si
	R	0.259	SLV 9	0.059	0.242	14	0.236	No
14	PF	0.73	SLV 15	0.176	0.72	199	0.7	No
	V	0.703	SLV 15	0.169	0.691	181	0.673	No
	PFFP	1.116	SLV 15	0.271	1.108	645	1.134	Si
	R	0.19	SLV 5	0.041	0.169	6	0.167	No
15	PF	1.132	SLV 11	0.275	1.127	679	1.158	Si
	V	0.787	SLV 11	0.189	0.774	240	0.756	No
	PFFP	2.729	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.126	SLV 7	0.026	0.107	2	0.106	No
16	PF	1.409	SLV 11	0.341	1.396	1325	1.523	Si
	V	0.47	SLV 5	0.11	0.448	65	0.442	No
	PFFP	1.698	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.12	SLV 5	0.026	0.107	2	0.106	No
18	PF	2.566	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.085	SLV 5	0.264	1.082	600	1.101	Si
	PFFP	3.448	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.339	SLV 5	0.078	0.318	28	0.313	No
19	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.649	SLV 11	0.154	0.629	145	0.615	No
	R	0	SLV 1	0	0	0	0	No
21	PF	0	SLV 3	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	2.273	SLV 11	0.362	1.483	1618	1.653	Si
	R	0	SLV 1	0	0	0	0	No
23	PF	0.659	SLV 7	0.156	0.639	151	0.625	No
	V	0.412	SLV 7	0.096	0.392	46	0.384	No
	PFFP	0.817	SLV 7	0.197	0.805	267	0.79	No
	R	0.661	SLV 7	0.156	0.64	152	0.627	No
25	PF	1.168	SLV 7	0.284	1.162	743	1.201	Si
	V	0.258	SLV 9	0.057	0.234	13	0.229	No
	PFFP	2.318	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.204	SLV 9	0.044	0.181	7	0.177	No
26	PF	1.806	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.918	SLV 3	0.224	0.915	375	0.908	No
	PFFP	3.374	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.274	SLV 5	0.062	0.256	17	0.255	No
27	PF	1.817	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.926	SLV 3	0.226	0.923	384	0.916	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.26	SLV 11	0.059	0.242	14	0.236	No
28	PF	1.496	SLV 1	0.358	1.464	1550	1.624	Si
	V	1.447	SLV 1	0.346	1.417	1393	1.554	Si
	PFFP	2.114	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.264	SLV 11	0.059	0.242	14	0.236	No
29	PF	1.213	SLV 15	0.292	1.197	813	1.247	Si
	V	1.309	SLV 1	0.314	1.286	1011	1.363	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.975	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.188	SLV 9	0.041	0.169	6	0.167	No
30	PF	1.112	SLV 13	0.27	1.104	638	1.129	Si
	V	1.134	SLV 13	0.275	1.124	674	1.154	Si
	PFFP	2.095	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.236	SLV 9	0.053	0.218	11	0.214	No
31	PF	1.171	SLV 13	0.283	1.158	737	1.197	Si
	V	0.777	SLV 15	0.188	0.77	237	0.752	No
	PFFP	3.789	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.276	SLV 7	0.062	0.256	17	0.255	No
32	PF	1.628	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.761	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.279	SLV 5	0.064	0.262	18	0.261	No
33	PF	2.026	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.827	SLV 15	0.201	0.821	281	0.806	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.273	SLV 9	0.061	0.249	16	0.249	No
34	PF	0.897	SLV 11	0.217	0.889	348	0.88	No
	V	0.887	SLV 11	0.215	0.88	338	0.87	No
	PFFP	1.513	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.134	SLV 9	0.026	0.107	2	0.106	No
35	PF	1.522	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.092	SLV 13	0.265	1.085	607	1.106	Si
	PFFP	2.842	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.131	SLV 11	0.026	0.107	2	0.106	No
36	PF	1.538	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.161	SLV 1	0.281	1.15	720	1.186	Si
	PFFP	1.894	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.148	SLV 5	0.031	0.127	3	0.125	No
37	PF	1.719	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.044	SLV 1	0.254	1.041	535	1.05	Si
	PFFP	2.384	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.167	SLV 5	0.035	0.143	4	0.141	No
38	PF	1.673	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.065	SLV 13	0.259	1.061	566	1.075	Si
	PFFP	2.392	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.128	SLV 9	0.026	0.107	2	0.106	No
39	PF	1.275	SLV 5	0.309	1.265	960	1.334	Si
	V	1.025	SLV 1	0.25	1.024	509	1.029	Si
	PFFP	1.492	SLV 1	0.357	1.46	1537	1.618	Si
	R	0.253	SLV 11	0.057	0.234	13	0.229	No
40	PF	1.529	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.845	SLV 9	0.204	0.835	294	0.821	No
	PFFP	1.828	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.279	SLV 5	0.064	0.262	18	0.261	No
41	PF	1.402	SLV 11	0.339	1.389	1304	1.513	Si
	V	1.086	SLV 11	0.265	1.083	603	1.103	Si
	PFFP	1.893	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.067	SLV 5	0.26	1.065	573	1.08	Si
42	PF	3.445	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.062	SLV 7	0.259	1.06	565	1.074	Si
	PFFP	3.562	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.188	SLV 5	0.041	0.169	6	0.167	No
44	PF	1.789	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.866	SLV 7	0.209	0.856	315	0.845	No
	PFFP	2.381	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.111	SLV 7	0.02	0.08	1	0.08	No
45	PF	1.199	SLV 7	0.291	1.191	802	1.24	Si
	V	0.796	SLV 7	0.191	0.783	248	0.766	No
	PFFP	3.986	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.125	SLV 9	0.026	0.107	2	0.106	No
46	PF	0.78	SLV 3	0.189	0.773	239	0.755	No
	V	0.725	SLV 3	0.175	0.715	196	0.696	No
	PFFP	1.111	SLV 7	0.27	1.107	643	1.132	Si
	R	0.155	SLV 9	0.031	0.127	3	0.125	No
47	PF	0.549	SLV 7	0.129	0.528	97	0.521	No
	V	0.548	SLV 7	0.129	0.528	97	0.521	No
	PFFP	1.358	SLV 7	0.329	1.346	1176	1.45	Si
	R	0.273	SLV 9	0.062	0.256	17	0.255	No
48	PF	2.571	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.231	SLV 11	0.299	1.222	866	1.279	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.128	SLV 5	0.026	0.107	2	0.106	No
49	PF	0.691	SLV 3	0.165	0.676	172	0.659	No
	V	0.571	SLV 3	0.135	0.553	108	0.545	No
	PFFP	2.279	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.189	SLV 7	0.041	0.169	6	0.167	No
50	PF	1.677	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.909	SLV 1	0.221	0.905	364	0.897	No
	PFFP	2.663	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.173	SLV 11	0.038	0.157	5	0.155	No
51	PF	1.84	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.565	SLV 9	0.133	0.544	104	0.536	No
	PFFP	1.83	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.163	SLV 7	0.035	0.143	4	0.141	No
52	PF	1.058	SLV 7	0.258	1.056	559	1.069	Si
	V	0.607	SLV 1	0.144	0.589	125	0.578	No
	PFFP	1.264	SLV 7	0.307	1.255	936	1.321	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
53	R	0.202	SLV 11	0.044	0.181	7	0.177	No
	PF	1.926	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.317	SLV 11	0.319	1.306	1065	1.392	Si
	PFFP	3.43	SLV 9	0.362	1.483	1618	1.653	Si
54	R	0.124	SLV 5	0.026	0.107	2	0.106	No
	PF	1.959	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.402	SLV 11	0.093	0.38	43	0.373	No
	PFFP	2.888	SLV 15	0.362	1.483	1618	1.653	Si
55	R	0.259	SLV 5	0.059	0.242	14	0.236	No
	PF	0.761	SLV 5	0.183	0.747	219	0.728	No
	V	0.749	SLV 5	0.18	0.735	210	0.716	No
	PFFP	1.254	SLV 5	0.304	1.245	914	1.308	Si
	R	0.212	SLV 9	0.047	0.191	8	0.187	No
56	PF	1.204	SLV 3	0.29	1.189	796	1.236	Si
	V	1.194	SLV 3	0.288	1.18	778	1.224	Si
	PFFP	1.267	SLV 3	0.305	1.247	919	1.311	Si
	R	0.273	SLV 9	0.062	0.256	17	0.255	No
57	PF	1.171	SLV 1	0.283	1.158	737	1.197	Si
	V	1.148	SLV 5	0.279	1.143	707	1.177	Si
	PFFP	1.223	SLV 1	0.295	1.206	832	1.258	Si
	R	0.268	SLV 11	0.061	0.249	16	0.249	No
58	PF	1.316	SLV 13	0.316	1.292	1028	1.372	Si
	V	1.232	SLV 9	0.299	1.223	867	1.28	Si
	PFFP	1.342	SLV 15	0.322	1.317	1093	1.407	Si
	R	0.042	SLV 5	0	0	0	0	No
59	PF	0.826	SLV 13	0.2	0.82	280	0.805	No
	V	0.388	SLV 3	0.091	0.372	41	0.366	No
	PFFP	0.804	SLV 9	0.193	0.792	255	0.775	No
	R	0.045	SLV 5	0	0	0	0	No
60	PF	0.66	SLV 9	0.156	0.64	152	0.627	No
	V	0.466	SLV 13	0.11	0.448	65	0.442	No
	PFFP	1.332	SLV 5	0.323	1.321	1105	1.414	Si
	R	0.044	SLV 5	0	0	0	0	No
61	PF	0.835	SLV 15	0.202	0.828	288	0.815	No
	V	0.23	SLV 1	0.053	0.218	11	0.214	No
	PFFP	1.041	SLV 11	0.254	1.039	533	1.048	Si
	R	0.044	SLV 5	0	0	0	0	No
62	PF	0.74	SLV 7	0.177	0.725	202	0.704	No
	V	0.423	SLV 13	0.099	0.407	51	0.401	No
	PFFP	3.176	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.046	SLV 5	0	0	0	0	No
63	PF	0.596	SLV 13	0.141	0.578	120	0.569	No
	V	0.445	SLV 13	0.105	0.43	58	0.422	No
	PFFP	1.843	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.045	SLV 5	0	0	0	0	No
64	PF	3.038	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.553	SLV 7	0.13	0.532	99	0.526	No
	PFFP	2.953	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
65	PF	1.017	SLV 1	0.248	1.016	497	1.019	Si
	V	0.417	SLV 3	0.098	0.403	50	0.397	No
	PFFP	1.749	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.042	SLV 5	0	0	0	0	No
66	PF	0.77	SLV 7	0.185	0.755	225	0.736	No
	V	0.489	SLV 3	0.115	0.471	73	0.464	No
	PFFP	1.513	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.043	SLV 5	0	0	0	0	No
67	PF	2.266	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.483	SLV 7	0.112	0.46	69	0.453	No
	PFFP	1.807	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.022	SLV 1	0	0	0	0	No
68	PF	0.549	SLV 11	0.129	0.528	97	0.521	No
	V	0.114	SLV 15	0.026	0.107	2	0.106	No
	PFFP	1.069	SLV 3	0.26	1.064	572	1.079	Si
	R	0.044	SLV 5	0	0	0	0	No
69	PF	0.932	SLV 11	0.227	0.927	388	0.92	No
	V	0.746	SLV 11	0.179	0.731	207	0.711	No
	PFFP	2.988	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
70	PF	1.21	SLV 11	0.294	1.202	823	1.253	Si
	V	1.088	SLV 11	0.265	1.085	606	1.105	Si
	PFFP	1.397	SLV 11	0.338	1.384	1289	1.506	Si
	R	0.195	SLV 7	0.041	0.169	6	0.167	No
71	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.991	SLV 11	0.242	0.991	463	0.99	No
	R	0.271	SLV 5	0.061	0.249	16	0.249	No
73	PF	3.404	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.937	SLV 11	0.228	0.932	394	0.926	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.085	SLV 5	0	0	0	0	No
74	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	1.623	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.025	SLV 5	0	0	0	0	No
75	PF	0.521	SLV 5	0.122	0.498	84	0.491	No
	V	0.486	SLV 5	0.113	0.463	70	0.456	No
	PFFP	0.924	SLV 5	0.225	0.919	379	0.912	No
	R	0.043	SLV 5	0	0	0	0	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
76	PF	1.312	SLV 13	0.315	1.289	1018	1.367	Si
	V	0.764	SLV 3	0.185	0.755	225	0.736	No
	PFFP	2.122	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.042	SLV 5	0	0	0	0	No
77	PF	2.681	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.75	SLV 3	0.181	0.741	214	0.721	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.042	SLV 5	0	0	0	0	No
78	PF	2.995	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.749	SLV 15	0.181	0.741	214	0.721	No
	PFFP	3.705	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.042	SLV 5	0	0	0	0	No
79	PF	2.076	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.786	SLV 15	0.19	0.779	245	0.762	No
	PFFP	3.058	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.042	SLV 5	0	0	0	0	No
80	PF	0.486	SLV 7	0.113	0.463	70	0.456	No
	V	0.363	SLV 7	0.083	0.342	34	0.339	No
	PFFP	3.102	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.019	SLV 1	0	0	0	0	No
81	PF	0.956	SLV 13	0.233	0.954	419	0.95	No
	V	0.462	SLV 1	0.109	0.445	64	0.44	No
	PFFP	1.664	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.043	SLV 5	0	0	0	0	No
82	PF	1.471	SLV 5	0.356	1.457	1524	1.613	Si
	V	0.884	SLV 13	0.215	0.88	338	0.87	No
	PFFP	1.945	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.043	SLV 7	0	0	0	0	No
83	PF	1.576	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.845	SLV 13	0.205	0.84	299	0.827	No
	PFFP	1.818	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.043	SLV 5	0	0	0	0	No
84	PF	0.997	SLV 1	0.243	0.997	470	0.996	No
	V	0.396	SLV 13	0.093	0.38	43	0.373	No
	PFFP	1.804	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.043	SLV 5	0	0	0	0	No
85	PF	1.335	SLV 7	0.323	1.324	1112	1.417	Si
	V	1.216	SLV 7	0.295	1.208	835	1.26	Si
	PFFP	1.629	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.18	SLV 7	0.038	0.157	5	0.155	No
86	PF	1.929	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.052	SLV 7	0.257	1.05	549	1.061	Si
	PFFP	3.566	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.076	SLV 11	0	0	0	0	No
87	PF	0.734	SLV 11	0.175	0.718	198	0.699	No
	V	0.679	SLV 7	0.162	0.661	164	0.647	No
	PFFP	2.716	SLV 3	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
88	PF	0.437	SLV 7	0.101	0.414	53	0.407	No
	V	0.117	SLV 3	0.026	0.107	2	0.106	No
	PFFP	0.868	SLV 15	0.211	0.863	321	0.852	No
	R	0.044	SLV 5	0	0	0	0	No
89	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	1.14	SLV 11	0.277	1.135	693	1.167	Si
	R	0.052	SLV 5	0	0	0	0	No
90	PF	1.867	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.837	SLV 11	0.202	0.826	286	0.812	No
	PFFP	2.587	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
91	PF	0.62	SLV 11	0.147	0.6	131	0.59	No
	V	0.349	SLV 13	0.082	0.337	33	0.335	No
	PFFP	1.188	SLV 7	0.289	1.181	781	1.226	Si
	R	0.044	SLV 5	0	0	0	0	No
92	PF	2.281	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.752	SLV 11	0.18	0.738	212	0.718	No
	PFFP	2.571	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
93	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	1.048	SLV 13	0.255	1.045	541	1.055	Si
	R	0.044	SLV 5	0	0	0	0	No
94	PF	0.073	SLV 15	0	0	0	0	No
	V	0.137	SLV 13	0.031	0.127	3	0.125	No
	PFFP	1.403	SLV 1	0.336	1.375	1261	1.492	Si
	R	0.043	SLV 11	0	0	0	0	No
95	PF	0.604	SLV 1	0.143	0.587	124	0.577	No
	V	0.496	SLV 3	0.116	0.477	75	0.469	No
	PFFP	1.607	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.044	SLV 5	0	0	0	0	No
96	PF	0.88	SLV 5	0.213	0.872	330	0.861	No
	V	0.301	SLV 1	0.07	0.286	22	0.284	No
	PFFP	2.084	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.046	SLV 5	0	0	0	0	No
97	PF	0.786	SLV 3	0.19	0.779	245	0.762	No
	V	0.158	SLV 13	0.035	0.143	4	0.141	No
	PFFP	1.191	SLV 3	0.288	1.177	773	1.221	Si
	R	0.044	SLV 5	0	0	0	0	No
98	PF	0.672	SLV 5	0.16	0.654	159	0.638	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
	V	0.415	SLV 1	0.098	0.399	49	0.394	No
	PFFP	1.187	SLV 9	0.288	1.18	779	1.225	Si
	R	0.044	SLV 5	0	0	0	0	No
99	PF	0.846	SLV 1	0.205	0.841	300	0.828	No
	V	0.243	SLV 15	0.057	0.234	13	0.229	No
	PFFP	0.79	SLV 5	0.19	0.776	243	0.76	No
	R	0.045	SLV 5	0	0	0	0	No
100	PF	1.33	SLV 1	0.319	1.306	1062	1.391	Si
	V	1.306	SLV 1	0.314	1.283	1004	1.359	Si
	PFFP	1.463	SLV 1	0.35	1.433	1443	1.577	Si
	R	0.043	SLV 5	0	0	0	0	No
101	PF	1.357	SLV 15	0.325	1.331	1133	1.428	Si
	V	1.267	SLV 11	0.307	1.257	942	1.324	Si
	PFFP	1.562	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.041	SLV 5	0	0	0	0	No
102	PF	1.311	SLV 13	0.315	1.288	1016	1.366	Si
	V	1.107	SLV 9	0.27	1.103	637	1.128	Si
	PFFP	1.218	SLV 13	0.294	1.202	822	1.252	Si
	R	0.042	SLV 5	0	0	0	0	No
103	PF	1.146	SLV 13	0.277	1.136	694	1.168	Si
	V	0.956	SLV 1	0.233	0.954	419	0.95	No
	PFFP	1.269	SLV 9	0.308	1.259	946	1.326	Si
	R	0.042	SLV 5	0	0	0	0	No
104	PF	1.242	SLV 1	0.299	1.224	868	1.28	Si
	V	0.78	SLV 13	0.189	0.773	239	0.755	No
	PFFP	1.671	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.041	SLV 7	0	0	0	0	No
105	PF	1.145	SLV 15	0.277	1.134	692	1.167	Si
	V	0.599	SLV 1	0.142	0.583	122	0.573	No
	PFFP	1.322	SLV 11	0.32	1.311	1078	1.399	Si
	R	0.042	SLV 5	0	0	0	0	No
106	PF	1.95	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.704	SLV 15	0.169	0.692	182	0.675	No
	PFFP	1.69	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.043	SLV 5	0	0	0	0	No
107	PF	0.693	SLV 15	0.166	0.68	174	0.662	No
	V	0.518	SLV 15	0.122	0.501	85	0.494	No
	PFFP	1.602	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.044	SLV 7	0	0	0	0	No
108	PF	2.584	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.767	SLV 9	0.184	0.753	223	0.733	No
	PFFP	2.33	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.02	SLV 1	0	0	0	0	No
109	PF	0.346	SLV 1	0.081	0.332	31	0.327	No
	V	0.279	SLV 1	0.066	0.269	19	0.267	No
	PFFP	1.822	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.038	SLV 9	0	0	0	0	No
110	PF	0.709	SLV 7	0.169	0.692	182	0.675	No
	V	0.449	SLV 13	0.106	0.433	59	0.425	No
	PFFP	1.187	SLV 11	0.288	1.18	779	1.225	Si
	R	0.041	SLV 5	0	0	0	0	No
111	PF	3.655	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.74	SLV 7	0.177	0.725	202	0.704	No
	PFFP	1.918	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
112	PF	1.079	SLV 1	0.262	1.073	587	1.091	Si
	V	0.572	SLV 15	0.136	0.555	109	0.547	No
	PFFP	1.707	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.039	SLV 5	0	0	0	0	No
113	PF	3.282	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.253	SLV 11	0.304	1.244	912	1.307	Si
	PFFP	2.447	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.02	SLV 1	0	0	0	0	No
115	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.734	SLV 11	0.175	0.718	198	0.699	No
	R	0.021	SLV 5	0	0	0	0	No
116	PF	0.424	SLV 5	0.098	0.403	50	0.397	No
	V	0.404	SLV 5	0.094	0.384	44	0.377	No
	PFFP	1.037	SLV 5	0.253	1.036	527	1.044	Si
	R	0.039	SLV 5	0	0	0	0	No
117	PF	1.243	SLV 7	0.302	1.234	891	1.294	Si
	V	0.602	SLV 7	0.142	0.583	122	0.573	No
	PFFP	1.951	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
118	PF	0.162	SLV 7	0.035	0.143	4	0.141	No
	V	0.184	SLV 7	0.041	0.169	6	0.167	No
	PFFP	0.501	SLV 7	0.117	0.479	77	0.474	No
	R	0.022	SLV 1	0	0	0	0	No
119	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.141	SLV 1	0.031	0.127	3	0.125	No
	R	0.023	SLV 1	0	0	0	0	No
120	PF	0.879	SLV 13	0.214	0.875	333	0.864	No
	V	0.743	SLV 13	0.18	0.735	210	0.716	No
	PFFP	1.272	SLV 13	0.306	1.252	929	1.317	Si
	R	0.04	SLV 7	0	0	0	0	No
121	PF	1.923	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.851	SLV 1	0.207	0.845	304	0.833	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
	PFFP	2.331	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.041	SLV 7	0	0	0	0	No
122	PF	1.835	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.853	SLV 13	0.207	0.848	306	0.835	No
	PFFP	2.369	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.041	SLV 5	0	0	0	0	No
123	PF	0.878	SLV 1	0.213	0.873	331	0.862	No
	V	0.734	SLV 1	0.177	0.725	202	0.704	No
	PFFP	1.266	SLV 1	0.304	1.246	917	1.31	Si
	R	0.041	SLV 7	0	0	0	0	No
124	PF	1.86	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.952	SLV 15	0.232	0.95	415	0.946	No
	PFFP	2.095	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.039	SLV 5	0	0	0	0	No
125	PF	2.726	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.662	SLV 3	0.157	0.644	154	0.63	No
	PFFP	1.000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.039	SLV 5	0	0	0	0	No
126	PF	0.632	SLV 15	0.15	0.614	138	0.602	No
	V	0.609	SLV 1	0.144	0.591	126	0.58	No
	PFFP	1.000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.039	SLV 5	0	0	0	0	No
127	PF	1.201	SLV 15	0.29	1.186	791	1.233	Si
	V	0.77	SLV 15	0.186	0.763	232	0.745	No
	PFFP	3.455	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.038	SLV 5	0	0	0	0	No
128	PF	1.055	SLV 15	0.257	1.051	551	1.063	Si
	V	0.595	SLV 15	0.141	0.578	120	0.569	No
	PFFP	1.000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.039	SLV 5	0	0	0	0	No
129	PF	2.111	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.795	SLV 15	0.193	0.788	252	0.771	No
	PFFP	2.287	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.039	SLV 5	0	0	0	0	No
131	PF	3.316	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.271	SLV 7	0.308	1.261	951	1.329	Si
	PFFP	2.491	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.02	SLV 1	0	0	0	0	No
132	PF	0.982	SLV 3	0.239	0.98	450	0.978	No
	V	0.551	SLV 3	0.13	0.532	99	0.526	No
	PFFP	1.376	SLV 15	0.33	1.349	1185	1.455	Si
	R	0.038	SLV 9	0	0	0	0	No
133	PF	4.069	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.859	SLV 11	0.208	0.85	308	0.837	No
	PFFP	2.782	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.02	SLV 1	0	0	0	0	No
134	PF	0.649	SLV 11	0.154	0.629	145	0.615	No
	V	0.543	SLV 3	0.128	0.525	96	0.519	No
	PFFP	1.053	SLV 7	0.257	1.051	551	1.063	Si
	R	0.042	SLV 5	0	0	0	0	No
135	PF	2.485	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.803	SLV 5	0.193	0.791	254	0.774	No
	PFFP	2.112	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.02	SLV 1	0	0	0	0	No
136	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 13	0	0	0	0	No
	PFFP	0.714	SLV 13	0.172	0.703	188	0.684	No
	R	0.042	SLV 11	0	0	0	0	No
137	PF	0.827	SLV 1	0.201	0.821	281	0.806	No
	V	0.838	SLV 1	0.203	0.832	291	0.818	No
	PFFP	1.66	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.029	SLV 11	0	0	0	0	No
138	PF	0.682	SLV 3	0.163	0.667	167	0.651	No
	V	0.537	SLV 3	0.127	0.518	93	0.512	No
	PFFP	1.495	SLV 7	0.362	1.48	1606	1.648	Si
	R	0.044	SLV 5	0	0	0	0	No
139	PF	1.958	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.644	SLV 3	0.153	0.627	144	0.613	No
	PFFP	1.695	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.042	SLV 9	0	0	0	0	No
140	PF	1.115	SLV 3	0.27	1.107	643	1.132	Si
	V	0.625	SLV 15	0.148	0.606	134	0.595	No
	PFFP	1.307	SLV 7	0.317	1.297	1039	1.378	Si
	R	0.042	SLV 5	0	0	0	0	No
141	PF	1.114	SLV 13	0.27	1.106	642	1.131	Si
	V	0.751	SLV 1	0.181	0.743	216	0.724	No
	PFFP	1.577	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.041	SLV 7	0	0	0	0	No
142	PF	1.172	SLV 1	0.283	1.16	739	1.199	Si
	V	0.857	SLV 13	0.208	0.852	310	0.839	No
	PFFP	1.23	SLV 5	0.298	1.221	863	1.277	Si
	R	0.042	SLV 5	0	0	0	0	No
143	PF	1.574	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.537	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.677	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.042	SLV 5	0	0	0	0	No
144	PF	2.121	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.47	SLV 11	0.356	1.456	1520	1.611	Si
	PFFP	1.697	SLV 11	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
	R	0.041	SLV 5	0	0	0	0	No
145	PF	1.572	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.265	SLV 9	0.307	1.255	938	1.322	Si
	PFFP	1.278	SLV 13	0.307	1.257	941	1.324	Si
	R	0.042	SLV 5	0	0	0	0	No
146	PF	1.027	SLV 13	0.25	1.025	511	1.03	Si
	V	0.903	SLV 13	0.22	0.899	358	0.891	No
	PFFP	1.309	SLV 9	0.317	1.299	1044	1.381	Si
	R	0.04	SLV 5	0	0	0	0	No
147	PF	0.676	SLV 3	0.162	0.661	164	0.647	No
	V	0.583	SLV 3	0.138	0.565	113	0.555	No
	PFFP	0.945	SLV 3	0.23	0.942	405	0.937	No
	R	0.043	SLV 7	0	0	0	0	No
148	PF	1.351	SLV 15	0.324	1.325	1116	1.419	Si
	V	1.017	SLV 3	0.248	1.016	497	1.019	Si
	PFFP	1.341	SLV 11	0.325	1.33	1129	1.426	Si
	R	0.04	SLV 5	0	0	0	0	No
149	PF	1.901	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.902	SLV 1	0.219	0.898	357	0.89	No
	PFFP	1.764	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.041	SLV 7	0	0	0	0	No
150	PF	0.498	SLV 13	0.117	0.479	77	0.474	No
	V	0.508	SLV 15	0.12	0.49	81	0.484	No
	PFFP	1.097	SLV 15	0.266	1.09	615	1.112	Si
	R	0.042	SLV 11	0	0	0	0	No
151	PF	1.971	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.873	SLV 9	0.211	0.864	322	0.853	No
	PFFP	1.479	SLV 9	0.358	1.464	1551	1.624	Si
	R	0.019	SLV 1	0	0	0	0	No
152	PF	0.788	SLV 5	0.189	0.775	242	0.758	No
	V	0.737	SLV 13	0.178	0.728	205	0.709	No
	PFFP	1.149	SLV 9	0.279	1.143	709	1.178	Si
	R	0.037	SLV 5	0	0	0	0	No
153	PF	0.579	SLV 13	0.137	0.56	111	0.551	No
	V	0.414	SLV 13	0.098	0.399	49	0.394	No
	PFFP	1.024	SLV 11	0.25	1.023	508	1.028	Si
	R	0.04	SLV 5	0	0	0	0	No
154	PF	3.334	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.859	SLV 11	0.208	0.85	308	0.837	No
	PFFP	1.48	SLV 15	0.354	1.449	1498	1.601	Si
	R	0.02	SLV 1	0	0	0	0	No
155	PF	0.53	SLV 5	0.124	0.508	88	0.501	No
	V	0.531	SLV 5	0.125	0.511	89	0.503	No
	PFFP	0.708	SLV 5	0.169	0.691	181	0.673	No
	R	0.039	SLV 7	0	0	0	0	No
156	PF	3.076	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.424	SLV 11	0.345	1.411	1372	1.545	Si
	PFFP	1.423	SLV 13	0.341	1.394	1320	1.521	Si
	R	0.02	SLV 1	0	0	0	0	No
157	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.421	SLV 11	0.098	0.399	49	0.394	No
	R	0.023	SLV 5	0	0	0	0	No
158	PF	0.189	SLV 5	0.041	0.169	6	0.167	No
	V	0.177	SLV 5	0.038	0.157	5	0.155	No
	PFFP	0.435	SLV 5	0.101	0.414	53	0.407	No
	R	0.039	SLV 5	0	0	0	0	No
159	PF	1.87	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.742	SLV 7	0.177	0.727	203	0.706	No
	PFFP	1.475	SLV 15	0.353	1.444	1481	1.594	Si
	R	0.02	SLV 1	0	0	0	0	No
160	PF	0.493	SLV 7	0.115	0.471	73	0.464	No
	V	0.498	SLV 7	0.116	0.477	75	0.469	No
	PFFP	0.642	SLV 7	0.152	0.623	142	0.61	No
	R	0.02	SLV 1	0	0	0	0	No
161	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.93	SLV 9	0.226	0.925	386	0.918	No
	R	0	SLV 1	0	0	0	0	No
162	PF	0.957	SLV 15	0.233	0.955	420	0.951	No
	V	0.818	SLV 15	0.198	0.811	273	0.797	No
	PFFP	1.137	SLV 13	0.275	1.127	679	1.158	Si
	R	0.041	SLV 5	0	0	0	0	No
163	PF	1.759	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.914	SLV 13	0.223	0.911	370	0.903	No
	PFFP	2.497	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.039	SLV 5	0	0	0	0	No
164	PF	1.72	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.895	SLV 3	0.218	0.891	350	0.882	No
	PFFP	2.459	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.039	SLV 5	0	0	0	0	No
165	PF	0.976	SLV 3	0.238	0.975	443	0.972	No
	V	0.862	SLV 3	0.209	0.856	315	0.845	No
	PFFP	1.165	SLV 1	0.282	1.153	726	1.19	Si
	R	0.04	SLV 7	0	0	0	0	No
166	PF	1.509	SLV 15	0.361	1.477	1594	1.643	Si
	V	1.112	SLV 1	0.27	1.104	638	1.129	Si
	PFFP	1.584	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.037	SLV 5	0	0	0	0	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
167	PF	3.164	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.77	SLV 13	0.186	0.763	232	0.745	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.036	SLV 5	0	0	0	0	No
168	PF	0.373	SLV 1	0.088	0.359	38	0.355	No
	V	0.346	SLV 1	0.081	0.332	31	0.327	No
	PFFP	2.944	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.036	SLV 5	0	0	0	0	No
169	PF	1.24	SLV 1	0.299	1.222	865	1.279	Si
	V	0.957	SLV 1	0.233	0.955	420	0.951	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.035	SLV 5	0	0	0	0	No
170	PF	1.029	SLV 15	0.251	1.027	514	1.033	Si
	V	0.597	SLV 15	0.142	0.58	121	0.571	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.036	SLV 5	0	0	0	0	No
171	PF	1.59	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.985	SLV 15	0.24	0.984	455	0.983	No
	PFFP	1.684	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.037	SLV 7	0	0	0	0	No
172	PF	0.187	SLV 5	0.041	0.169	6	0.167	No
	V	0.238	SLV 5	0.053	0.218	11	0.214	No
	PFFP	1.051	SLV 3	0.256	1.048	545	1.058	Si
	R	0.041	SLV 7	0	0	0	0	No
173	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.144	SLV 7	0.278	1.139	700	1.172	Si
	PFFP	3.448	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.074	SLV 7	0	0	0	0	No
175	PF	2.48	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.384	SLV 9	0.335	1.372	1250	1.487	Si
	PFFP	1.729	SLV 3	0.362	1.483	1618	1.653	Si
	R	0.036	SLV 5	0	0	0	0	No
176	PF	3.474	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.407	SLV 7	0.341	1.394	1319	1.52	Si
	PFFP	1.709	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.02	SLV 1	0	0	0	0	No
177	PF	0.824	SLV 3	0.2	0.817	278	0.803	No
	V	0.52	SLV 3	0.122	0.501	85	0.494	No
	PFFP	1.123	SLV 15	0.272	1.114	656	1.142	Si
	R	0.04	SLV 5	0	0	0	0	No
178	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.92	SLV 7	0.223	0.914	374	0.907	No
	PFFP	1.478	SLV 3	0.354	1.447	1491	1.598	Si
	R	0.02	SLV 1	0	0	0	0	No
179	PF	0.545	SLV 3	0.129	0.528	97	0.521	No
	V	0.42	SLV 3	0.099	0.407	51	0.401	No
	PFFP	0.775	SLV 7	0.186	0.762	231	0.744	No
	R	0.04	SLV 7	0	0	0	0	No
180	PF	2.05	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.916	SLV 5	0.222	0.91	369	0.902	No
	PFFP	1.488	SLV 9	0.36	1.473	1582	1.638	Si
	R	0.019	SLV 1	0	0	0	0	No
181	PF	0.983	SLV 5	0.24	0.982	453	0.981	No
	V	0.974	SLV 5	0.237	0.972	440	0.969	No
	PFFP	0.927	SLV 5	0.225	0.921	382	0.915	No
	R	0.038	SLV 11	0	0	0	0	No
182	PF	0.236	SLV 7	0.053	0.218	11	0.214	No
	V	0.359	SLV 5	0.082	0.337	33	0.335	No
	PFFP	0.499	SLV 5	0.116	0.477	75	0.469	No
	R	0.046	SLV 9	0	0	0	0	No
183	PF	0.571	SLV 1	0.135	0.553	108	0.545	No
	V	0.52	SLV 3	0.122	0.501	85	0.494	No
	PFFP	1.03	SLV 7	0.251	1.029	517	1.035	Si
	R	0.043	SLV 5	0	0	0	0	No
184	PF	1.655	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.961	SLV 13	0.234	0.959	425	0.955	No
	PFFP	1.831	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.041	SLV 5	0	0	0	0	No
185	PF	1.442	SLV 3	0.345	1.412	1377	1.547	Si
	V	1.004	SLV 15	0.245	1.004	480	1.004	Si
	PFFP	1.455	SLV 7	0.352	1.441	1471	1.59	Si
	R	0.041	SLV 5	0	0	0	0	No
186	PF	0.649	SLV 15	0.155	0.633	148	0.62	No
	V	0.557	SLV 15	0.132	0.539	102	0.532	No
	PFFP	0.933	SLV 15	0.227	0.93	392	0.924	No
	R	0.043	SLV 5	0	0	0	0	No
187	PF	1.042	SLV 1	0.254	1.039	532	1.048	Si
	V	0.856	SLV 13	0.208	0.851	309	0.838	No
	PFFP	1.294	SLV 5	0.314	1.284	1005	1.36	Si
	R	0.04	SLV 5	0	0	0	0	No
188	PF	2.098	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.685	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.944	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.042	SLV 5	0	0	0	0	No
189	PF	1.281	SLV 7	0.311	1.271	973	1.342	Si
	V	1.195	SLV 7	0.29	1.188	794	1.234	Si
	PFFP	0.839	SLV 7	0.202	0.828	288	0.815	No
	R	0.046	SLV 9	0	0	0	0	No
190	PF	1.391	SLV 9	0.337	1.379	1271	1.497	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
	V	1.296	SLV 9	0.314	1.286	1011	1.363	Si
	PFFP	0.916	SLV 9	0.222	0.91	369	0.902	No
	R	0.031	SLV 11	0	0	0	0	No
191	PF	0.78	SLV 3	0.189	0.773	239	0.755	No
	V	0.553	SLV 3	0.131	0.535	100	0.528	No
	PFFP	1.312	SLV 1	0.315	1.289	1018	1.367	Si
	R	0.028	SLV 5	0	0	0	0	No
192	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.203	SLV 5	0.044	0.181	7	0.177	No
	R	0	SLV 1	0	0	0	0	No
193	PF	1.311	SLV 5	0.318	1.301	1049	1.384	Si
	V	0.954	SLV 1	0.233	0.952	416	0.947	No
	PFFP	1.199	SLV 11	0.291	1.191	802	1.24	Si
	R	0.035	SLV 7	0	0	0	0	No
194	PF	1.602	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.104	SLV 5	0.269	1.1	631	1.123	Si
	PFFP	1.019	SLV 11	0.249	1.019	501	1.022	Si
	R	0.049	SLV 7	0	0	0	0	No
195	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.228	SLV 7	0.051	0.21	10	0.205	No
	R	0	SLV 1	0	0	0	0	No
196	PF	0.18	SLV 15	0.041	0.169	6	0.167	No
	V	0.18	SLV 15	0.041	0.169	6	0.167	No
	PFFP	0.39	SLV 11	0.09	0.368	40	0.363	No
	R	0	SLV 1	0	0	0	0	No
197	PF	0.43	SLV 9	0.099	0.407	51	0.401	No
	V	0.325	SLV 9	0.074	0.303	25	0.299	No
	PFFP	0.863	SLV 3	0.209	0.857	316	0.846	No
	R	0.025	SLV 5	0	0	0	0	No
198	PF	1.104	SLV 13	0.268	1.097	625	1.119	Si
	V	0.789	SLV 13	0.191	0.782	247	0.765	No
	PFFP	1.437	SLV 9	0.348	1.423	1413	1.564	Si
	R	0.039	SLV 5	0	0	0	0	No
199	PF	0.261	SLV 7	0.059	0.242	14	0.236	No
	V	0.173	SLV 7	0.038	0.157	5	0.155	No
	PFFP	0.68	SLV 5	0.162	0.661	164	0.647	No
	R	0.028	SLV 5	0	0	0	0	No
200	PF	1.109	SLV 5	0.27	1.105	640	1.13	Si
	V	1.08	SLV 9	0.263	1.077	593	1.095	Si
	PFFP	0.592	SLV 13	0.14	0.574	118	0.565	No
	R	0.028	SLV 1	0	0	0	0	No
201	PFFP	0.396	SLV 7	0.092	0.376	42	0.37	No
	R	0	SLV 1	0	0	0	0	No
202	PFFP	0.592	SLV 9	0.14	0.571	117	0.563	No
	R	0.055	SLV 5	0	0	0	0	No
203	PF	0.268	SLV 9	0.061	0.249	16	0.249	No
	V	0.222	SLV 11	0.049	0.201	9	0.197	No
	PFFP	0.683	SLV 13	0.163	0.669	168	0.653	No
	R	0.028	SLV 3	0	0	0	0	No
204	PF	0.183	SLV 7	0.038	0.157	5	0.155	No
	V	0.183	SLV 7	0.038	0.157	5	0.155	No
	PFFP	0.256	SLV 7	0.057	0.234	13	0.229	No
	R	0.026	SLV 5	0	0	0	0	No
205	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.603	SLV 9	0.142	0.583	122	0.573	No
	R	0	SLV 1	0	0	0	0	No
206	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.232	SLV 5	0.051	0.21	10	0.205	No
	R	0	SLV 1	0	0	0	0	No
207	PF	0.848	SLV 3	0.206	0.843	302	0.831	No
	V	0.785	SLV 3	0.19	0.778	244	0.761	No
	PFFP	1.072	SLV 7	0.261	1.07	581	1.086	Si
	R	0	SLV 1	0	0	0	0	No
208	PF	0.897	SLV 15	0.218	0.893	351	0.883	No
	V	0.835	SLV 15	0.202	0.828	288	0.815	No
	PFFP	1.106	SLV 7	0.269	1.102	635	1.126	Si
	R	0	SLV 1	0	0	0	0	No
209	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.524	SLV 5	0.123	0.503	86	0.496	No
	R	0	SLV 1	0	0	0	0	No
210	PF	1.016	SLV 13	0.248	1.015	496	1.018	Si
	V	0.999	SLV 13	0.244	0.999	473	0.998	No
	PFFP	0.922	SLV 13	0.225	0.919	379	0.912	No
	R	0.061	SLV 5	0	0	0	0	No
211	PF	1.352	SLV 13	0.324	1.326	1119	1.421	Si
	V	1.052	SLV 13	0.256	1.049	547	1.06	Si
	PFFP	1.869	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.041	SLV 7	0	0	0	0	No
212	PF	0.251	SLV 1	0.059	0.242	14	0.236	No
	V	0.233	SLV 1	0.053	0.218	11	0.214	No
	PFFP	1.162	SLV 7	0.282	1.156	732	1.194	Si
	R	0.035	SLV 7	0	0	0	0	No
213	PF	0.392	SLV 1	0.092	0.376	42	0.37	No
	V	0.374	SLV 1	0.088	0.359	38	0.355	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
	PFFP	0.968	SLV 1	0.236	0.967	434	0.964	No
	R	0.047	SLV 5	0	0	0	0	No
214	PF	0.995	SLV 1	0.243	0.995	468	0.994	No
	V	0.695	SLV 15	0.167	0.682	175	0.664	No
	PFFP	2.002	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.04	SLV 7	0	0	0	0	No
215	PF	1.532	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.533	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.066	SLV 1	0.259	1.062	567	1.075	Si
	R	0.061	SLV 5	0	0	0	0	No
216	PF	0.252	SLV 5	0.057	0.234	13	0.229	No
	V	0.167	SLV 5	0.035	0.143	4	0.141	No
	PFFP	1.026	SLV 7	0.25	1.025	511	1.03	Si
	R	0.063	SLV 5	0	0	0	0	No
217	PF	1.428	SLV 5	0.346	1.415	1384	1.55	Si
	V	1.409	SLV 5	0.341	1.396	1325	1.523	Si
	PFFP	0.632	SLV 5	0.15	0.612	137	0.601	No
	R	0.027	SLV 7	0	0	0	0	No
218	PF	0.393	SLV 9	0.091	0.372	41	0.366	No
	V	0.337	SLV 7	0.077	0.313	27	0.309	No
	PFFP	0.792	SLV 1	0.192	0.784	249	0.767	No
	R	0.028	SLV 7	0	0	0	0	No
219	PF	0.479	SLV 9	0.112	0.457	68	0.451	No
	V	0.405	SLV 5	0.094	0.384	44	0.377	No
	PFFP	0.98	SLV 13	0.239	0.979	448	0.976	No
	R	0.025	SLV 5	0	0	0	0	No
220	PF	0.577	SLV 13	0.137	0.56	111	0.551	No
	V	0.505	SLV 13	0.119	0.487	80	0.482	No
	PFFP	1.572	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.01	SLV 9	0	0	0	0	No
221	PF	0.269	SLV 15	0.062	0.256	17	0.255	No
	V	0.576	SLV 3	0.136	0.558	110	0.549	No
	PFFP	0.538	SLV 1	0.127	0.52	94	0.515	No
	R	0.043	SLV 9	0	0	0	0	No
222	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.278	SLV 9	0.062	0.256	17	0.255	No
	R	0	SLV 1	0	0	0	0	No
223	PF	0.828	SLV 15	0.201	0.821	281	0.806	No
	V	0.58	SLV 15	0.137	0.562	112	0.553	No
	PFFP	1.218	SLV 9	0.296	1.21	839	1.263	Si
	R	0.037	SLV 9	0	0	0	0	No
224	PF	1.205	SLV 9	0.292	1.197	813	1.247	Si
	V	1.16	SLV 9	0.282	1.154	729	1.192	Si
	PFFP	1.223	SLV 3	0.295	1.206	832	1.258	Si
	R	0.038	SLV 5	0	0	0	0	No
225	PF	0.362	SLV 13	0.085	0.346	35	0.343	No
	V	0.335	SLV 13	0.079	0.323	30	0.322	No
	PFFP	0.52	SLV 11	0.122	0.498	84	0.491	No
	R	0.037	SLV 11	0	0	0	0	No
226	PF	0.438	SLV 9	0.102	0.417	54	0.41	No
	V	0.405	SLV 9	0.094	0.384	44	0.377	No
	PFFP	0.759	SLV 5	0.182	0.744	217	0.725	No
	R	0.032	SLV 11	0	0	0	0	No
227	PF	0.795	SLV 3	0.193	0.788	252	0.771	No
	V	0.544	SLV 3	0.128	0.525	96	0.519	No
	PFFP	0.85	SLV 15	0.206	0.844	303	0.832	No
	R	0.035	SLV 7	0	0	0	0	No
228	PF	0.409	SLV 11	0.095	0.388	45	0.381	No
	V	0.391	SLV 11	0.09	0.368	40	0.363	No
	PFFP	0.417	SLV 7	0.097	0.395	47	0.387	No
	R	0.051	SLV 5	0	0	0	0	No
229	PF	0.295	SLV 7	0.067	0.275	20	0.273	No
	V	0.289	SLV 11	0.066	0.269	19	0.267	No
	PFFP	0.23	SLV 11	0.051	0.21	10	0.205	No
	R	0	SLV 1	0	0	0	0	No
230	PF	1.891	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.499	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.11	SLV 7	0.27	1.106	642	1.131	Si
	R	0.044	SLV 7	0	0	0	0	No
231	PF	1.322	SLV 11	0.32	1.311	1078	1.399	Si
	V	1.082	SLV 11	0.264	1.079	596	1.098	Si
	PFFP	1.165	SLV 11	0.283	1.159	738	1.198	Si
	R	0.046	SLV 11	0	0	0	0	No
234	PF	0.77	SLV 7	0.185	0.755	225	0.736	No
	V	0.759	SLV 7	0.182	0.744	217	0.725	No
	PFFP	1.02	SLV 7	0.249	1.019	502	1.023	Si
	R	0.34	SLV 5	0.078	0.318	28	0.313	No
235	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	1.202	SLV 7	0.292	1.194	808	1.243	Si
	R	0.342	SLV 9	0.078	0.318	28	0.313	No
236	PF	0.731	SLV 15	0.176	0.72	199	0.7	No
	V	0.597	SLV 1	0.142	0.58	121	0.571	No
	PFFP	1.079	SLV 11	0.263	1.076	591	1.094	Si
	R	0.699	SLV 5	0.167	0.682	175	0.664	No
237	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	1.126	SLV 7	0.274	1.122	669	1.151	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
238	R	0.132	SLV 5	0.026	0.107	2	0.106	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	1.01	SLV 7	0.247	1.01	488	1.011	Si
239	R	0.048	SLV 11	0	0	0	0	No
	PF	1.027	SLV 11	0.251	1.026	513	1.032	Si
	V	1.027	SLV 11	0.251	1.026	513	1.032	Si
	PFFP	1.156	SLV 11	0.281	1.15	721	1.187	Si
240	R	0.358	SLV 9	0.082	0.337	33	0.335	No
	PF	0.384	SLV 7	0.089	0.364	39	0.359	No
	V	0.38	SLV 7	0.088	0.359	38	0.355	No
	PFFP	0.337	SLV 11	0.077	0.313	27	0.309	No
241	R	0.023	SLV 11	0	0	0	0	No
	PF	0.489	SLV 3	0.115	0.471	73	0.464	No
	V	0.456	SLV 15	0.107	0.439	62	0.434	No
	PFFP	0.436	SLV 7	0.101	0.414	53	0.407	No
242	R	0.029	SLV 7	0	0	0	0	No
	PF	0.008	SLV 7	0	0	0	0	No
	V	0.008	SLV 7	0	0	0	0	No
	PFFP	0.176	SLV 5	0.038	0.157	5	0.155	No
243	R	0	SLV 1	0	0	0	0	No
	PF	0	SLV 5	0	0	0	0	No
	V	0	SLV 5	0	0	0	0	No
	PFFP	0.287	SLV 9	0.066	0.269	19	0.267	No
244	R	0	SLV 1	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.615	SLV 5	0.146	0.596	128	0.584	No
245	R	0.032	SLV 1	0	0	0	0	No
	PF	0.209	SLV 15	0.049	0.201	9	0.197	No
	V	0.204	SLV 11	0.044	0.181	7	0.177	No
	PFFP	0.28	SLV 11	0.064	0.262	18	0.261	No
246	R	0.118	SLV 9	0.026	0.107	2	0.106	No
	PF	0.126	SLV 11	0.026	0.107	2	0.106	No
	V	0.121	SLV 11	0.026	0.107	2	0.106	No
	PFFP	0.273	SLV 7	0.061	0.249	16	0.249	No
247	R	0.12	SLV 9	0.026	0.107	2	0.106	No
	PF	0.284	SLV 3	0.067	0.275	20	0.273	No
	V	0.282	SLV 3	0.066	0.269	19	0.267	No
	PFFP	0.403	SLV 7	0.093	0.38	43	0.373	No
248	R	0.117	SLV 5	0.02	0.08	1	0.08	No
	PFFP	0.274	SLV 5	0.062	0.256	17	0.255	No
	R	0	SLV 1	0	0	0	0	No
249	PF	1.188	SLV 5	0.289	1.181	781	1.226	Si
	V	0.742	SLV 5	0.177	0.727	203	0.706	No
	PFFP	2.414	SLV 5	0.362	1.483	1618	1.653	Si
250	R	0.039	SLV 5	0	0	0	0	No
	PFFP	0.476	SLV 7	0.111	0.454	67	0.448	No
	R	0	SLV 1	0	0	0	0	No
251	PF	0.364	SLV 15	0.086	0.351	36	0.347	No
	V	0.349	SLV 15	0.082	0.337	33	0.335	No
	PFFP	0.468	SLV 15	0.11	0.451	66	0.445	No
252	R	0.049	SLV 5	0	0	0	0	No
	PF	0.305	SLV 3	0.071	0.292	23	0.289	No
	V	0.294	SLV 3	0.069	0.281	21	0.278	No
	PFFP	0.421	SLV 3	0.099	0.407	51	0.401	No
253	R	0.049	SLV 5	0	0	0	0	No
	PF	0.648	SLV 15	0.154	0.631	147	0.618	No
	V	0.635	SLV 3	0.151	0.619	140	0.606	No
	PFFP	1.27	SLV 11	0.308	1.26	949	1.328	Si
254	R	0.113	SLV 5	0.02	0.08	1	0.08	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	1.061	SLV 7	0.259	1.059	563	1.072	Si
255	R	0.034	SLV 13	0	0	0	0	No
	PF	0.413	SLV 15	0.098	0.399	49	0.394	No
	V	0.375	SLV 15	0.088	0.359	38	0.355	No
	PFFP	0.57	SLV 11	0.134	0.548	106	0.541	No
256	R	0.046	SLV 5	0	0	0	0	No
	PF	0.476	SLV 3	0.112	0.457	68	0.451	No
	V	0.422	SLV 3	0.099	0.407	51	0.401	No
	PFFP	0.705	SLV 3	0.169	0.692	182	0.675	No
257	R	0.047	SLV 5	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.3	SLV 11	0.069	0.281	21	0.278	No
258	R	0.078	SLV 7	0	0	0	0	No
	PF	0.167	SLV 11	0.035	0.143	4	0.141	No
	V	0.167	SLV 11	0.035	0.143	4	0.141	No
	PFFP	0.347	SLV 11	0.08	0.328	31	0.327	No
259	R	0.13	SLV 5	0.026	0.107	2	0.106	No
	PF	0.771	SLV 5	0.185	0.758	228	0.74	No
	V	0.675	SLV 5	0.16	0.656	160	0.64	No
	PFFP	1.787	SLV 11	0.362	1.483	1618	1.653	Si
260	R	0.03	SLV 1	0	0	0	0	No
	PF	3.648	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.042	SLV 7	0.254	1.04	534	1.049	Si
	PFFP	1.000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.037	SLV 5	0	0	0	0	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
261	PF	1.982	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.143	SLV 9	0.278	1.138	698	1.171	Si
	PFFP	1.752	SLV 5	0.362	1.483	1618	1.653	Si
262	R	0.034	SLV 13	0	0	0	0	No
	PF	0.134	SLV 3	0.031	0.127	3	0.125	No
	V	0.133	SLV 3	0.031	0.127	3	0.125	No
	PFFP	0.325	SLV 11	0.074	0.303	25	0.299	No
263	R	0.12	SLV 5	0.026	0.107	2	0.106	No
	PF	0.16	SLV 5	0.035	0.143	4	0.141	No
	V	0.16	SLV 5	0.035	0.143	4	0.141	No
	PFFP	0.299	SLV 7	0.069	0.281	21	0.278	No
264	R	0.094	SLV 15	0.02	0.08	1	0.08	No
	PF	0.017	SLV 11	0	0	0	0	No
	V	0.017	SLV 11	0	0	0	0	No
	PFFP	0.087	SLV 9	0	0	0	0	No
265	R	0.044	SLV 1	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.309	SLV 5	0.07	0.286	22	0.284	No
	R	0	SLV 1	0	0	0	0	No

Verifica travi di collegamento in muratura

Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
1	F	0.937	SLV 5	0.228	0.932	394	0.926	No
	V	0	SLV 1	0	0	0	0	No
2	F	0.343	SLV 9	0.079	0.323	30	0.322	No
	V	0	SLV 1	0	0	0	0	No
3	F	0.096	SLV 7	0.02	0.08	1	0.08	No
	V	0	SLV 1	0	0	0	0	No
4	F	0.395	SLV 7	0.091	0.372	41	0.366	No
	V	0	SLV 1	0	0	0	0	No
5	F	0.828	SLV 7	0.199	0.816	277	0.802	No
	V	0	SLV 1	0	0	0	0	No
6	F	0.39	SLV 7	0.09	0.368	40	0.363	No
	V	0	SLV 1	0	0	0	0	No
7	F	0.195	SLV 3	0.044	0.181	7	0.177	No
	V	0	SLV 1	0	0	0	0	No
8	F	0.058	SLV 13	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
9	F	0.092	SLV 3	0.02	0.08	1	0.08	No
	V	0	SLV 1	0	0	0	0	No
10	F	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
11	F	0.331	SLV 11	0.075	0.308	26	0.304	No
	V	0.08	SLV 11	0	0	0	0	No
12	F	0.518	SLV 13	0.122	0.501	85	0.494	No
	V	0	SLV 1	0	0	0	0	No
13	F	0.113	SLV 3	0.026	0.107	2	0.106	No
	V	0	SLV 1	0	0	0	0	No
14	F	0.71	SLV 13	0.17	0.698	185	0.679	No
	V	0	SLV 1	0	0	0	0	No
15	F	0.766	SLV 13	0.185	0.758	228	0.74	No
	V	0	SLV 1	0	0	0	0	No
16	F	0.51	SLV 15	0.12	0.493	82	0.487	No
	V	0	SLV 1	0	0	0	0	No
17	F	0.387	SLV 1	0.091	0.372	41	0.366	No
	V	0	SLV 1	0	0	0	0	No
18	F	0.563	SLV 15	0.133	0.546	105	0.539	No
	V	0	SLV 1	0	0	0	0	No
19	F	0.354	SLV 7	0.081	0.332	31	0.327	No
	V	0	SLV 1	0	0	0	0	No
20	F	3.143	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
21	F	0.532	SLV 3	0.125	0.513	90	0.506	No
	V	0	SLV 1	0	0	0	0	No
22	F	0.282	SLV 1	0.066	0.269	19	0.267	No
	V	0	SLV 1	0	0	0	0	No
23	F	1.025	SLV 5	0.25	1.024	510	1.03	Si
	V	0	SLV 1	0	0	0	0	No
24	F	0.401	SLV 1	0.095	0.388	45	0.381	No
	V	0	SLV 1	0	0	0	0	No
25	F	0.566	SLV 13	0.134	0.548	106	0.541	No
	V	0	SLV 1	0	0	0	0	No
26	F	0.269	SLV 15	0.062	0.256	17	0.255	No
	V	0	SLV 1	0	0	0	0	No
27	F	0.12	SLV 7	0.026	0.107	2	0.106	No
	V	0	SLV 1	0	0	0	0	No
28	F	0.211	SLV 1	0.049	0.201	9	0.197	No
	V	0	SLV 1	0	0	0	0	No
29	F	0.077	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
30	F	0.227	SLV 1	0.053	0.218	11	0.214	No
	V	0	SLV 1	0	0	0	0	No
31	F	0.359	SLV 15	0.085	0.346	35	0.343	No
	V	0	SLV 1	0	0	0	0	No
32	F	0.255	SLV 15	0.059	0.242	14	0.236	No
	V	0	SLV 1	0	0	0	0	No
33	F	0.344	SLV 11	0.079	0.323	30	0.322	No



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (€E)	TR	(TR/TRrif)^.41	Verifica
	V	0	SLV 1	0	0	0	0	No
34	F	0.444	SLV 5	0.103	0.42	55	0.413	No
	V	0	SLV 1	0	0	0	0	No
35	F	0.116	SLV 5	0.02	0.08	1	0.08	No
	V	0	SLV 1	0	0	0	0	No
36	F	0.363	SLV 11	0.083	0.342	34	0.339	No
	V	0	SLV 1	0	0	0	0	No
37	F	0.285	SLV 3	0.067	0.275	20	0.273	No
	V	0	SLV 1	0	0	0	0	No
38	F	0.821	SLV 3	0.199	0.815	276	0.8	No
	V	0	SLV 1	0	0	0	0	No
39	F	0.202	SLV 1	0.047	0.191	8	0.187	No
	V	0	SLV 1	0	0	0	0	No
40	F	0.449	SLV 1	0.106	0.433	59	0.425	No
	V	0	SLV 1	0	0	0	0	No
41	F	0.101	SLV 13	0.02	0.08	1	0.08	No
	V	0	SLV 1	0	0	0	0	No
42	F	0.698	SLV 13	0.167	0.683	176	0.666	No
	V	0	SLV 1	0	0	0	0	No
43	F	0.094	SLV 13	0.02	0.08	1	0.08	No
	V	0	SLV 1	0	0	0	0	No
44	F	0.707	SLV 9	0.169	0.691	181	0.673	No
	V	0	SLV 1	0	0	0	0	No
45	F	0.226	SLV 9	0.051	0.21	10	0.205	No
	V	0	SLV 1	0	0	0	0	No
46	F	0.25	SLV 1	0.059	0.242	14	0.236	No
	V	0	SLV 1	0	0	0	0	No
47	F	0.328	SLV 15	0.077	0.313	27	0.309	No
	V	0	SLV 1	0	0	0	0	No
48	F	0.19	SLV 5	0.041	0.169	6	0.167	No
	V	0	SLV 1	0	0	0	0	No
49	F	0.205	SLV 3	0.047	0.191	8	0.187	No
	V	0	SLV 1	0	0	0	0	No
50	F	0.192	SLV 13	0.044	0.181	7	0.177	No
	V	0	SLV 1	0	0	0	0	No
51	F	0.257	SLV 15	0.061	0.249	16	0.249	No
	V	0	SLV 1	0	0	0	0	No
52	F	0.266	SLV 15	0.062	0.256	17	0.255	No
	V	0.053	SLV 1	0	0	0	0	No
53	F	0.75	SLV 3	0.181	0.741	214	0.721	No
	V	0	SLV 1	0	0	0	0	No
54	F	0.161	SLV 7	0.035	0.143	4	0.141	No
	V	0.036	SLV 3	0	0	0	0	No
55	F	0.597	SLV 15	0.142	0.58	121	0.571	No
	V	0	SLV 1	0	0	0	0	No
56	F	0.244	SLV 3	0.057	0.234	13	0.229	No
	V	0.024	SLV 3	0	0	0	0	No
57	F	0.68	SLV 15	0.163	0.665	166	0.65	No
	V	0	SLV 1	0	0	0	0	No
58	F	0.292	SLV 3	0.069	0.281	21	0.278	No
	V	0	SLV 1	0	0	0	0	No
59	F	0.229	SLV 13	0.053	0.218	11	0.214	No
	V	0	SLV 1	0	0	0	0	No
60	F	0.204	SLV 5	0.044	0.181	7	0.177	No
	V	0	SLV 1	0	0	0	0	No
61	F	0.312	SLV 13	0.073	0.298	24	0.294	No
	V	0	SLV 1	0	0	0	0	No
62	F	0.67	SLV 13	0.16	0.654	159	0.638	No
	V	0	SLV 1	0	0	0	0	No
63	F	0.132	SLV 13	0.031	0.127	3	0.125	No
	V	0	SLV 1	0	0	0	0	No
64	F	0.825	SLV 15	0.2	0.819	279	0.804	No
	V	0	SLV 1	0	0	0	0	No
65	F	0.136	SLV 3	0.031	0.127	3	0.125	No
	V	0	SLV 1	0	0	0	0	No
66	F	0.467	SLV 1	0.11	0.451	66	0.445	No
	V	0	SLV 1	0	0	0	0	No
67	F	0.26	SLV 13	0.061	0.249	16	0.249	No
	V	0	SLV 1	0	0	0	0	No
68	F	0.342	SLV 13	0.08	0.328	31	0.327	No
	V	0	SLV 1	0	0	0	0	No
69	F	0.256	SLV 15	0.059	0.242	14	0.236	No
	V	0	SLV 1	0	0	0	0	No
70	F	0.521	SLV 15	0.123	0.503	86	0.496	No
	V	0	SLV 1	0	0	0	0	No
71	F	0.872	SLV 9	0.211	0.863	321	0.852	No
	V	0.09	SLV 9	0.02	0.08	1	0.08	No
72	F	0.982	SLV 3	0.239	0.98	450	0.978	No
	V	0	SLV 1	0	0	0	0	No
73	F	1.253	SLV 13	0.302	1.234	891	1.294	Si
	V	0	SLV 1	0	0	0	0	No
74	F	0.399	SLV 1	0.094	0.384	44	0.377	No
	V	0	SLV 1	0	0	0	0	No
75	F	0.589	SLV 1	0.14	0.571	117	0.563	No
	V	0	SLV 1	0	0	0	0	No
76	F	1.374	SLV 3	0.329	1.347	1179	1.452	Si
	V	0	SLV 1	0	0	0	0	No
77	F	1.113	SLV 13	0.27	1.105	640	1.13	Si
	V	0	SLV 1	0	0	0	0	No



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (€E)	TR	(TR/TRrif)^.41	Verifica
78	F	0.626	SLV 13	0.149	0.608	135	0.597	No
	V	0	SLV 1	0	0	0	0	No
79	F	0.843	SLV 13	0.205	0.837	296	0.824	No
	V	0	SLV 1	0	0	0	0	No
80	F	0.2	SLV 9	0.044	0.181	7	0.177	No
	V	0.061	SLV 9	0	0	0	0	No
81	F	0.313	SLV 13	0.074	0.303	25	0.299	No
	V	0	SLV 1	0	0	0	0	No
82	F	0.189	SLV 15	0.044	0.181	7	0.177	No
	V	0	SLV 1	0	0	0	0	No
83	F	0.282	SLV 5	0.064	0.262	18	0.261	No
	V	0	SLV 1	0	0	0	0	No
84	F	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
85	F	0.913	SLV 15	0.222	0.91	369	0.902	No
	V	0	SLV 1	0	0	0	0	No
86	F	0.803	SLV 3	0.194	0.796	259	0.78	No
	V	0	SLV 1	0	0	0	0	No
87	F	0.852	SLV 3	0.207	0.846	305	0.834	No
	V	0	SLV 1	0	0	0	0	No
88	F	0.833	SLV 15	0.202	0.827	287	0.813	No
	V	0	SLV 1	0	0	0	0	No
89	F	0.59	SLV 13	0.14	0.571	117	0.563	No
	V	0	SLV 1	0	0	0	0	No
90	F	0.823	SLV 13	0.199	0.816	277	0.802	No
	V	0	SLV 1	0	0	0	0	No
91	F	0.379	SLV 1	0.089	0.364	39	0.359	No
	V	0	SLV 1	0	0	0	0	No
92	F	0.241	SLV 3	0.055	0.226	12	0.221	No
	V	0	SLV 1	0	0	0	0	No
93	F	0.247	SLV 1	0.057	0.234	13	0.229	No
	V	0	SLV 1	0	0	0	0	No
94	F	0.322	SLV 15	0.075	0.308	26	0.304	No
	V	0	SLV 1	0	0	0	0	No
95	F	0.338	SLV 15	0.079	0.323	30	0.322	No
	V	0	SLV 1	0	0	0	0	No
96	F	0.19	SLV 3	0.044	0.181	7	0.177	No
	V	0	SLV 1	0	0	0	0	No
97	F	0.298	SLV 3	0.07	0.286	22	0.284	No
	V	0	SLV 1	0	0	0	0	No
98	F	0.146	SLV 5	0.031	0.127	3	0.125	No
	V	0	SLV 1	0	0	0	0	No
99	F	3.906	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
100	F	0.623	SLV 15	0.148	0.606	134	0.595	No
	V	0	SLV 1	0	0	0	0	No
101	F	0.664	SLV 1	0.158	0.648	156	0.633	No
	V	0	SLV 1	0	0	0	0	No
102	F	0.917	SLV 15	0.223	0.914	374	0.907	No
	V	0	SLV 1	0	0	0	0	No
103	F	1.031	SLV 3	0.251	1.029	517	1.035	Si
	V	0	SLV 1	0	0	0	0	No
104	F	0.896	SLV 1	0.218	0.892	351	0.883	No
	V	0	SLV 1	0	0	0	0	No
105	F	0.63	SLV 13	0.15	0.612	137	0.601	No
	V	0	SLV 1	0	0	0	0	No
106	F	0.585	SLV 13	0.139	0.567	115	0.559	No
	V	0	SLV 1	0	0	0	0	No
107	F	0.734	SLV 15	0.177	0.723	201	0.703	No
	V	0	SLV 1	0	0	0	0	No
108	F	0.902	SLV 1	0.219	0.898	357	0.89	No
	V	0	SLV 1	0	0	0	0	No
109	F	1.023	SLV 7	0.25	1.022	507	1.027	Si
	V	0.074	SLV 7	0	0	0	0	No
110	F	1.535	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
111	F	1.614	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
112	F	0.708	SLV 1	0.17	0.696	184	0.678	No
	V	0	SLV 1	0	0	0	0	No
113	F	1.033	SLV 1	0.252	1.031	520	1.038	Si
	V	0	SLV 1	0	0	0	0	No
114	F	2.08	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.04	SLV 15	0	0	0	0	No
115	F	1.892	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
116	F	0.815	SLV 13	0.198	0.809	271	0.794	No
	V	0	SLV 1	0	0	0	0	No
117	F	1.241	SLV 3	0.299	1.223	867	1.28	Si
	V	0	SLV 1	0	0	0	0	No
118	F	0.162	SLV 9	0.035	0.143	4	0.141	No
	V	0.025	SLV 9	0	0	0	0	No
119	F	0.553	SLV 15	0.131	0.535	100	0.528	No
	V	0	SLV 1	0	0	0	0	No
120	F	0.209	SLV 15	0.049	0.201	9	0.197	No
	V	0	SLV 1	0	0	0	0	No
121	F	0.562	SLV 5	0.132	0.542	103	0.534	No
	V	0.049	SLV 5	0	0	0	0	No
122	F	0.019	SLV 7	0	0	0	0	No



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
	V	0	SLV 1	0	0	0	0	No
123	F	1.648	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
124	F	1.758	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
125	F	1.34	SLV 1	0.321	1.315	1088	1.405	Si
	V	0	SLV 1	0	0	0	0	No
126	F	1.561	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
127	F	1.63	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
128	F	1.724	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
129	F	0.575	SLV 1	0.136	0.558	110	0.549	No
	V	0	SLV 1	0	0	0	0	No
130	F	0.285	SLV 3	0.067	0.275	20	0.273	No
	V	0	SLV 1	0	0	0	0	No
131	F	0.245	SLV 1	0.057	0.234	13	0.229	No
	V	0	SLV 1	0	0	0	0	No
132	F	0.464	SLV 15	0.11	0.448	65	0.442	No
	V	0	SLV 1	0	0	0	0	No
133	F	0.523	SLV 15	0.124	0.506	87	0.499	No
	V	0	SLV 1	0	0	0	0	No
134	F	0.436	SLV 3	0.103	0.42	55	0.413	No
	V	0	SLV 1	0	0	0	0	No
135	F	0.557	SLV 3	0.132	0.539	102	0.532	No
	V	0	SLV 1	0	0	0	0	No
136	F	0.142	SLV 9	0.031	0.127	3	0.125	No
	V	0.005	SLV 9	0	0	0	0	No
137	F	1.507	SLV 13	0.36	1.475	1587	1.64	Si
	V	0.235	SLV 7	0.053	0.218	11	0.214	No
138	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
139	F	0.806	SLV 1	0.195	0.799	262	0.784	No
	V	0	SLV 1	0	0	0	0	No
140	F	1.427	SLV 15	0.342	1.398	1332	1.526	Si
	V	0	SLV 1	0	0	0	0	No
141	F	1.75	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.076	SLV 3	0	0	0	0	No
142	F	1.614	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
143	F	0.961	SLV 13	0.234	0.959	425	0.955	No
	V	0	SLV 1	0	0	0	0	No
144	F	1.26	SLV 13	0.303	1.241	905	1.303	Si
	V	0	SLV 1	0	0	0	0	No
145	F	0.967	SLV 15	0.236	0.965	432	0.962	No
	V	0.016	SLV 15	0	0	0	0	No
146	F	1.458	SLV 15	0.349	1.428	1427	1.57	Si
	V	0	SLV 1	0	0	0	0	No
147	F	2.262	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.27	SLV 7	0.061	0.249	16	0.249	No
148	F	2.856	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.038	SLV 3	0	0	0	0	No
149	F	1.576	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
150	F	1.751	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
151	F	1.445	SLV 5	0.35	1.431	1438	1.575	Si
	V	0	SLV 1	0	0	0	0	No
152	F	2.754	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.206	SLV 11	0.047	0.191	8	0.187	No
153	F	1.531	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.074	SLV 5	0	0	0	0	No
154	F	1.639	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.175	SLV 1	0.041	0.169	6	0.167	No
155	F	1.923	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
156	F	1.873	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.364	SLV 7	0.083	0.342	34	0.339	No
157	F	0.579	SLV 7	0.136	0.558	110	0.549	No
	V	0	SLV 1	0	0	0	0	No
158	F	2.073	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.189	SLV 3	0.044	0.181	7	0.177	No
159	F	1.235	SLV 13	0.297	1.217	855	1.273	Si
	V	0	SLV 1	0	0	0	0	No
160	F	2.241	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.051	SLV 13	0	0	0	0	No
161	F	1.254	SLV 3	0.302	1.235	892	1.295	Si
	V	0	SLV 1	0	0	0	0	No
162	F	2.252	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.187	SLV 15	0.044	0.181	7	0.177	No
163	F	1.765	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
164	F	1.622	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
165	F	0.611	SLV 3	0.145	0.593	127	0.582	No
	V	0	SLV 1	0	0	0	0	No
166	F	0.841	SLV 1	0.204	0.835	294	0.821	No
	V	0	SLV 1	0	0	0	0	No



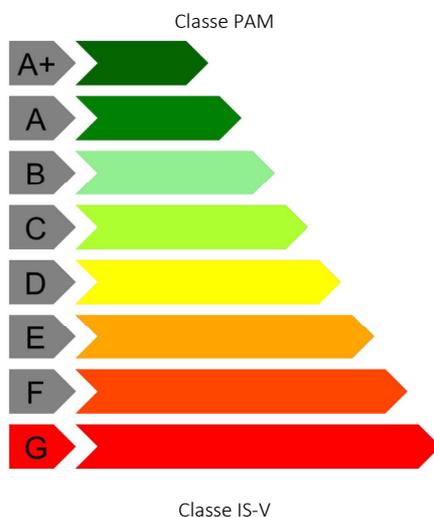
Trave	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
167	F	1.777	SLV 15	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
168	F	1.438	SLV 15	0.344	1.409	1365	1.542	Si
	V	0	SLV 1	0	0	0	0	No
169	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.435	SLV 11	0.347	1.421	1406	1.56	Si
170	F	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
171	F	2.668	SLV 15	0.362	1.483	1618	1.653	Si
	V	0	SLV 11	0	0	0	0	No
172	F	1.567	SLV 15	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
173	F	0.831	SLV 9	0.2	0.82	280	0.805	No
	V	0	SLV 1	0	0	0	0	No
174	F	1.397	SLV 13	0.335	1.369	1244	1.484	Si
	V	0	SLV 1	0	0	0	0	No
175	F	0.367	SLV 15	0.086	0.351	36	0.347	No
	V	0	SLV 1	0	0	0	0	No
176	F	0.69	SLV 13	0.165	0.676	172	0.659	No
	V	0.425	SLV 13	0.1	0.41	52	0.404	No
177	F	1.595	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
178	F	0.836	SLV 9	0.201	0.825	285	0.811	No
	V	0	SLV 1	0	0	0	0	No
179	F	1.612	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.114	SLV 15	0.026	0.107	2	0.106	No
180	F	1.207	SLV 11	0.293	1.199	817	1.249	Si
	V	0	SLV 1	0	0	0	0	No
181	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.374	SLV 7	0.086	0.351	36	0.347	No
182	F	0.908	SLV 9	0.22	0.901	360	0.893	No
	V	0.102	SLV 7	0.02	0.08	1	0.08	No
183	F	2.199	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
184	F	2.007	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
185	F	0.052	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
186	F	0.166	SLV 1	0.038	0.157	5	0.155	No
	V	0.021	SLV 1	0	0	0	0	No
187	F	0.11	SLV 13	0.026	0.107	2	0.106	No
	V	0	SLV 1	0	0	0	0	No
188	F	2.01	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.214	SLV 13	0.049	0.201	9	0.197	No
189	F	0.263	SLV 1	0.061	0.249	16	0.249	No
	V	0.025	SLV 1	0	0	0	0	No
190	F	0.493	SLV 13	0.116	0.474	74	0.467	No
	V	0.062	SLV 13	0	0	0	0	No

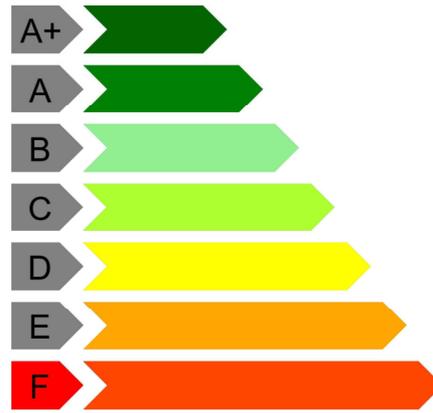
Periodi di ritorno e accelerazioni di aggancio per gli Stati Limite

S. L.	TR,C	PGA,C	TR,Rif	PGA,Rif	Tipo rottura
Stato limite di salvaguardia della vita	0	0	475	0.244	taglio maschio muratura

Coefficienti relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

TR,C	TR,Rif	PAM	Classe PAM	IS-V	Classe IS-V	Tipo rottura
0	475	8.22	G	0	F	taglio maschio muratura





1.5 Verifiche maschi in muratura

Le unità di misura elencate nel capitolo sono in [cm, daN, s] ove non espressamente specificato.

X ini.: coordinate del punto iniziale del maschio. [cm]

Y ini.: coordinate del punto iniziale del maschio. [cm]

X fin.: coordinate del punto finale del maschio. [cm]

Y fin.: coordinate del punto finale del maschio. [cm]

Quota i.: livello o falda inferiore.

Quota s.: livello o falda superiore.

l: lunghezza del maschio. [cm]

Sp.: spessore. [cm]

h netta: altezza netta (a filo solai). [cm]

h ini.: altezza nel modello al punto iniziale. [cm]

h fin.: altezza nel modello al punto finale. [cm]

a: distanza tra irrigidimenti laterali. [cm]

a.s.,sx: lunghezza di appoggio del solaio di sinistra. [cm]

a.s.,dx: lunghezza di appoggio del solaio di destra. [cm]

fb: resistenza normalizzata a compressione verticale dei blocchi. [daN/cm²]

fk: resistenza caratteristica a compressione della muratura utilizzata. [daN/cm²]

fvk0: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/cm²]

fmedio: resistenza media a compressione della muratura utilizzata. [daN/cm²]

τ0: resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/cm²]

fv0: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/cm²]

μ: coefficiente di attrito [C8.7.1.17].

φ: coefficiente di ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.

fv,lim: valore massimo della resistenza a taglio che può essere impiegata nel calcolo. [daN/cm²]

E: modulo di elasticità longitudinale della muratura utilizzato. [daN/cm²]

G: modulo di elasticità tangenziale della muratura utilizzato. [daN/cm²]

FC: fattore di confidenza della muratura.

Comb.: combinazione.

Quota: quota della sezione di verifica. [cm]

N: sforzo normale. [daN]

M: momento flettente nel piano. [daN*cm]

σ0: tensione media di compressione. [daN/cm²]

Mu: momento flettente ultimo. [daN*cm]

c.s.: coefficiente di sicurezza.

Verifica: stato di verifica.

V par: taglio nel piano. [daN]

σN: tensione media di compressione sulla parte reagente. [daN/cm²]

l': lunghezza della parte compressa della parete. [cm]

fvd: resistenza a taglio di calcolo. [daN/cm²]

Vt scorr.: taglio ultimo per verifica a scorrimento. [daN]

Vt fess.diag.: taglio ultimo per verifica a fessurazione diagonale regolare [C8.7.1.17]. [daN]

Vt,lim: taglio limite [C8.7.1.18]. [daN]

c.s.: coefficiente di sicurezza a taglio.

fd: resistenza a compressione di calcolo. [daN/cm²]

Sa: accelerazione massima, adimensionalizzata rispetto a g, che l'elemento strutturale subisce durante il sisma.

M: momento flettente fuori piano. [daN*cm]

Mc: momento di collasso per azioni perpendicolari al piano. [daN*cm]

Coeff.s.: coefficiente di sicurezza.

N top: sforzo normale in sommità. [daN]

N base: sforzo normale al piede. [daN]



Vorto: taglio fuori piano. [daN]

$\alpha 0$: moltiplicatore secondo [C8.7.1.1].

M^* : massa partecipante al cinematico. [daN/(cm/s²)]

e^* : frazione di massa partecipante della muratura [C8.7.1.5].

$\alpha 0^*$: accelerazione spettrale di attivazione del meccanismo [C8.7.1.8]. [cm/s²]

a_{Lim} : accelerazione limite [C7.2.11]. [cm/s²]

Stato limite: pF_{SLU} =Presso flessione per azioni non sismiche; V_{SLU} =Taglio per azioni non sismiche; PF_{SLV} =Presso flessione per azioni sismiche; V_{SLV} =Taglio per azioni sismiche; $PF_{FF_{SLV}}$ =Presso flessione fuori piano per azioni sismiche; R_{SLV} =Ribaltamento per azioni sismiche.

Maschio 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2465.3	127.1	-2465.3	-328.4	L1	L3	455.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 80	-96	-105129	69828	5.13	8867800	126.995	Si
SLU 80	124	-90679	1378038	4.42	9436206	6.848	Si
SLU 75	-96	-103989	8546	5.07	8933331	1000	Si
SLU 75	124	-89575	1326000	4.37	9456214	7.131	Si
SLU 78	-96	-105781	57586	5.16	8828684	153.313	Si
SLU 78	124	-91296	1380989	4.45	9423577	6.824	Si
SLU 68	-96	-96214	170721	4.69	9285782	54.392	Si
SLU 68	124	-83332	1362985	4.07	9506778	6.975	Si
SLU 55	-96	-96025	129767	4.68	9292288	71.607	Si
SLU 55	124	-82980	1332678	4.05	9506463	7.133	Si
SLU 84	-96	-106887	-13443	5.21	8759775	651.624	Si
SLU 84	124	-92124	1353323	4.49	9404998	6.95	Si
SLU 73	-96	-102706	41808	5.01	9002841	215.337	Si
SLU 73	124	-88998	1378636	4.34	9465342	6.866	Si
SLU 65	-96	-94422	121681	4.61	9343645	76.788	Si
SLU 65	124	-81611	1307995	3.98	9502021	7.265	Si
SLU 76	-96	-104499	90848	5.1	8904468	98.015	Si
SLU 76	124	-90719	1433626	4.43	9435413	6.582	Si
SLU 70	-96	-97497	137459	4.76	9238990	67.213	Si
SLU 70	124	-83909	1310349	4.09	9506565	7.255	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 12	-96	-39850	-2895813	1.94	7631725	2.635	Si
SLV 12	124	-27355	-782714	1.33	5549651	7.09	Si
SLV 8	-96	-69710	-3072255	3.4	11457484	3.729	Si
SLV 8	124	-52776	-514851	2.57	9486932	18.427	Si
SLV 10	-96	-72093	2961462	3.52	11692967	3.948	Si
SLV 10	124	-66824	2097849	3.26	11158507	5.319	Si
SLV 5	-96	-101954	2785020	4.97	13767672	4.943	Si
SLV 5	124	-92245	2365713	4.5	13271016	5.61	Si
SLV 11	-96	-39850	-2895813	1.94	7631725	2.635	Si
SLV 11	124	-27355	-782714	1.33	5549651	7.09	Si
SLV 14	-96	-25971	1117263	1.27	5301565	4.745	Si
SLV 14	124	-23352	777144	1.14	4822526	6.205	Si
SLV 13	-96	-25971	1117263	1.27	5301565	4.745	Si
SLV 13	124	-23352	777144	1.14	4822526	6.205	Si
SLV 6	-96	-101954	2785020	4.97	13767672	4.943	Si
SLV 6	124	-92245	2365713	4.5	13271016	5.61	Si
SLV 9	-96	-72093	2961462	3.52	11692967	3.948	Si
SLV 9	124	-66824	2097849	3.26	11158507	5.319	Si
SLV 7	-96	-69710	-3072255	3.4	11457484	3.729	Si
SLV 7	124	-52776	-514851	2.57	9486932	18.427	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	αN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	-96	-106887	4509	-13443	5.21	455.5	1.08	22206	22206			4.92	Si
SLU 84	124	-92124	4061	1353323	4.49	455.5	1.08	22206	22206			5.47	Si
SLU 80	-96	-105129	4540	69828	5.13	455.5	1.08	22206	22206			4.89	Si
SLU 80	124	-90679	4058	1378038	4.42	455.5	1.08	22206	22206			5.47	Si
SLU 76	-96	-104499	4781	90848	5.1	455.5	1.08	22206	22206			4.64	Si
SLU 76	124	-90719	4273	1433626	4.43	455.5	1.08	22206	22206			5.2	Si
SLU 68	-96	-96214	4457	170721	4.69	455.5	1.08	22206	22206			4.98	Si
SLU 68	124	-83332	3908	1362985	4.07	455.5	1.08	22206	22206			5.68	Si
SLU 78	-96	-105781	4559	57586	5.16	455.5	1.08	22206	22206			4.87	Si
SLU 78	124	-91296	4080	1380989	4.45	455.5	1.08	22206	22206			5.44	Si
SLU 75	-96	-103989	4390	8546	5.07	455.5	1.08	22206	22206			5.06	Si
SLU 75	124	-89575	3926	1326000	4.37	455.5	1.08	22206	22206			5.66	Si
SLU 73	-96	-102706	4612	41808	5.01	455.5	1.08	22206	22206			4.81	Si
SLU 73	124	-88998	4119	1378636	4.34	455.5	1.08	22206	22206			5.39	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	-96	-105095	4340	-62483		5.13	455.5	1.08	22206			5.12	Si
SLU 82	124	-90403	3906	1298334		4.41	455.5	1.08	22206			5.68	Si
SLU 55	-96	-96025	4416	129767		4.68	455.5	1.08	22206			5.03	Si
SLU 55	124	-82980	3888	1332678		4.05	455.5	1.08	22206			5.71	Si
SLU 65	-96	-94422	4288	121681		4.61	455.5	1.08	22206			5.18	Si
SLU 65	124	-81611	3753	1307995		3.98	455.5	1.08	22206			5.92	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	-96	-72093	20583	2961462		3.52	455.5	1.54	31500			1.53	Si
SLV 9	124	-66824	16953	2097849		3.26	455.5	1.49	30446			1.8	Si
SLV 14	-96	-25971	8213	1117263		1.27	455.5	1.09	22275			2.71	Si
SLV 14	124	-23352	4890	777144		1.14	455.5	1.06	21752			4.45	Si
SLV 6	-96	-101954	20403	2785020		4.97	455.5	1.63	33308			1.63	Si
SLV 6	124	-92245	18096	2365713		4.5	455.5	1.63	33308			1.84	Si
SLV 12	-96	-39850	-15361	-2895813		1.94	455.5	1.22	25051			1.63	Si
SLV 12	124	-27355	-13703	-782714		1.33	455.5	1.1	22552			1.65	Si
SLV 10	-96	-72093	20583	2961462		3.52	455.5	1.54	31500			1.53	Si
SLV 10	124	-66824	16953	2097849		3.26	455.5	1.49	30446			1.8	Si
SLV 11	-96	-39850	-15361	-2895813		1.94	455.5	1.22	25051			1.63	Si
SLV 11	124	-27355	-13703	-782714		1.33	455.5	1.1	22552			1.65	Si
SLV 8	-96	-69710	-15541	-3072255		3.4	455.5	1.51	31023			2	Si
SLV 8	124	-52776	-12560	-514851		2.57	455.5	1.35	27636			2.2	Si
SLV 13	-96	-25971	8213	1117263		1.27	455.5	1.09	22275			2.71	Si
SLV 13	124	-23352	4890	777144		1.14	455.5	1.06	21752			4.45	Si
SLV 5	-96	-101954	20403	2785020		4.97	455.5	1.63	33308			1.63	Si
SLV 5	124	-92245	18096	2365713		4.5	455.5	1.63	33308			1.84	Si
SLV 7	-96	-69710	-15541	-3072255		3.4	455.5	1.51	31023			2	Si
SLV 7	124	-52776	-12560	-514851		2.57	455.5	1.35	27636			2.2	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.25	0.7	-14442	28044	306211	10.92	Si
SLV 16	14	0.25	0.7	-14442	28044	306211	10.92	Si
SLV 14	14	0.25	1.24	-25376	28044	513102	18.3	Si
SLV 13	14	0.25	1.24	-25376	28044	513102	18.3	Si
SLV 12	14	0.25	1.64	-33688	28044	656033	23.39	Si
SLV 11	14	0.25	1.64	-33688	28044	656033	23.39	Si
SLV 7	14	0.25	2.98	-61119	28044	1039584	37.07	Si
SLV 8	14	0.25	2.98	-61119	28044	1039584	37.07	Si
SLV 9	14	0.25	3.42	-70133	28044	1136117	40.51	Si
SLV 10	14	0.25	3.42	-70133	28044	1136117	40.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-90666	-101954	1493	0.072	100.078	0.976	107.76	480.788	No
SLV 6	-90666	-101954	1493	0.072	100.078	0.976	107.76	480.788	No
SLV 10	-65695	-72093	1242	0.072	74.647	0.968	107.97	480.788	No
SLV 9	-65695	-72093	1242	0.072	74.647	0.968	107.97	480.788	No
SLV 7	-49664	-69710	599	0.08	58.334	0.96	121.489	480.788	No
SLV 8	-49664	-69710	599	0.08	58.334	0.96	121.489	480.788	No
SLV 11	-24692	-39850	347	0.086	32.989	0.935	133.585	480.788	No
SLV 12	-24692	-39850	347	0.086	32.989	0.935	133.585	480.788	No
SLV 2	-105450	-125505	1474	0.074	115.138	0.979	109.934	347.831	No
SLV 1	-105450	-125505	1474	0.074	115.138	0.979	109.934	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.582	SLU 76	Si
V_SLU	4.645	SLU 76	Si
PF_SLV	2.635	SLV 11	Si
V_SLV	1.53	SLV 9	Si
PFFP_SLV	10.919	SLV 15	Si
R_SLV	0.224	SLV 5	No

Maschio 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2465.3	587.6	-2465.3	227.1	L1	L3	360.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 60	-96	-66203	-150761	4.08	5954796	39.498	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 60	124	-57314	-436046	3.53	5850185	13.416	Si
SLU 64	-96	-63921	-120362	3.94	5948504	49.422	Si
SLU 64	124	-55113	-409950	3.4	5790984	14.126	Si
SLU 74	-96	-70202	-137523	4.33	5931569	43.131	Si
SLU 74	124	-61193	-442039	3.77	5922340	13.398	Si
SLU 66	-96	-65044	-102804	4.01	5953376	57.91	Si
SLU 66	124	-56196	-403935	3.46	5821758	14.413	Si
SLU 53	-96	-65116	-118325	4.01	5953570	50.315	Si
SLU 53	124	-56256	-413701	3.47	5823356	14.076	Si
SLU 83	-96	-71934	-147990	4.43	5907954	39.921	Si
SLU 83	124	-62844	-453942	3.87	5940594	13.087	Si
SLU 62	-96	-66849	-128792	4.12	5953998	46.23	Si
SLU 62	124	-57906	-425603	3.57	5863840	13.778	Si
SLU 81	-96	-71289	-169959	4.39	5917710	34.818	Si
SLU 81	124	-62252	-464384	3.84	5934906	12.78	Si
SLU 79	-96	-70370	-111141	4.34	5929635	53.352	Si
SLU 79	124	-61293	-427169	3.78	5923660	13.867	Si
SLU 77	-96	-70847	-115554	4.37	5923728	51.264	Si
SLU 77	124	-61785	-431596	3.81	5929736	13.739	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 8	-96	-73857	-2190812	4.55	8352376	3.812	Si
SLV 8	124	-71552	-1110506	4.41	8241680	7.422	Si
SLV 7	-96	-73857	-2190812	4.55	8352376	3.812	Si
SLV 7	124	-71552	-1110506	4.41	8241680	7.422	Si
SLV 5	-96	-44634	1827524	2.75	6233661	3.411	Si
SLV 5	124	-32171	364497	1.98	4857637	13.327	Si
SLV 9	-96	-25194	1994240	1.55	3964079	1.988	Si
SLV 9	124	-13923	470496	0.86	2333272	4.959	Si
SLV 11	-96	-54418	-2024096	3.35	7115979	3.516	Si
SLV 11	124	-53304	-1004507	3.29	7024310	6.993	Si
SLV 12	-96	-54418	-2024096	3.35	7115979	3.516	Si
SLV 12	124	-53304	-1004507	3.29	7024310	6.993	Si
SLV 13	-96	-12743	782325	0.79	2149331	2.747	Si
SLV 13	124	-6417	77911	0.4	1119143	14.364	Si
SLV 14	-96	-12743	782325	0.79	2149331	2.747	Si
SLV 14	124	-6417	77911	0.4	1119143	14.364	Si
SLV 10	-96	-25194	1994240	1.55	3964079	1.988	Si
SLV 10	124	-13923	470496	0.86	2333272	4.959	Si
SLV 6	-96	-44634	1827524	2.75	6233661	3.411	Si
SLV 6	124	-32171	364497	1.98	4857637	13.327	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 66	-96	-65044	-3378	-102804		4.01	360.5	1.08	17574			5.2	Si
SLU 66	124	-56196	-2035	-403935		3.46	360.5	1.02	16505			8.11	Si
SLU 81	-96	-71289	-3852	-169959		4.39	360.5	1.08	17574			4.56	Si
SLU 81	124	-62252	-2282	-464384		3.84	360.5	1.07	17313			7.59	Si
SLU 74	-96	-70202	-3721	-137523		4.33	360.5	1.08	17574			4.72	Si
SLU 74	124	-61193	-2202	-442039		3.77	360.5	1.06	17172			7.8	Si
SLU 60	-96	-66203	-3539	-150761		4.08	360.5	1.08	17574			4.97	Si
SLU 60	124	-57314	-2130	-436046		3.53	360.5	1.03	16654			7.82	Si
SLU 79	-96	-70370	-3623	-111141		4.34	360.5	1.08	17574			4.85	Si
SLU 79	124	-61293	-2109	-427169		3.78	360.5	1.06	17185			8.15	Si
SLU 82	-96	-70278	-3388	-61221		4.33	360.5	1.08	17574			5.19	Si
SLU 82	124	-61033	-1826	-404607		3.76	360.5	1.06	17150			9.39	Si
SLU 83	-96	-71934	-3811	-147990		4.43	360.5	1.08	17574			4.61	Si
SLU 83	124	-62844	-2231	-453942		3.87	360.5	1.07	17392			7.79	Si
SLU 77	-96	-70847	-3680	-115554		4.37	360.5	1.08	17574			4.78	Si
SLU 77	124	-61785	-2151	-431596		3.81	360.5	1.06	17250			8.02	Si
SLU 53	-96	-65116	-3408	-118325		4.01	360.5	1.08	17574			5.16	Si
SLU 53	124	-56256	-2050	-413701		3.47	360.5	1.02	16513			8.06	Si
SLU 62	-96	-66849	-3498	-128792		4.12	360.5	1.08	17574			5.02	Si
SLU 62	124	-57906	-2079	-425603		3.57	360.5	1.03	16733			8.05	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 7	-96	-73857	-16627	-2190812		4.55	360.5	1.63	26362			1.59	Si
SLV 7	124	-71552	-12608	-1110506		4.41	360.5	1.63	26362			2.09	Si
SLV 15	-96	-21511	-5890	-423176		1.33	360.5	1.1	17821			3.03	Si
SLV 15	124	-18231	-6584	-364590		1.12	360.5	1.06	17165			2.61	Si
SLV 6	-96	-44634	10885	1827524		2.75	360.5	1.38	22446			2.06	Si
SLV 6	124	-32171	10366	364497		1.98	360.5	1.23	19953			1.92	Si
SLV 9	-96	-25194	11396	1994240		1.85	303.29	1.2	16412			1.44	Si
SLV 9	124	-13923	9435	470496		0.86	360.5	1	16303			1.73	Si
SLV 5	-96	-44634	10885	1827524		2.75	360.5	1.38	22446			2.06	Si
SLV 5	124	-32171	10366	364497		1.98	360.5	1.23	19953			1.92	Si
SLV 10	-96	-25194	11396	1994240		1.85	303.29	1.2	16412			1.44	Si
SLV 10	124	-13923	9435	470496		0.86	360.5	1	16303			1.73	Si
SLV 11	-96	-54418	-16115	-2024096		3.35	360.5	1.5	24402			1.51	Si
SLV 11	124	-53304	-13539	-1004507		3.29	360.5	1.49	24180			1.79	Si
SLV 8	-96	-73857	-16627	-2190812		4.55	360.5	1.63	26362			1.59	Si
SLV 8	124	-71552	-12608	-1110506		4.41	360.5	1.63	26362			2.09	Si
SLV 16	-96	-21511	-5890	-423176		1.33	360.5	1.1	17821			3.03	Si
SLV 16	124	-18231	-6584	-364590		1.12	360.5	1.06	17165			2.61	Si
SLV 12	-96	-54418	-16115	-2024096		3.35	360.5	1.5	24402			1.51	Si
SLV 12	124	-53304	-13539	-1004507		3.29	360.5	1.49	24180			1.79	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.25	0.57	-9295	22195	199334	8.98	Si
SLV 14	14	0.25	0.57	-9295	22195	199334	8.98	Si
SLV 9	14	0.25	1.1	-17849	22195	365448	16.47	Si
SLV 10	14	0.25	1.1	-17849	22195	365448	16.47	Si
SLV 15	14	0.25	1.31	-21177	22195	425577	19.17	Si
SLV 16	14	0.25	1.31	-21177	22195	425577	19.17	Si
SLV 5	14	0.25	2.28	-37063	22195	677998	30.55	Si
SLV 6	14	0.25	2.28	-37063	22195	677998	30.55	Si
SLV 11	14	0.25	3.54	-57456	22195	918034	41.36	Si
SLV 12	14	0.25	3.54	-57456	22195	918034	41.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-52164	-54418	813	0.075	59.253	0.968	112.552	480.788	No
SLV 11	-52164	-54418	813	0.075	59.253	0.968	112.552	480.788	No
SLV 7	-70089	-73857	855	0.077	77.506	0.975	114.02	480.788	No
SLV 8	-70089	-73857	855	0.077	77.506	0.975	114.02	480.788	No
SLV 5	-29260	-44634	262	0.086	35.958	0.95	130.969	480.788	No
SLV 6	-29260	-44634	262	0.086	35.958	0.95	130.969	480.788	No
SLV 9	-11335	-25194	220	0.091	17.855	0.913	144.468	480.788	No
SLV 10	-11335	-25194	220	0.091	17.855	0.913	144.468	480.788	No
SLV 15	-16962	-21511	557	0.073	23.504	0.929	113.729	347.831	No
SLV 16	-16962	-21511	557	0.073	23.504	0.929	113.729	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.78	SLU 81	Si
V_SLU	4.563	SLU 81	Si
PF_SLV	1.988	SLV 9	Si
V_SLV	1.44	SLV 9	Si
PFFP_SLV	8.981	SLV 13	Si
R_SLV	0.234	SLV 11	No

Maschio 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2276.3	587.6	-2465.3	587.6	L1	L3	189	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 45	104	-19656	123808	2.31	1330493	10.746	Si
SLU 45	144	-17989	116027	2.12	1258545	10.847	Si
SLU 46	104	-19119	111397	2.25	1308137	11.743	Si
SLU 46	144	-17524	105819	2.06	1237126	11.691	Si
SLU 48	104	-19789	125658	2.33	1335890	10.631	Si
SLU 48	144	-18125	116760	2.13	1264692	10.832	Si
SLU 71	104	-21965	121119	2.58	1417594	11.704	Si
SLU 71	144	-20254	110930	2.38	1354438	12.21	Si
SLU 66	104	-21991	121417	2.59	1418497	11.683	Si
SLU 66	144	-20265	112308	2.38	1354862	12.064	Si
SLU 51	104	-19093	111099	2.24	1307028	11.765	Si
SLU 51	144	-17513	104440	2.06	1236621	11.84	Si
SLU 43	104	-19365	119811	2.28	1318466	11.005	Si
SLU 43	144	-17706	113181	2.08	1245602	11.005	Si
SLU 69	104	-22123	123266	2.6	1423049	11.544	Si
SLU 69	144	-20400	113042	2.4	1360165	12.032	Si
SLU 49	104	-19251	113246	2.26	1313728	11.601	Si
SLU 49	144	-17660	106552	2.08	1243444	11.67	Si
SLU 50	104	-19630	123511	2.31	1329423	10.764	Si
SLU 50	144	-17978	114648	2.11	1258054	10.973	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	104	-7486	-388385	0.88	656489	1.69	Si
SLV 13	144	-4204	-177489	0.49	381231	2.148	Si
SLV 4	104	-26390	564727	3.1	1860567	3.295	Si
SLV 4	144	-27033	341794	3.18	1890064	5.53	Si
SLV 9	104	-1335	-155021	0	0	0	No, e>l/2
SLV 9	144	4956	-218376	0	0	0	No, Trazione
SLV 1	104	-17972	498644	2.11	1404661	2.817	Si
SLV 1	144	-15725	195001	1.85	1261153	6.467	Si
SLV 6	104	-4481	111088	0.53	405220	3.648	Si

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Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 6	144	1499	-106629	0	0	0	No, Trazione
SLV 2	104	-17972	498644	2.11	1404661	2.817	Si
SLV 2	144	-15725	195001	1.85	1261153	6.467	Si
SLV 14	104	-7486	-388385	0.88	656489	1.69	Si
SLV 14	144	-4204	-177489	0.49	381231	2.148	Si
SLV 3	104	-26390	564727	3.1	1860567	3.295	Si
SLV 3	144	-27033	341794	3.18	1890064	5.53	Si
SLV 5	104	-4481	111088	0.53	405220	3.648	Si
SLV 5	144	1499	-106629	0	0	0	No, Trazione
SLV 10	104	-1335	-155021	0	0	0	No, e>1/2
SLV 10	144	4956	-218376	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	104	-23162	-2113	106426	2.72	189	0.92	7813				3.7	Si
SLU 60	144	-21445	-1830	98845	2.52	189	0.89	7584				4.14	Si
SLU 62	104	-23295	-2078	108276	2.74	189	0.92	7831				3.77	Si
SLU 62	144	-21581	-1793	99578	2.54	189	0.89	7602				4.24	Si
SLU 64	104	-21699	-2073	117419	2.55	189	0.9	7618				3.68	Si
SLU 64	144	-19982	-1801	109463	2.35	189	0.87	7389				4.1	Si
SLU 74	104	-24649	-2154	112047	2.9	189	0.94	8012				3.72	Si
SLU 74	144	-22882	-1852	102273	2.69	189	0.91	7776				4.2	Si
SLU 83	104	-25630	-2163	105884	3.01	189	0.96	8142				3.76	Si
SLU 83	144	-23857	-1852	95860	2.81	189	0.93	7906				4.27	Si
SLU 43	104	-19365	-1989	119811	2.28	189	0.86	7307				3.67	Si
SLU 43	144	-17706	-1742	113181	2.08	189	0.83	7086				4.07	Si
SLU 45	104	-19656	-1982	123808	2.31	189	0.86	7346				3.71	Si
SLU 45	144	-17989	-1730	116027	2.12	189	0.84	7123				4.12	Si
SLU 81	104	-25497	-2198	104034	3	189	0.96	8125				3.7	Si
SLU 81	144	-23721	-1889	95126	2.79	189	0.93	7888				4.17	Si
SLU 66	104	-21991	-2066	121417	2.59	189	0.9	7657				3.71	Si
SLU 66	144	-20265	-1790	112308	2.38	189	0.87	7427				4.15	Si
SLU 53	104	-22314	-2069	114439	2.62	189	0.91	7700				3.72	Si
SLU 53	144	-20606	-1792	105991	2.42	189	0.88	7472				4.17	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	104	-4481	1348	111088	0.53	189	0.94	7984				5.92	Si
SLV 6	144	1499	3845	-106629	0	0	0.83	0				0	No, Vu<V
SLV 16	104	-15904	-8602	-322302	1.87	189	1.21	10268				1.19	Si
SLV 16	144	-15512	-11249	-30696	1.82	189	1.2	10190				0.91	No, Vu<V
SLV 10	104	-1335	-2685	-155021	0	0	0.83	0				0	No, Vu<V
SLV 10	144	4956	-1620	-218376	0	0	0.83	0				0	No, Vu<V
SLV 2	104	-17972	5400	498644	2.11	189	1.26	10682				1.98	Si
SLV 2	144	-15725	8469	195001	1.85	189	1.2	10233				1.21	Si
SLV 1	104	-17972	5400	498644	2.11	189	1.26	10682				1.98	Si
SLV 1	144	-15725	8469	195001	1.85	189	1.2	10233				1.21	Si
SLV 9	104	-1335	-2685	-155021	0	0	0.83	0				0	No, Vu<V
SLV 9	144	4956	-1620	-218376	0	0	0.83	0				0	No, Vu<V
SLV 14	104	-7486	-8042	-388385	1.3	127.86	1.09	6292				0.78	No, Vu<V
SLV 14	144	-4204	-9747	-177489	0.6	156.85	0.95	6723				0.69	No, Vu<V
SLV 5	104	-4481	1348	111088	0.53	189	0.94	7984				5.92	Si
SLV 5	144	1499	3845	-106629	0	0	0.83	0				0	No, Vu<V
SLV 13	104	-7486	-8042	-388385	1.3	127.86	1.09	6292				0.78	No, Vu<V
SLV 13	144	-4204	-9747	-177489	0.6	156.85	0.95	6723				0.69	No, Vu<V
SLV 15	104	-15904	-8602	-322302	1.87	189	1.21	10268				1.19	Si
SLV 15	144	-15512	-11249	-30696	1.82	189	1.2	10190				0.91	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.25	0.47	-4018	12067	86910	7.2	Si
SLV 9	14	0.25	0.47	-4018	12067	86910	7.2	Si
SLV 13	14	0.25	0.72	-6157	12067	130323	10.8	Si
SLV 14	14	0.25	0.72	-6157	12067	130323	10.8	Si
SLV 5	14	0.25	1.03	-8791	12067	181058	15	Si
SLV 6	14	0.25	1.03	-8791	12067	181058	15	Si
SLV 16	14	0.25	1.5	-12763	12067	251895	20.87	Si
SLV 15	14	0.25	1.5	-12763	12067	251895	20.87	Si
SLV 1	14	0.25	2.59	-22065	12067	391056	32.41	Si
SLV 2	14	0.25	2.59	-22065	12067	391056	32.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	2208	-3929	710	0	0	0	0	480.788	No, Trazione
SLV 5	-492	-10006	791	0	4.36	0.928	0	480.788	No
SLV 9	2208	-3929	710	0	0	0	0	480.788	No, Trazione
SLV 6	-492	-10006	791	0	4.36	0.928	0	480.788	No
SLV 14	-4932	-5657	484	0.039	8.357	0.906	62.628	347.831	No
SLV 13	-4932	-5657	484	0.039	8.357	0.906	62.628	347.831	No
SLV 1	-13933	-25912	754	0.047	17.424	0.947	72.509	347.831	No
SLV 2	-13933	-25912	754	0.047	17.424	0.947	72.509	347.831	No
SLV 7	-29894	-35196	416	0.076	33.656	0.971	113.821	480.788	No
SLV 8	-29894	-35196	416	0.076	33.656	0.971	113.821	480.788	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.631	SLU 48	Si
V_SLU	3.674	SLU 43	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLV 5	No
PFFP_SLV	7.202	SLV 9	Si
R_SLV	0	SLV 10	No

Maschio 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	587.6	-2176.3	587.6	L1	L3	214.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 80	104	-29984	-227281	3.11	1989465	8.753	Si
SLU 80	144	-29950	-452047	3.1	1988594	4.399	Si
SLU 76	104	-29548	-225623	3.06	1978111	8.767	Si
SLU 76	144	-29507	-443949	3.06	1977020	4.453	Si
SLU 79	104	-30100	-222808	3.12	1992416	8.942	Si
SLU 79	144	-30065	-450389	3.11	1991524	4.422	Si
SLU 70	104	-26667	-219567	2.76	1890045	8.608	Si
SLU 70	144	-26545	-425691	2.75	1885811	4.43	Si
SLU 83	104	-31244	-222899	3.24	2019369	9.06	Si
SLU 83	144	-31241	-454726	3.24	2019317	4.441	Si
SLU 84	104	-31127	-227372	3.22	2016782	8.87	Si
SLU 84	144	-31126	-456384	3.22	2016757	4.419	Si
SLU 75	104	-29812	-225965	3.09	1985062	8.785	Si
SLU 75	144	-29777	-448083	3.08	1984154	4.428	Si
SLU 78	104	-30170	-230605	3.13	1994170	8.648	Si
SLU 78	144	-30143	-457287	3.12	1993484	4.359	Si
SLU 74	104	-29929	-221492	3.1	1988067	8.976	Si
SLU 74	144	-29893	-446425	3.1	1987138	4.451	Si
SLU 77	104	-30287	-226132	3.14	1997061	8.831	Si
SLU 77	144	-30258	-455629	3.13	1996354	4.382	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	104	-20705	-480339	2.15	1830789	3.811	Si
SLV 16	144	-19798	-429357	2.05	1766871	4.115	Si
SLD 16	104	-20363	-293318	2.11	1806894	6.16	Si
SLD 16	144	-19945	-360052	2.07	1777350	4.936	Si
SLV 10	104	-7710	-110894	0.8	772868	6.969	Si
SLV 10	144	-12460	-274671	1.29	1195131	4.351	Si
SLV 14	104	-13742	-402234	1.42	1302077	3.237	Si
SLV 14	144	-15637	-390729	1.62	1454731	3.723	Si
SLV 13	104	-13742	-402234	1.42	1302077	3.237	Si
SLV 13	144	-15637	-390729	1.62	1454731	3.723	Si
SLV 15	104	-20705	-480339	2.15	1830789	3.811	Si
SLV 15	144	-19798	-429357	2.05	1766871	4.115	Si
SLD 14	104	-17496	-261702	1.81	1598099	6.107	Si
SLD 14	144	-18211	-342962	1.89	1651583	4.816	Si
SLV 9	104	-7710	-110894	0.8	772868	6.969	Si
SLV 9	144	-12460	-274671	1.29	1195131	4.351	Si
SLD 15	104	-20363	-293318	2.11	1806894	6.16	Si
SLD 15	144	-19945	-360052	2.07	1777350	4.936	Si
SLD 13	104	-17496	-261702	1.81	1598099	6.107	Si
SLD 13	144	-18211	-342962	1.89	1651583	4.816	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	104	-30100	3870	-222808		3.12	214.5	0.97	9376			2.42	Si
SLU 79	144	-30065	3474	-450389		3.11	214.5	0.97	9371			2.7	Si
SLU 84	104	-31127	3825	-227372		3.22	214.5	0.99	9513			2.49	Si
SLU 84	144	-31126	3420	-456384		3.22	214.5	0.99	9513			2.78	Si
SLU 77	104	-30287	3904	-226132		3.14	214.5	0.97	9401			2.41	Si
SLU 77	144	-30258	3504	-455629		3.13	214.5	0.97	9397			2.68	Si
SLU 80	104	-29984	3795	-227281		3.11	214.5	0.97	9360			2.47	Si
SLU 80	144	-29950	3399	-452047		3.1	214.5	0.97	9356			2.75	Si
SLU 78	104	-30170	3829	-230605		3.13	214.5	0.97	9385			2.45	Si
SLU 78	144	-30143	3430	-457287		3.12	214.5	0.97	9382			2.74	Si
SLU 81	104	-30886	3799	-218259		3.2	214.5	0.98	9481			2.5	Si
SLU 81	144	-30876	3401	-445523		3.2	214.5	0.98	9479			2.79	Si
SLU 71	104	-26597	3566	-211770		2.76	214.5	0.92	8909			2.5	Si
SLU 71	144	-26467	3206	-418793		2.74	214.5	0.92	8891			2.77	Si
SLU 69	104	-26784	3599	-215094		2.77	214.5	0.93	8934			2.48	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 69	144	-26660	3237	-424033		2.76	214.5	0.92	8917			2.76	Si
SLU 83	104	-31244	3900	-222899		3.24	214.5	0.99	9528			2.44	Si
SLU 83	144	-31241	3494	-454726		3.24	214.5	0.99	9528			2.73	Si
SLU 74	104	-29929	3803	-221492		3.1	214.5	0.97	9353			2.46	Si
SLU 74	144	-29893	3410	-446425		3.1	214.5	0.97	9348			2.74	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	104	-32716	19943	-199629		3.39	214.5	1.51	14587			0.73	No, Vu<V
SLV 7	144	-27764	24488	-342580		2.88	214.5	1.41	13597			0.56	No, Vu<V
SLV 10	104	-7710	-14745	-110894		0.8	214.5	0.99	9586			0.65	No, Vu<V
SLV 10	144	-12460	-19826	-274671		1.29	214.5	1.09	10536			0.53	No, Vu<V
SLV 9	104	-7710	-14745	-110894		0.8	214.5	0.99	9586			0.65	No, Vu<V
SLV 9	144	-12460	-19826	-274671		1.29	214.5	1.09	10536			0.53	No, Vu<V
SLV 6	104	-9504	-9180	60721		0.98	214.5	1.03	9945			1.08	Si
SLV 6	144	-13896	-13608	-213821		1.44	214.5	1.12	10823			0.8	No, Vu<V
SLV 3	104	-26684	16242	91710		2.76	214.5	1.39	13381			0.82	No, Vu<V
SLV 3	144	-24587	18408	-226522		2.55	214.5	1.34	12961			0.7	No, Vu<V
SLV 8	104	-32716	19943	-199629		3.39	214.5	1.51	14587			0.73	No, Vu<V
SLV 8	144	-27764	24488	-342580		2.88	214.5	1.41	13597			0.56	No, Vu<V
SLV 5	104	-9504	-9180	60721		0.98	214.5	1.03	9945			1.08	Si
SLV 5	144	-13896	-13608	-213821		1.44	214.5	1.12	10823			0.8	No, Vu<V
SLV 12	104	-30922	14378	-371244		3.2	214.5	1.47	14228			0.99	No, Vu<V
SLV 12	144	-26327	18270	-403431		2.73	214.5	1.38	13309			0.73	No, Vu<V
SLV 11	104	-30922	14378	-371244		3.2	214.5	1.47	14228			0.99	No, Vu<V
SLV 11	144	-26327	18270	-403431		2.73	214.5	1.38	13309			0.73	No, Vu<V
SLV 4	104	-26684	16242	91710		2.76	214.5	1.39	13381			0.82	No, Vu<V
SLV 4	144	-24587	18408	-226522		2.55	214.5	1.34	12961			0.7	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.25	1.28	-12316	13695	248178	18.12	Si
SLV 9	14	0.25	1.28	-12316	13695	248178	18.12	Si
SLV 6	14	0.25	1.39	-13445	13695	268031	19.57	Si
SLV 5	14	0.25	1.39	-13445	13695	268031	19.57	Si
SLV 13	14	0.25	1.82	-17593	13695	336804	24.59	Si
SLV 14	14	0.25	1.82	-17593	13695	336804	24.59	Si
SLV 2	14	0.25	2.21	-21357	13695	393513	28.73	Si
SLV 1	14	0.25	2.21	-21357	13695	393513	28.73	Si
SLV 16	14	0.25	2.41	-23246	13695	419943	30.66	Si
SLV 15	14	0.25	2.41	-23246	13695	419943	30.66	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	-16605	-21634	1042	0.039	20.579	0.949	59.666	480.788	No
SLV 10	-16605	-21634	1042	0.039	20.579	0.949	59.666	480.788	No
SLV 6	-18297	-20678	1055	0.042	22.296	0.952	64.053	480.788	No
SLV 5	-18297	-20678	1055	0.042	22.296	0.952	64.053	480.788	No
SLV 14	-15222	-25424	778	0.05	19.175	0.945	77.606	347.831	No
SLV 13	-15222	-25424	778	0.05	19.175	0.945	77.606	347.831	No
SLV 8	-19981	-28322	344	0.077	24.007	0.955	117.113	480.788	No
SLV 7	-19981	-28322	344	0.077	24.007	0.955	117.113	480.788	No
SLV 12	-18290	-29278	331	0.077	22.288	0.952	117.64	480.788	No
SLV 11	-18290	-29278	331	0.077	22.288	0.952	117.64	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.359	SLU 78	Si
V_SLU	2.408	SLU 77	Si
PF_SLV	3.237	SLV 13	Si
V_SLV	0.531	SLV 9	No
PFFP_SLV	18.121	SLV 9	Si
R_SLV	0.124	SLV 9	No

Maschio 5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1969.3	587.6	-1969.3	657.6	L1	L3	70	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 79	-96	-17463	16057	5.54	195240	12.16	Si
SLU 79	173	-15330	-8967	4.87	215995	24.087	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 84	-96	-17986	16887	5.71	188247	11.148	Si
SLU 84	173	-15820	-7962	5.02	212319	26.665	Si
SLU 75	-96	-17393	16194	5.52	196115	12.111	Si
SLU 75	173	-15223	-7860	4.83	216710	27.57	Si
SLU 82	-96	-17801	17085	5.65	190804	11.168	Si
SLU 82	173	-15620	-7279	4.96	213897	29.387	Si
SLU 74	-96	-17408	16580	5.53	195925	11.817	Si
SLU 74	173	-15253	-8223	4.84	216509	26.329	Si
SLU 83	-96	-18002	17273	5.71	188033	10.886	Si
SLU 83	173	-15851	-8325	5.03	212068	25.472	Si
SLU 77	-96	-17593	16382	5.59	193567	11.816	Si
SLU 77	173	-15453	-8907	4.91	215131	24.153	Si
SLU 78	-96	-17578	15995	5.58	193764	12.114	Si
SLU 78	173	-15423	-8544	4.9	215348	25.205	Si
SLU 80	-96	-17448	15670	5.54	195432	12.472	Si
SLU 80	173	-15299	-8604	4.86	216202	25.127	Si
SLU 81	-96	-17817	17472	5.66	190598	10.909	Si
SLU 81	173	-15651	-7642	4.97	213664	27.96	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 5	-96	-7539	-143383	2.39	212189	1.48	Si
SLV 5	173	-6349	17358	2.02	185558	10.69	Si
SLV 6	-96	-7539	-143383	2.39	212189	1.48	Si
SLV 6	173	-6349	17358	2.02	185558	10.69	Si
SLV 10	-96	-7932	-145338	2.52	220414	1.517	Si
SLV 10	173	-5968	-11443	1.89	176485	15.422	Si
SLV 12	-96	-16421	165497	5.21	329528	1.991	Si
SLV 12	173	-14293	-28675	4.54	314481	10.967	Si
SLD 8	-96	-13699	77080	4.35	308814	4.006	Si
SLD 8	173	-12152	-3242	3.86	291040	89.775	Si
SLV 8	-96	-16028	167451	5.09	327370	1.955	Si
SLV 8	173	-14674	127	4.66	317782	1000	Si
SLV 9	-96	-7932	-145338	2.52	220414	1.517	Si
SLV 9	173	-5968	-11443	1.89	176485	15.422	Si
SLV 11	-96	-16421	165497	5.21	329528	1.991	Si
SLV 11	173	-14293	-28675	4.54	314481	10.967	Si
SLD 7	-96	-13699	77080	4.35	308814	4.006	Si
SLD 7	173	-12152	-3242	3.86	291040	89.775	Si
SLV 7	-96	-16028	167451	5.09	327370	1.955	Si
SLV 7	173	-14674	127	4.66	317782	1000	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	-96	-17463	499	16057		5.54	70	1.08	3413			6.84	Si
SLU 79	173	-15330	1144	-8967		4.87	70	1.08	3413			2.98	Si
SLU 74	-96	-17408	503	16580		5.53	70	1.08	3413			6.79	Si
SLU 74	173	-15253	1125	-8223		4.84	70	1.08	3413			3.03	Si
SLU 81	-96	-17817	533	17472		5.66	70	1.08	3413			6.41	Si
SLU 81	173	-15651	1138	-7642		4.97	70	1.08	3413			3	Si
SLU 75	-96	-17393	497	16194		5.52	70	1.08	3413			6.87	Si
SLU 75	173	-15223	1118	-7860		4.83	70	1.08	3413			3.05	Si
SLU 82	-96	-17801	527	17085		5.65	70	1.08	3413			6.48	Si
SLU 82	173	-15620	1131	-7279		4.96	70	1.08	3413			3.02	Si
SLU 84	-96	-17986	527	16887		5.71	70	1.08	3413			6.47	Si
SLU 84	173	-15820	1156	-7962		5.02	70	1.08	3413			2.95	Si
SLU 77	-96	-17593	504	16382		5.59	70	1.08	3413			6.78	Si
SLU 77	173	-15453	1150	-8907		4.91	70	1.08	3413			2.97	Si
SLU 83	-96	-18002	534	17273		5.71	70	1.08	3413			6.4	Si
SLU 83	173	-15851	1163	-8325		5.03	70	1.08	3413			2.93	Si
SLU 78	-96	-17578	498	15995		5.58	70	1.08	3413			6.86	Si
SLU 78	173	-15423	1143	-8544		4.9	70	1.08	3413			2.99	Si
SLU 80	-96	-17448	493	15670		5.54	70	1.08	3413			6.93	Si
SLU 80	173	-15299	1137	-8604		4.86	70	1.08	3413			3	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	-96	-10052	-2295	-32310		3.19	70	1.47	4635			2.02	Si
SLV 2	173	-9707	-3211	44929		3.08	70	1.45	4566			1.42	Si
SLV 15	-96	-13908	2946	54424		4.42	70	1.63	5119			1.74	Si
SLV 15	173	-10934	4747	-56246		3.47	70	1.53	4812			1.01	Si
SLV 12	-96	-16421	4372	165497		5.21	70	1.63	5119			1.17	Si
SLV 12	173	-14293	4864	-28675		4.54	70	1.63	5119			1.05	Si
SLV 9	-96	-7932	-2793	-145338		3.52	50.03	1.54	3463			1.24	Si
SLV 9	173	-5968	-1515	-11443		1.89	70	1.21	3819			2.52	Si
SLV 16	-96	-13908	2946	54424		4.42	70	1.63	5119			1.74	Si
SLV 16	173	-10934	4747	-56246		3.47	70	1.53	4812			1.01	Si
SLV 1	-96	-10052	-2295	-32310		3.19	70	1.47	4635			2.02	Si
SLV 1	173	-9707	-3211	44929		3.08	70	1.45	4566			1.42	Si
SLV 11	-96	-16421	4372	165497		5.21	70	1.63	5119			1.17	Si
SLV 11	173	-14293	4864	-28675		4.54	70	1.63	5119			1.05	Si
SLV 6	-96	-7539	-3720	-143383		3.49	47.95	1.53	3306			0.89	No, Vu<V
SLV 6	173	-6349	-3328	17358		2.02	70	1.24	3895			1.17	Si
SLV 10	-96	-7932	-2793	-145338		3.52	50.03	1.54	3463			1.24	Si
SLV 10	173	-5968	-1515	-11443		1.89	70	1.21	3819			2.52	Si
SLV 5	-96	-7539	-3720	-143383		3.49	47.95	1.53	3306			0.89	No, Vu<V
SLV 5	173	-6349	-3328	17358		2.02	70	1.24	3895			1.17	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.25	2.49	-7842	4310	140497	32.6	Si
SLV 10	14	0.25	2.49	-7842	4310	140497	32.6	Si
SLV 5	14	0.25	2.73	-8597	4310	150226	34.86	Si
SLV 6	14	0.25	2.73	-8597	4310	150226	34.86	Si
SLV 13	14	0.25	3.02	-9499	4310	160984	37.35	Si
SLV 14	14	0.25	3.02	-9499	4310	160984	37.35	Si
SLV 15	14	0.25	3.71	-11675	4310	183003	42.46	Si
SLV 16	14	0.25	3.71	-11675	4310	183003	42.46	Si
SLV 2	14	0.25	3.81	-12015	4310	185951	43.15	Si
SLV 1	14	0.25	3.81	-12015	4310	185951	43.15	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-14674	-16028	1944	0	16.134	0.977	0	480.788	No
SLV 16	-10934	-13908	1544	0	12.325	0.97	0	347.831	No
SLV 10	-5968	-7932	-766	0	7.273	0.952	0	480.788	No
SLV 6	-6349	-7539	-1068	0	7.66	0.954	0	480.788	No
SLV 11	-14293	-16421	2246	0	15.746	0.977	0	480.788	No
SLV 12	-14293	-16421	2246	0	15.746	0.977	0	480.788	No
SLV 7	-14674	-16028	1944	0	16.134	0.977	0	480.788	No
SLV 5	-6349	-7539	-1068	0	7.66	0.954	0	480.788	No
SLV 15	-10934	-13908	1544	0	12.325	0.97	0	347.831	No
SLV 9	-5968	-7932	-766	0	7.273	0.952	0	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.886	SLU 83	Si
V_SLU	2.934	SLU 83	Si
PF_SLV	1.48	SLV 5	Si
V_SLV	0.889	SLV 5	No
PFFP_SLV	32.6	SLV 9	Si
R_SLV	0	SLV 5	No

Maschio 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	207.1	-1961.8	485.1	L1	L3	278	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 83	-96	-57213	-9655	6.86	1255237	130.014	Si
SLU 83	104	-53165	89129	6.37	1606810	18.028	Si
SLU 80	-96	-55583	-35084	6.66	1404890	40.044	Si
SLU 80	104	-51534	99927	6.18	1729451	17.307	Si
SLU 78	-96	-55922	-28350	6.71	1374687	48.489	Si
SLU 78	104	-51873	99003	6.22	1704861	17.22	Si
SLU 68	-96	-48658	-20049	5.83	1919275	95.728	Si
SLU 68	104	-44609	118246	5.35	2129108	18.006	Si
SLU 65	-96	-47637	789	5.71	1978524	1000	Si
SLU 65	104	-43588	119695	5.23	2171439	18.141	Si
SLU 75	-96	-54900	-7513	6.58	1464287	194.912	Si
SLU 75	104	-50852	100452	6.1	1777544	17.695	Si
SLU 73	-96	-53427	4627	6.41	1586043	342.758	Si
SLU 73	104	-49379	107508	5.92	1874891	17.44	Si
SLU 82	-96	-56022	8237	6.72	1365635	165.798	Si
SLU 82	104	-51973	97602	6.23	1697474	17.392	Si
SLU 76	-96	-54448	-16210	6.53	1502599	92.693	Si
SLU 76	104	-50400	106059	6.04	1808364	17.051	Si
SLU 84	-96	-57043	-12601	6.84	1271347	100.893	Si
SLU 84	104	-52995	96153	6.35	1620104	16.849	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 9	-96	-33063	-2062928	3.96	3104682	1.505	Si
SLV 9	104	-31135	823282	3.73	3005517	3.651	Si
SLV 12	-96	-39181	1869831	4.7	3352180	1.793	Si
SLV 12	104	-36324	-354120	4.36	3249292	9.176	Si
SLV 8	-96	-41522	2075913	4.98	3419886	1.647	Si
SLV 8	104	-37222	-661099	4.46	3284025	4.968	Si
SLV 10	-96	-33063	-2062928	3.96	3104682	1.505	Si
SLV 10	104	-31135	823282	3.73	3005517	3.651	Si
SLV 5	-96	-35405	-1856846	4.25	3211461	1.73	Si

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Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 5	104	-32033	516302	3.84	3052959	5.913	Si
SLV 13	-96	-32473	-926892	3.89	3075398	3.318	Si
SLV 13	104	-31904	769334	3.83	3046252	3.96	Si
SLV 11	-96	-39181	1869831	4.7	3352180	1.793	Si
SLV 11	104	-36324	-354120	4.36	3249292	9.176	Si
SLV 14	-96	-32473	-926892	3.89	3075398	3.318	Si
SLV 14	104	-31904	769334	3.83	3046252	3.96	Si
SLV 7	-96	-41522	2075913	4.98	3419886	1.647	Si
SLV 7	104	-37222	-661099	4.46	3284025	4.968	Si
SLV 6	-96	-35405	-1856846	4.25	3211461	1.73	Si
SLV 6	104	-32033	516302	3.84	3052959	5.913	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 50	-96	-44397	-677	-31374	5.32	278	1.08	9035				13.35	Si
SLU 50	104	-40349	-677	111940	4.84	278	1.08	9035				13.35	Si
SLU 47	-96	-43093	-663	-15447	5.17	278	1.08	9035				13.63	Si
SLU 47	104	-39044	-663	125095	4.68	278	1.08	9035				13.63	Si
SLU 71	-96	-49962	-666	-35976	5.99	278	1.08	9035				13.57	Si
SLU 71	104	-45914	-666	105090	5.51	278	1.08	9035				13.57	Si
SLU 59	-96	-50018	-647	-30481	6	278	1.08	9035				13.97	Si
SLU 59	104	-45969	-647	106776	5.51	278	1.08	9035				13.97	Si
SLU 51	-96	-44227	-727	-34320	5.3	278	1.08	9035				12.43	Si
SLU 51	104	-40179	-727	118964	4.82	278	1.08	9035				12.43	Si
SLU 72	-96	-49792	-715	-38923	5.97	278	1.08	9035				12.63	Si
SLU 72	104	-45744	-715	112114	5.48	278	1.08	9035				12.63	Si
SLU 70	-96	-50131	-677	-32189	6.01	278	1.08	9035				13.34	Si
SLU 70	104	-46082	-677	111191	5.53	278	1.08	9035				13.34	Si
SLU 49	-96	-44566	-688	-27587	5.34	278	1.08	9035				13.12	Si
SLU 49	104	-40518	-688	118040	4.86	278	1.08	9035				13.12	Si
SLU 48	-96	-44736	-639	-24640	5.36	278	1.08	9035				14.15	Si
SLU 48	104	-40688	-639	111016	4.88	278	1.08	9035				14.15	Si
SLU 68	-96	-48658	-652	-20049	5.83	278	1.08	9035				13.86	Si
SLU 68	104	-44609	-652	118246	5.35	278	1.08	9035				13.86	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	-96	-41522	13594	2075913	5.18	267.01	1.63	13017				0.96	No, Vu<V
SLV 8	104	-37222	13105	-661099	4.46	278	1.63	13552				1.03	Si
SLV 9	-96	-33063	-14279	-2062928	4.8	229.82	1.63	11204				0.78	No, Vu<V
SLV 9	104	-31135	-13790	823282	3.73	278	1.58	13177				0.96	No, Vu<V
SLV 11	-96	-39181	11105	1869831	4.77	273.83	1.63	13349				1.2	Si
SLV 11	104	-36324	10526	-354120	4.36	278	1.63	13552				1.29	Si
SLV 7	-96	-41522	13594	2075913	5.18	267.01	1.63	13017				0.96	No, Vu<V
SLV 7	104	-37222	13105	-661099	4.46	278	1.63	13552				1.03	Si
SLV 5	-96	-35405	-11790	-1856846	4.54	259.66	1.63	12658				1.07	Si
SLV 5	104	-32033	-11211	516302	3.84	278	1.6	13357				1.19	Si
SLV 6	-96	-35405	-11790	-1856846	4.54	259.66	1.63	12658				1.07	Si
SLV 6	104	-32033	-11211	516302	3.84	278	1.6	13357				1.19	Si
SLV 13	-96	-32473	-8298	-926892	3.89	278	1.61	13445				1.62	Si
SLV 13	104	-31904	-8289	769334	3.83	278	1.6	13331				1.61	Si
SLV 12	-96	-39181	11105	1869831	4.77	273.83	1.63	13349				1.2	Si
SLV 12	104	-36324	10526	-354120	4.36	278	1.63	13552				1.29	Si
SLV 10	-96	-33063	-14279	-2062928	4.8	229.82	1.63	11204				0.78	No, Vu<V
SLV 10	104	-31135	-13790	823282	3.73	278	1.58	13177				0.96	No, Vu<V
SLV 14	-96	-32473	-8298	-926892	3.89	278	1.61	13445				1.62	Si
SLV 14	104	-31904	-8289	769334	3.83	278	1.6	13331				1.61	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.25	3.72	-31059	11411	323891	28.39	Si
SLV 10	14	0.25	3.72	-31059	11411	323891	28.39	Si
SLV 6	14	0.25	3.86	-32161	11411	330163	28.93	Si
SLV 5	14	0.25	3.86	-32161	11411	330163	28.93	Si
SLV 14	14	0.25	3.87	-32311	11411	330993	29.01	Si
SLV 13	14	0.25	3.87	-32311	11411	330993	29.01	Si
SLV 16	14	0.25	4.13	-34486	11411	342230	29.99	Si
SLV 15	14	0.25	4.13	-34486	11411	342230	29.99	Si
SLV 2	14	0.25	4.31	-35983	11411	349157	30.6	Si
SLV 1	14	0.25	4.31	-35983	11411	349157	30.6	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-28970	-39181	-44	0.058	32.653	0.97	86.837	700.213	No
SLV 12	-28970	-39181	-44	0.058	32.653	0.97	86.837	700.213	No
SLV 8	-29828	-41522	23	0.059	33.527	0.971	87.639	700.213	No
SLV 7	-29828	-41522	23	0.059	33.527	0.971	87.639	700.213	No
SLV 5	-24168	-35405	47	0.058	27.764	0.966	87.706	700.213	No
SLV 6	-24168	-35405	47	0.058	27.764	0.966	87.706	700.213	No
SLV 9	-23309	-33063	-20	0.059	26.891	0.965	89.502	700.213	No
SLV 10	-23309	-33063	-20	0.059	26.891	0.965	89.502	700.213	No
SLV 2	-27151	-40277	117	0.056	30.801	0.969	83.431	421.191	No
SLV 1	-27151	-40277	117	0.056	30.801	0.969	83.431	421.191	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.849	SLU 84	Si
V_SLU	12.433	SLU 51	Si
PF_SLV	1.505	SLV 9	Si
V_SLV	0.785	SLV 9	No
PFFP_SLV	28.385	SLV 9	Si
R_SLV	0.124	SLV 11	No

Maschio 7

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	565.1	-1961.8	610.1	L1	L3	45	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 74	-96	-8013	10127	5.94	48918	4.83	Si
SLU 74	104	-10682	-60167	7.91	6874	0.114	No, M>Mu
SLU 80	-96	-8055	9891	5.97	48479	4.902	Si
SLU 80	104	-10724	-60095	7.94	5993	0.1	No, M>Mu
SLU 81	-96	-8197	10474	6.07	46961	4.484	Si
SLU 81	104	-10928	-61751	8.09	1546	0.025	No, M>Mu
SLU 77	-96	-8112	10174	6.01	47887	4.707	Si
SLU 77	104	-10833	-60914	8.02	3626	0.06	No, M>Mu
SLU 82	-96	-8195	10331	6.07	46975	4.547	Si
SLU 82	104	-10904	-61502	8.08	2074	0.034	No, M>Mu
SLU 78	-96	-8110	10030	6.01	47899	4.775	Si
SLU 78	104	-10809	-60664	8.01	4144	0.068	No, M>Mu
SLU 75	-96	-8012	9984	5.93	48931	4.901	Si
SLU 75	104	-10659	-59917	7.9	7378	0.123	No, M>Mu
SLU 84	-96	-8294	10377	6.14	45869	4.42	Si
SLU 84	104	-11055	-62249	8.19	0	0	No, Rottura per schiacciamento
SLU 79	-96	-8057	10034	5.97	48467	4.83	Si
SLU 79	104	-10748	-60345	7.96	5483	0.091	No, M>Mu
SLU 83	-96	-8295	10521	6.14	45856	4.359	Si
SLU 83	104	-11079	-62498	8.21	0	0	No, Rottura per schiacciamento

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 7	-96	-4715	62810	3.49	75760	1.206	Si
SLV 7	104	-10531	-83372	7.8	85675	1.028	Si
SLV 8	-96	-4715	62810	3.49	75760	1.206	Si
SLV 8	104	-10531	-83372	7.8	85675	1.028	Si
SLV 15	-96	-6897	21752	5.11	90299	4.151	Si
SLV 15	104	-9838	-69356	7.29	89337	1.288	Si
SLD 8	-96	-5170	30180	3.83	79868	2.646	Si
SLD 8	104	-8632	-58680	6.39	92584	1.578	Si
SLD 12	-96	-5551	29765	4.11	82867	2.784	Si
SLD 12	104	-9006	-62407	6.67	92002	1.474	Si
SLD 11	-96	-5551	29765	4.11	82867	2.784	Si
SLD 11	104	-9006	-62407	6.67	92002	1.474	Si
SLV 16	-96	-6897	21752	5.11	90299	4.151	Si
SLV 16	104	-9838	-69356	7.29	89337	1.288	Si
SLD 7	-96	-5170	30180	3.83	79868	2.646	Si
SLD 7	104	-8632	-58680	6.39	92584	1.578	Si
SLV 11	-96	-5613	61795	4.16	83316	1.348	Si
SLV 11	104	-11412	-92141	8.45	79126	0.859	No, M>Mu
SLV 12	-96	-5613	61795	4.16	83316	1.348	Si
SLV 12	104	-11412	-92141	8.45	79126	0.859	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	-96	-8012	134	9984		5.93	45	1.08	1462			10.88	Si
SLU 75	104	-10659	1099	-59917		7.9	45	1.08	1462			1.33	Si
SLU 82	-96	-8195	139	10331		6.07	45	1.08	1462			10.56	Si
SLU 82	104	-10904	1131	-61502		8.08	45	1.08	1462			1.29	Si
SLU 79	-96	-8057	137	10034		5.97	45	1.08	1462			10.68	Si
SLU 79	104	-10748	1103	-60345		7.96	45	1.08	1462			1.33	Si
SLU 80	-96	-8055	134	9891		5.97	45	1.08	1462			10.88	Si
SLU 80	104	-10724	1099	-60095		7.94	45	1.08	1462			1.33	Si
SLU 77	-96	-8112	139	10174		6.01	45	1.08	1462			10.55	Si
SLU 77	104	-10833	1114	-60914		8.02	45	1.08	1462			1.31	Si
SLU 78	-96	-8110	136	10030		6.01	45	1.08	1462			10.74	Si
SLU 78	104	-10809	1110	-60664		8.01	45	1.08	1462			1.32	Si
SLU 83	-96	-8295	143	10521		6.14	45	1.08	1462			10.25	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	104	-11079	1146	-62498		8.21	45	1.08	1462			1.28	Si
SLU 74	-96	-8013	137	10127		5.94	45	1.08	1462			10.68	Si
SLU 74	104	-10682	1103	-60167		7.91	45	1.08	1462			1.33	Si
SLU 84	-96	-8294	140	10377		6.14	45	1.08	1462			10.43	Si
SLU 84	104	-11055	1142	-62249		8.19	45	1.08	1462			1.28	Si
SLU 81	-96	-8197	141	10474		6.07	45	1.08	1462			10.37	Si
SLU 81	104	-10928	1135	-61751		8.09	45	1.08	1462			1.29	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	-96	-5613	657	61795		5.43	34.47	1.63	1680			2.56	Si
SLV 11	104	-11412	1808	-92141		8.79	43.28	1.63	2110			1.17	Si
SLV 7	-96	-4715	692	62810		5.71	27.53	1.63	1342			1.94	Si
SLV 7	104	-10531	2046	-83372		8.02	43.75	1.63	2133			1.04	Si
SLD 12	-96	-5551	329	29765		4.11	45	1.63	2194			6.66	Si
SLD 12	104	-9006	1193	-62407		6.67	45	1.63	2194			1.84	Si
SLD 11	-96	-5551	329	29765		4.11	45	1.63	2194			6.66	Si
SLD 11	104	-9006	1193	-62407		6.67	45	1.63	2194			1.84	Si
SLV 3	-96	-3904	324	25136		2.89	45	1.41	1906			5.88	Si
SLV 3	104	-6900	1494	-40126		5.11	45	1.63	2194			1.47	Si
SLV 8	-96	-4715	692	62810		5.71	27.53	1.63	1342			1.94	Si
SLV 8	104	-10531	2046	-83372		8.02	43.75	1.63	2133			1.04	Si
SLV 12	-96	-5613	657	61795		5.43	34.47	1.63	1680			2.56	Si
SLV 12	104	-11412	1808	-92141		8.79	43.28	1.63	2110			1.17	Si
SLD 7	-96	-5170	344	30180		3.83	45	1.6	2159			6.28	Si
SLD 7	104	-8632	1295	-58680		6.39	45	1.63	2194			1.69	Si
SLD 8	-96	-5170	344	30180		3.83	45	1.6	2159			6.28	Si
SLD 8	104	-8632	1295	-58680		6.39	45	1.63	2194			1.69	Si
SLV 4	-96	-3904	324	25136		2.89	45	1.41	1906			5.88	Si
SLV 4	104	-6900	1494	-40126		5.11	45	1.63	2194			1.47	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.25	2.88	-3894	1847	44618	24.16	Si
SLV 5	14	0.25	2.88	-3894	1847	44618	24.16	Si
SLV 10	14	0.25	3.43	-4630	1847	49954	27.05	Si
SLV 9	14	0.25	3.43	-4630	1847	49954	27.05	Si
SLV 1	14	0.25	3.48	-4698	1847	50401	27.29	Si
SLV 2	14	0.25	3.48	-4698	1847	50401	27.29	Si
SLV 3	14	0.25	4.54	-6124	1847	57756	31.27	Si
SLV 4	14	0.25	4.54	-6124	1847	57756	31.27	Si
SLV 12	14	0.25	6.95	-9382	1847	60688	32.86	Si
SLV 11	14	0.25	6.95	-9382	1847	60688	32.86	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-8905	-4715	-101	0.047	9.58	0.983	69.122	700.213	No
SLV 8	-8905	-4715	-101	0.047	9.58	0.983	69.122	700.213	No
SLV 11	-9521	-5613	-88	0.049	10.208	0.984	71.815	700.213	No
SLV 12	-9521	-5613	-88	0.049	10.208	0.984	71.815	700.213	No
SLV 10	-3685	-6290	10	0.058	4.263	0.964	87.113	700.213	No
SLV 9	-3685	-6290	10	0.058	4.263	0.964	87.113	700.213	No
SLV 6	-3068	-5392	-3	0.06	3.636	0.958	91.48	700.213	No
SLV 5	-3068	-5392	-3	0.06	3.636	0.958	91.48	700.213	No
SLV 3	-6143	-3904	-82	0.046	6.766	0.977	68.351	421.191	No
SLV 4	-6143	-3904	-82	0.046	6.766	0.977	68.351	421.191	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 83	No
V_SLU	1.276	SLU 83	Si
PF_SLV	0.859	SLV 11	No
V_SLV	1.043	SLV 7	Si
PFFP_SLV	24.156	SLV 5	Si
R_SLV	0.099	SLV 7	No

Maschio 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2254.3	-328.4	-2465.3	-328.4	L1	L3	211	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 70	104	-26252	429580	2.76	1829534	4.259	Si
SLU 70	144	-23951	372274	2.52	1744356	4.686	Si
SLU 44	104	-22168	397983	2.33	1668408	4.192	Si
SLU 44	144	-19781	375494	2.08	1553186	4.136	Si
SLU 55	104	-25640	428882	2.7	1808305	4.216	Si
SLU 55	144	-23172	394150	2.44	1712260	4.344	Si
SLU 2	104	-17707	334108	1.86	1440427	4.311	Si
SLU 2	144	-15721	323201	1.66	1321476	4.089	Si
SLU 65	104	-24980	426011	2.63	1784227	4.188	Si
SLU 65	144	-22517	394457	2.37	1683969	4.269	Si
SLU 68	104	-25463	444230	2.68	1801951	4.056	Si
SLU 68	144	-22973	407480	2.42	1703793	4.181	Si
SLU 76	104	-28452	456910	3	1897488	4.153	Si
SLU 76	144	-25908	413112	2.73	1817734	4.4	Si
SLU 5	104	-18190	352327	1.92	1467734	4.166	Si
SLU 5	144	-16178	336225	1.7	1349758	4.014	Si
SLU 26	104	-21002	380355	2.21	1614065	4.244	Si
SLU 26	144	-18914	355188	1.99	1507436	4.244	Si
SLU 47	104	-22651	416202	2.39	1689837	4.06	Si
SLU 47	144	-20238	388518	2.13	1576416	4.058	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 15	104	-9033	-417010	0.95	878803	2.107	Si
SLV 15	144	-7598	-166380	0.8	749084	4.502	Si
SLV 3	104	-22122	843830	2.33	1888823	2.238	Si
SLV 3	144	-21804	455060	2.3	1868024	4.105	Si
SLV 1	104	-30446	930169	3.21	2369144	2.547	Si
SLV 1	144	-28962	572393	3.05	2292707	4.005	Si
SLV 4	104	-22122	843830	2.33	1888823	2.238	Si
SLV 4	144	-21804	455060	2.3	1868024	4.105	Si
SLD 4	104	-20822	506675	2.19	1802480	3.557	Si
SLD 4	144	-19844	310328	2.09	1735428	5.592	Si
SLD 3	104	-20822	506675	2.19	1802480	3.557	Si
SLD 3	144	-19844	310328	2.09	1735428	5.592	Si
SLV 2	104	-30446	930169	3.21	2369144	2.547	Si
SLV 2	144	-28962	572393	3.05	2292707	4.005	Si
SLV 7	104	-7828	301807	0.82	770163	2.552	Si
SLV 7	144	-8482	100668	0.89	829423	8.239	Si
SLV 16	104	-9033	-417010	0.95	878803	2.107	Si
SLV 16	144	-7598	-166380	0.8	749084	4.502	Si
SLV 8	104	-7828	301807	0.82	770163	2.552	Si
SLV 8	144	-8482	100668	0.89	829423	8.239	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	104	-25157	-3531	410663		2.65	211	0.91	8629			2.44	Si
SLU 52	144	-22716	-3227	381126		2.39	211	0.87	8304			2.57	Si
SLU 68	104	-25463	-3480	444230		2.68	211	0.91	8670			2.49	Si
SLU 68	144	-22973	-3166	407480		2.42	211	0.88	8338			2.63	Si
SLU 65	104	-24980	-3538	426011		2.63	211	0.91	8606			2.43	Si
SLU 65	144	-22517	-3232	394457		2.37	211	0.87	8277			2.56	Si
SLU 55	104	-25640	-3474	428882		2.7	211	0.92	8694			2.5	Si
SLU 55	144	-23172	-3162	394150		2.44	211	0.88	8365			2.65	Si
SLU 5	104	-18190	-3235	352327		1.92	211	0.81	7700			2.38	Si
SLU 5	144	-16178	-3007	336225		1.7	211	0.78	7432			2.47	Si
SLU 44	104	-22168	-3555	397983		2.33	211	0.87	8231			2.32	Si
SLU 44	144	-19781	-3280	375494		2.08	211	0.83	7913			2.41	Si
SLU 47	104	-22651	-3498	416202		2.39	211	0.87	8295			2.37	Si
SLU 47	144	-20238	-3215	388518		2.13	211	0.84	7973			2.48	Si
SLU 10	104	-20697	-3268	346788		2.18	211	0.85	8035			2.46	Si
SLU 10	144	-18656	-3019	328833		1.96	211	0.82	7762			2.57	Si
SLU 23	104	-20519	-3275	362136		2.16	211	0.84	8011			2.45	Si
SLU 23	144	-18457	-3024	342164		1.94	211	0.81	7736			2.56	Si
SLU 2	104	-17707	-3292	334108		1.86	211	0.8	7636			2.32	Si
SLU 2	144	-15721	-3072	323201		1.66	211	0.78	7371			2.4	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	104	-22122	12307	843830		2.43	202.06	1.32	12002			0.98	No, Vu<V
SLV 4	144	-21804	15492	455060		2.3	211	1.29	12273			0.79	No, Vu<V
SLV 3	104	-22122	12307	843830		2.43	202.06	1.32	12002			0.98	No, Vu<V
SLV 3	144	-21804	15492	455060		2.3	211	1.29	12273			0.79	No, Vu<V
SLV 8	104	-7828	13650	301807		0.87	200.84	1.01	9097			0.67	No, Vu<V
SLV 8	144	-8482	17118	100668		0.89	211	1.01	9609			0.56	No, Vu<V
SLV 14	104	-17358	-13996	-330670		1.83	211	1.2	11384			0.81	No, Vu<V
SLV 14	144	-14755	-16709	-49047		1.55	211	1.14	10864			0.65	No, Vu<V
SLV 7	104	-7828	13650	301807		0.87	200.84	1.01	9097			0.67	No, Vu<V
SLV 7	144	-8482	17118	100668		0.89	211	1.01	9609			0.56	No, Vu<V
SLV 9	104	-31651	-15339	211353		3.33	211	1.5	14243			0.93	No, Vu<V
SLV 9	144	-28078	-18335	305345		2.96	211	1.42	13528			0.74	No, Vu<V
SLV 12	104	-3902	7845	-76445		0.41	211	0.92	8693			1.11	Si
SLV 12	144	-4220	10008	-85764		0.44	211	0.92	8757			0.87	No, Vu<V
SLV 10	104	-31651	-15339	211353		3.33	211	1.5	14243			0.93	No, Vu<V
SLV 10	144	-28078	-18335	305345		2.96	211	1.42	13528			0.74	No, Vu<V
SLV 13	104	-17358	-13996	-330670		1.83	211	1.2	11384			0.81	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	144	-14755	-16709	-49047		1.55	211	1.14	10864			0.65	No, Vu<V
SLV 11	104	-3902	7845	-76445		0.41	211	0.92	8693			1.11	Si
SLV 11	144	-4220	10008	-85764		0.44	211	0.92	8757			0.87	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.25	0.7	-6647	12991	140984	10.85	Si
SLV 12	14	0.25	0.7	-6647	12991	140984	10.85	Si
SLV 16	14	0.25	0.91	-8619	12991	179512	13.82	Si
SLV 15	14	0.25	0.91	-8619	12991	179512	13.82	Si
SLV 8	14	0.25	1.25	-11902	12991	240318	18.5	Si
SLV 7	14	0.25	1.25	-11902	12991	240318	18.5	Si
SLV 13	14	0.25	1.64	-15564	12991	303205	23.34	Si
SLV 14	14	0.25	1.64	-15564	12991	303205	23.34	Si
SLV 4	14	0.25	2.75	-26135	12991	455575	35.07	Si
SLV 3	14	0.25	2.75	-26135	12991	455575	35.07	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-17361	-14974	-844	0.05	21.284	0.951	77.134	480.788	No
SLV 7	-17361	-14974	-844	0.05	21.284	0.951	77.134	480.788	No
SLV 11	-13911	-7399	-702	0.052	17.784	0.943	80.458	480.788	No
SLV 12	-13911	-7399	-702	0.052	17.784	0.943	80.458	480.788	No
SLV 5	-18662	-40340	-583	0.065	22.606	0.953	99.067	480.788	No
SLV 6	-18662	-40340	-583	0.065	22.606	0.953	99.067	480.788	No
SLV 9	-15212	-32765	-441	0.069	19.103	0.946	106.68	480.788	No
SLV 10	-15212	-32765	-441	0.069	19.103	0.946	106.68	480.788	No
SLV 3	-21841	-32689	-919	0.054	25.837	0.959	81.159	347.831	No
SLV 4	-21841	-32689	-919	0.054	25.837	0.959	81.159	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.014	SLU 5	Si
V_SLU	2.315	SLU 44	Si
PF_SLV	2.107	SLV 15	Si
V_SLV	0.561	SLV 7	No
PFFP_SLV	10.853	SLV 11	Si
R_SLV	0.16	SLV 7	No

Maschio 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1831.3	-328.4	-2154.3	-328.4	L1	L3	323	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 65	104	-40653	-1607815	2.8	4311163	2.681	Si
SLU 65	144	-39371	-1952154	2.71	4244060	2.174	Si
SLU 2	104	-28778	-1238939	1.98	3518033	2.84	Si
SLU 2	144	-27792	-1524516	1.91	3434871	2.253	Si
SLU 52	104	-41515	-1636518	2.86	4353805	2.66	Si
SLU 52	144	-40234	-1977357	2.77	4289719	2.169	Si
SLU 55	104	-41742	-1622112	2.87	4364646	2.691	Si
SLU 55	144	-40460	-1976289	2.78	4301351	2.176	Si
SLU 47	104	-36434	-1486902	2.51	4073465	2.74	Si
SLU 47	144	-35153	-1823421	2.42	3991610	2.189	Si
SLU 76	104	-46186	-1728619	3.18	4549373	2.632	Si
SLU 76	144	-44904	-2103953	3.09	4501620	2.14	Si
SLU 73	104	-45960	-1743025	3.16	4541274	2.605	Si
SLU 73	144	-44678	-2105021	3.07	4492730	2.134	Si
SLU 5	104	-29005	-1224534	2	3536733	2.888	Si
SLU 5	144	-28018	-1523449	1.93	3454178	2.267	Si
SLU 44	104	-36208	-1501307	2.49	4059350	2.704	Si
SLU 44	144	-34926	-1824489	2.4	3976704	2.18	Si
SLU 68	104	-40879	-1593409	2.81	4322537	2.713	Si
SLU 68	144	-39597	-1951086	2.72	4256224	2.181	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 5	104	-46168	-1438640	3.18	5517851	3.835	Si
SLV 5	144	-36117	-1782324	2.48	4646708	2.607	Si
SLV 13	104	-35515	-2319347	2.44	4588694	1.978	Si
SLV 13	144	-30563	-1782810	2.1	4086502	2.292	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	104	-45520	-2067272	3.13	5467214	2.645	Si
SLV 10	144	-34783	-1996969	2.39	4517243	2.262	Si
SLV 15	104	-27588	-1906780	1.9	3763330	1.974	Si
SLV 15	144	-28280	-1384600	1.95	3840004	2.773	Si
SLV 6	104	-46168	-1438640	3.18	5517851	3.835	Si
SLV 6	144	-36117	-1782324	2.48	4646708	2.607	Si
SLD 13	104	-33805	-1597996	2.33	4420343	2.766	Si
SLD 13	144	-31219	-1464541	2.15	4155555	2.837	Si
SLV 9	104	-45520	-2067272	3.13	5467214	2.645	Si
SLV 9	144	-34783	-1996969	2.39	4517243	2.262	Si
SLV 14	104	-35515	-2319347	2.44	4588694	1.978	Si
SLV 14	144	-30563	-1782810	2.1	4086502	2.292	Si
SLD 14	104	-33805	-1597996	2.33	4420343	2.766	Si
SLD 14	144	-31219	-1464541	2.15	4155555	2.837	Si
SLV 16	104	-27588	-1906780	1.9	3763330	1.974	Si
SLV 16	144	-28280	-1384600	1.95	3840004	2.773	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 68	104	-40879	8954	-1593409		2.81	323	0.93	13526			1.51	Si
SLU 68	144	-39597	8954	-1951086		2.72	323	0.92	13355			1.49	Si
SLU 47	104	-36434	8425	-1486902		2.51	323	0.89	12933			1.54	Si
SLU 47	144	-35153	8425	-1823421		2.42	323	0.88	12762			1.51	Si
SLU 65	104	-40653	8620	-1607815		2.8	323	0.93	13495			1.57	Si
SLU 65	144	-39371	8620	-1952154		2.71	323	0.92	13324			1.55	Si
SLU 76	104	-46186	9395	-1728619		3.18	323	0.98	14233			1.51	Si
SLU 76	144	-44904	9395	-2103953		3.09	323	0.97	14062			1.5	Si
SLU 55	104	-41742	8866	-1622112		2.87	323	0.94	13641			1.54	Si
SLU 55	144	-40460	8866	-1976289		2.78	323	0.93	13470			1.52	Si
SLU 73	104	-45960	9062	-1743025		3.16	323	0.98	14203			1.57	Si
SLU 73	144	-44678	9062	-2105021		3.07	323	0.97	14032			1.55	Si
SLU 26	104	-33449	8011	-1331041		2.3	323	0.86	12535			1.56	Si
SLU 26	144	-32463	8011	-1651113		2.23	323	0.85	12403			1.55	Si
SLU 34	104	-38756	8452	-1466251		2.67	323	0.91	13242			1.57	Si
SLU 34	144	-37770	8452	-1803980		2.6	323	0.9	13111			1.55	Si
SLU 44	104	-36208	8091	-1501307		2.49	323	0.89	12903			1.59	Si
SLU 44	144	-34926	8091	-1824489		2.4	323	0.88	12732			1.57	Si
SLU 5	104	-29005	7482	-1224534		2	323	0.82	11942			1.6	Si
SLU 5	144	-28018	7482	-1523449		1.94	323.38	0.81	11770			1.57	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	104	-27588	-19541	-1906780		2.21	277.15	1.28	15911			0.81	No, Vu<V
SLV 16	144	-28280	-23018	-1384600		1.95	323	1.22	17769			0.77	No, Vu<V
SLV 9	104	-45520	13067	-2067272		3.13	323	1.46	21216			1.62	Si
SLV 9	144	-34783	22163	-1996969		2.48	312.26	1.33	18666			0.84	No, Vu<V
SLV 10	104	-45520	13067	-2067272		3.13	323	1.46	21216			1.62	Si
SLV 10	144	-34783	22163	-1996969		2.48	312.26	1.33	18666			0.84	No, Vu<V
SLV 5	104	-46168	24546	-1438640		3.18	323	1.47	21346			0.87	No, Vu<V
SLV 5	144	-36117	34053	-1782324		2.48	323	1.33	19336			0.57	No, Vu<V
SLV 11	104	-19095	-16497	-692050		1.31	323	1.1	15932			0.97	No, Vu<V
SLV 11	144	-27174	-26004	-669603		1.87	323	1.21	17547			0.67	No, Vu<V
SLV 6	104	-46168	24546	-1438640		3.18	323	1.47	21346			0.87	No, Vu<V
SLV 6	144	-36117	34053	-1782324		2.48	323	1.33	19336			0.57	No, Vu<V
SLV 15	104	-27588	-19541	-1906780		2.21	277.15	1.28	15911			0.81	No, Vu<V
SLV 15	144	-28280	-23018	-1384600		1.95	323	1.22	17769			0.77	No, Vu<V
SLV 2	104	-37676	27590	-223910		2.59	323	1.35	19648			0.71	No, Vu<V
SLV 2	144	-35011	31066	-1067327		2.41	323	1.32	19115			0.62	No, Vu<V
SLV 12	104	-19095	-16497	-692050		1.31	323	1.1	15932			0.97	No, Vu<V
SLV 12	144	-27174	-26004	-669603		1.87	323	1.21	17547			0.67	No, Vu<V
SLV 1	104	-37676	27590	-223910		2.59	323	1.35	19648			0.71	No, Vu<V
SLV 1	144	-35011	31066	-1067327		2.41	323	1.32	19115			0.62	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.25	0.96	-13906	19886	288390	14.5	Si
SLV 12	14	0.25	0.96	-13906	19886	288390	14.5	Si
SLV 7	14	0.25	1.01	-14627	19886	301997	15.19	Si
SLV 8	14	0.25	1.01	-14627	19886	301997	15.19	Si
SLV 16	14	0.25	1.53	-22182	19886	436766	21.96	Si
SLV 15	14	0.25	1.53	-22182	19886	436766	21.96	Si
SLV 3	14	0.25	1.69	-24584	19886	476577	23.96	Si
SLV 4	14	0.25	1.69	-24584	19886	476577	23.96	Si
SLV 14	14	0.25	2.06	-29997	19886	560934	28.21	Si
SLV 13	14	0.25	2.06	-29997	19886	560934	28.21	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-23672	-14845	-1536	0.038	29.635	0.947	58.318	480.788	No
SLV 12	-23672	-14845	-1536	0.038	29.635	0.947	58.318	480.788	No
SLV 8	-24436	-15659	-1510	0.04	30.41	0.948	61.57	480.788	No
SLV 7	-24436	-15659	-1510	0.04	30.41	0.948	61.57	480.788	No
SLV 10	-28809	-39420	-966	0.063	34.851	0.954	95.817	480.788	No
SLV 9	-28809	-39420	-966	0.063	34.851	0.954	95.817	480.788	No
SLV 16	-24579	-22497	-1366	0.045	30.556	0.948	69.741	347.831	No

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Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 15	-24579	-22497	-1366	0.045	30.556	0.948	69.741	347.831	No
SLV 6	-29573	-40233	-940	0.064	35.627	0.955	97.641	480.788	No
SLV 5	-29573	-40233	-940	0.064	35.627	0.955	97.641	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.134	SLU 73	Si
V_SLU	1.492	SLU 68	Si
PF_SLV	1.974	SLV 15	Si
V_SLV	0.568	SLV 5	No
PFFP_SLV	14.502	SLV 11	Si
R_SLV	0.121	SLV 11	No

Maschio 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1652.3	-328.4	-1731.3	-328.4	L1	L3	79	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 83	104	-24782	61639	6.97	141170	2.29	Si
SLU 83	144	-19743	346586	5.55	248165	0.716	No, M>Mu
SLU 76	104	-25141	72152	7.07	130925	1.815	Si
SLU 76	144	-20342	357448	5.72	239086	0.669	No, M>Mu
SLU 78	104	-24842	68935	6.99	139472	2.023	Si
SLU 78	144	-19985	351071	5.62	244615	0.697	No, M>Mu
SLU 81	104	-24586	62025	6.92	146640	2.364	Si
SLU 81	144	-19622	344795	5.52	249890	0.725	No, M>Mu
SLU 73	104	-24944	72538	7.02	136588	1.883	Si
SLU 73	144	-20220	355656	5.69	241010	0.678	No, M>Mu
SLU 77	104	-23933	62640	6.73	164056	2.619	Si
SLU 77	144	-19096	335529	5.37	256887	0.766	No, M>Mu
SLU 84	104	-25692	67934	7.23	114479	1.685	Si
SLU 84	144	-20632	362128	5.8	234324	0.647	No, M>Mu
SLU 80	104	-24731	67569	6.96	142616	2.111	Si
SLU 80	144	-19871	348878	5.59	246315	0.706	No, M>Mu
SLU 75	104	-24646	69321	6.93	144975	2.091	Si
SLU 75	144	-19863	349279	5.59	246421	0.706	No, M>Mu
SLU 82	104	-25495	68320	7.17	120436	1.763	Si
SLU 82	144	-20511	360337	5.77	236344	0.656	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	104	-16795	98578	4.72	406897	4.128	Si
SLV 13	144	-15733	317348	4.43	396366	1.249	Si
SLV 14	104	-16795	98578	4.72	406897	4.128	Si
SLV 14	144	-15733	317348	4.43	396366	1.249	Si
SLD 13	104	-16445	68535	4.63	403653	5.89	Si
SLD 13	144	-14165	267064	3.98	377066	1.412	Si
SLV 15	104	-13333	61859	3.75	365002	5.901	Si
SLV 15	144	-12576	279764	3.54	352936	1.262	Si
SLV 9	104	-21666	118285	6.09	428944	3.626	Si
SLV 9	144	-18648	313517	5.25	420372	1.341	Si
SLD 14	104	-16445	68535	4.63	403653	5.89	Si
SLD 14	144	-14165	267064	3.98	377066	1.412	Si
SLV 12	104	-10128	-4112	2.85	306775	74.607	Si
SLV 12	144	-8125	188237	2.29	260908	1.386	Si
SLV 11	104	-10128	-4112	2.85	306775	74.607	Si
SLV 11	144	-8125	188237	2.29	260908	1.386	Si
SLV 16	104	-13333	61859	3.75	365002	5.901	Si
SLV 16	144	-12576	279764	3.54	352936	1.262	Si
SLV 10	104	-21666	118285	6.09	428944	3.626	Si
SLV 10	144	-18648	313517	5.25	420372	1.341	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	104	-25141	-1805	72152	7.07	79	1.08	3851				2.13	Si
SLU 76	144	-20342	-1252	357448	6.87	65.78	1.08	3207				2.56	Si
SLU 65	104	-22243	-1955	72588	6.26	79	1.08	3851				1.97	Si
SLU 65	144	-18160	-1194	320560	6.16	65.54	1.08	3195				2.68	Si
SLU 47	104	-20337	-1737	69565	5.72	79	1.08	3851				2.22	Si
SLU 47	144	-16640	-1137	293941	5.64	65.51	1.08	3193				2.81	Si
SLU 55	104	-23038	-1742	69515	6.48	79	1.08	3851				2.21	Si
SLU 55	144	-18700	-1201	329037	6.32	65.71	1.08	3204				2.67	Si
SLU 31	104	-21200	-1687	59512	5.96	79	1.08	3851				2.28	Si
SLU 31	144	-17183	-1094	301708	5.8	65.82	1.08	3209				2.93	Si



Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 44	104	-20141	-1892	69951		5.67	79	1.08	3851			2.04	Si
SLU 44	144	-16518	-1142	292150		5.61	65.44	1.08	3190			2.79	Si
SLU 68	104	-22440	-1800	72202		6.31	79	1.08	3851			2.14	Si
SLU 68	144	-18281	-1188	322351		6.19	65.6	1.08	3198			2.69	Si
SLU 82	104	-25495	-1709	68320		7.17	79	1.08	3851			2.25	Si
SLU 82	144	-20511	-1134	360337		6.93	65.8	1.08	3208			2.83	Si
SLU 52	104	-22842	-1897	69901		6.43	79	1.08	3851			2.03	Si
SLU 52	144	-18579	-1206	327246		6.29	65.66	1.08	3201			2.65	Si
SLU 73	104	-24944	-1960	72538		7.02	79	1.08	3851			1.96	Si
SLU 73	144	-20220	-1257	355656		6.84	65.73	1.08	3204			2.55	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	104	-21666	-7750	118285		6.09	79	1.63	5777			0.75	No, Vu<V
SLV 9	144	-18648	-2636	313517		6.09	68.06	1.63	4977			1.89	Si
SLV 10	104	-21666	-7750	118285		6.09	79	1.63	5777			0.75	No, Vu<V
SLV 10	144	-18648	-2636	313517		6.09	68.06	1.63	4977			1.89	Si
SLV 3	104	-15713	8049	-4233		4.42	79	1.63	5777			0.72	No, Vu<V
SLV 3	144	-10382	581	143538		3	77.02	1.43	4965			8.54	Si
SLV 16	104	-13333	-7397	61859		3.75	79	1.58	5629			0.76	No, Vu<V
SLV 16	144	-12576	-775	279764		5.4	51.76	1.63	3785			4.88	Si
SLV 14	104	-16795	-10055	98578		4.72	79	1.63	5777			0.57	No, Vu<V
SLV 14	144	-15733	-1853	317348		6.03	57.99	1.63	4240			2.29	Si
SLV 7	104	-10842	5744	-23940		3.05	79	1.44	5131			0.89	No, Vu<V
SLV 7	144	-7467	1364	147369		2.8	59.29	1.39	3717			2.72	Si
SLV 4	104	-15713	8049	-4233		4.42	79	1.63	5777			0.72	No, Vu<V
SLV 4	144	-10382	581	143538		3	77.02	1.43	4965			8.54	Si
SLV 13	104	-16795	-10055	98578		4.72	79	1.63	5777			0.57	No, Vu<V
SLV 13	144	-15733	-1853	317348		6.03	57.99	1.63	4240			2.29	Si
SLV 8	104	-10842	5744	-23940		3.05	79	1.44	5131			0.89	No, Vu<V
SLV 8	144	-7467	1364	147369		2.8	59.29	1.39	3717			2.72	Si
SLV 15	104	-13333	-7397	61859		3.75	79	1.58	5629			0.76	No, Vu<V
SLV 15	144	-12576	-775	279764		5.4	51.76	1.63	3785			4.88	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.25	2.54	-9034	4864	160986	33.1	Si
SLV 8	14	0.25	2.54	-9034	4864	160986	33.1	Si
SLV 4	14	0.25	2.79	-9910	4864	172108	35.38	Si
SLV 3	14	0.25	2.79	-9910	4864	172108	35.38	Si
SLV 12	14	0.25	2.97	-10542	4864	179634	36.93	Si
SLV 11	14	0.25	2.97	-10542	4864	179634	36.93	Si
SLV 1	14	0.25	3.42	-12170	4864	197110	40.53	Si
SLV 2	14	0.25	3.42	-12170	4864	197110	40.53	Si
SLV 15	14	0.25	4.2	-14939	4864	220529	45.34	Si
SLV 16	14	0.25	4.2	-14939	4864	220529	45.34	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 7	-3875	-6480	-433	0.007	5.31	0.931	11.439	480.788	No
SLV 8	-3875	-6480	-433	0.007	5.31	0.931	11.439	480.788	No
SLV 12	-3475	-11210	-396	0.009	4.907	0.926	14.046	480.788	No
SLV 11	-3475	-11210	-396	0.009	4.907	0.926	14.046	480.788	No
SLV 4	-7408	-4227	-435	0.04	8.891	0.955	60.44	347.831	No
SLV 3	-7408	-4227	-435	0.04	8.891	0.955	60.44	347.831	No
SLV 5	-12635	-15809	-313	0.066	14.21	0.971	98.478	480.788	No
SLV 6	-12635	-15809	-313	0.066	14.21	0.971	98.478	480.788	No
SLV 10	-12235	-20539	-275	0.068	13.803	0.97	102.04	480.788	No
SLV 9	-12235	-20539	-275	0.068	13.803	0.97	102.04	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.647	SLU 84	No
V_SLU	1.965	SLU 73	Si
PF_SLV	1.249	SLV 13	Si
V_SLV	0.575	SLV 13	No
PFFP_SLV	33.098	SLV 7	Si
R_SLV	0.024	SLV 7	No

Maschio 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1376.3	-328.4	-1422.3	-328.4	L1	L3	46	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 84	-96	-10245	-78445	4.95	92467	1.179	Si
SLU 84	114	-10709	-2818	5.17	89874	31.893	Si
SLU 73	-96	-9567	-77099	4.62	95194	1.235	Si
SLU 73	114	-10197	-2683	4.93	92702	34.558	Si
SLU 82	-96	-10084	-79053	4.87	93230	1.179	Si
SLU 82	114	-10626	-2498	5.13	90382	36.185	Si
SLU 76	-96	-9729	-76491	4.7	94658	1.238	Si
SLU 76	114	-10280	-3003	4.97	92291	30.736	Si
SLU 78	-96	-9948	-74830	4.81	93818	1.254	Si
SLU 78	114	-10358	-3801	5	91889	24.177	Si
SLU 74	-96	-9848	-73112	4.76	94218	1.289	Si
SLU 74	114	-10209	-4166	4.93	92644	22.238	Si
SLU 83	-96	-10306	-76118	4.98	92158	1.211	Si
SLU 83	114	-10643	-3504	5.14	90279	25.768	Si
SLU 81	-96	-10145	-76727	4.9	92948	1.211	Si
SLU 81	114	-10560	-3183	5.1	90772	28.515	Si
SLU 75	-96	-9786	-75439	4.73	94450	1.252	Si
SLU 75	114	-10275	-3480	4.96	92318	26.525	Si
SLU 80	-96	-9931	-74332	4.8	93887	1.263	Si
SLU 80	114	-10319	-3780	4.99	92091	24.363	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 13	-96	-6715	-87060	3.24	113437	1.303	Si
SLD 13	114	-8464	-3568	4.09	129530	36.304	Si
SLV 12	-96	-4473	-74838	2.16	84692	1.132	Si
SLV 12	114	-6514	2379	3.15	111242	46.761	Si
SLV 16	-96	-5383	-134930	0	0	0	No, $e > l/2$
SLV 16	114	-9518	144	4.6	136534	95.531	Si
SLD 16	-96	-6188	-86748	2.99	107505	1.239	Si
SLD 16	114	-8110	-2145	3.92	126717	59.088	Si
SLV 15	-96	-5383	-134930	0	0	0	No, $e > l/2$
SLV 15	114	-9518	144	4.6	136534	95.531	Si
SLV 11	-96	-4473	-74838	2.16	84692	1.132	Si
SLV 11	114	-6514	2379	3.15	111242	46.761	Si
SLV 14	-96	-6632	-135699	3.2	112536	0.829	No, $M > Mu$
SLV 14	114	-10364	-3178	5.01	140695	44.268	Si
SLD 15	-96	-6188	-86748	2.99	107505	1.239	Si
SLD 15	114	-8110	-2145	3.92	126717	59.088	Si
SLD 14	-96	-6715	-87060	3.24	113437	1.303	Si
SLD 14	114	-8464	-3568	4.09	129530	36.304	Si
SLV 13	-96	-6632	-135699	3.2	112536	0.829	No, $M > Mu$
SLV 13	114	-10364	-3178	5.01	140695	44.268	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	-96	-9567	-1702	-77099		4.74	44.82	1.08	2185			1.28	Si
SLU 73	114	-10197	514	-2683		4.93	46	1.08	2243			4.37	Si
SLU 80	-96	-9931	-1650	-74332		4.8	46	1.08	2243			1.36	Si
SLU 80	114	-10319	519	-3780		4.99	46	1.08	2243			4.32	Si
SLU 83	-96	-10306	-1691	-76118		4.98	46	1.08	2243			1.33	Si
SLU 83	114	-10643	518	-3504		5.14	46	1.08	2243			4.33	Si
SLU 84	-96	-10245	-1740	-78445		4.95	46	1.08	2243			1.29	Si
SLU 84	114	-10709	531	-2818		5.17	46	1.08	2243			4.22	Si
SLU 74	-96	-9848	-1621	-73112		4.76	46	1.08	2243			1.38	Si
SLU 74	114	-10209	502	-4166		4.93	46	1.08	2243			4.47	Si
SLU 75	-96	-9786	-1669	-75439		4.74	45.87	1.08	2236			1.34	Si
SLU 75	114	-10275	515	-3480		4.96	46	1.08	2243			4.36	Si
SLU 76	-96	-9729	-1692	-76491		4.76	45.41	1.08	2214			1.31	Si
SLU 76	114	-10280	520	-3003		4.97	46	1.08	2243			4.31	Si
SLU 82	-96	-10084	-1750	-79053		4.93	45.48	1.08	2217			1.27	Si
SLU 82	114	-10626	525	-2498		5.13	46	1.08	2243			4.27	Si
SLU 78	-96	-9948	-1659	-74830		4.81	46	1.08	2243			1.35	Si
SLU 78	114	-10358	521	-3801		5	46	1.08	2243			4.3	Si
SLU 81	-96	-10145	-1701	-76727		4.9	46	1.08	2243			1.32	Si
SLU 81	114	-10560	512	-3183		5.1	46	1.08	2243			4.38	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 15	-96	-6188	-1605	-86748		5.1	26.94	1.63	1970			1.23	Si
SLD 15	114	-8110	176	-2145		3.92	46	1.62	3347			19.05	Si
SLD 13	-96	-6715	-1592	-87060		4.96	30.1	1.63	2201			1.38	Si
SLD 13	114	-8464	324	-3568		4.09	46	1.63	3364			10.39	Si
SLV 13	-96	-6632	-2226	-135699		19.36	7.61	1.63	557			0.25	No, $Vu < V$
SLV 13	114	-10364	284	-3178		5.01	46	1.63	3364			11.85	Si
SLV 11	-96	-4473	-1504	-74838		5.28	18.81	1.63	1376			0.91	No, $Vu < V$
SLV 11	114	-6514	-304	2379		3.15	46	1.46	3028			9.97	Si
SLV 12	-96	-4473	-1504	-74838		5.28	18.81	1.63	1376			0.91	No, $Vu < V$
SLV 12	114	-6514	-304	2379		3.15	46	1.46	3028			9.97	Si
SLV 16	-96	-5383	-2255	-134930		0	0	0.83	0			0	No, $Vu < V$
SLV 16	114	-9518	-66	144		4.6	46	1.63	3364			51.13	Si
SLV 15	-96	-5383	-2255	-134930		0	0	0.83	0			0	No, $Vu < V$
SLV 15	114	-9518	-66	144		4.6	46	1.63	3364			51.13	Si
SLD 16	-96	-6188	-1605	-86748		5.1	26.94	1.63	1970			1.23	Si
SLD 16	114	-8110	176	-2145		3.92	46	1.62	3347			19.05	Si
SLD 14	-96	-6715	-1592	-87060		4.96	30.1	1.63	2201			1.38	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 14	114	-8464	324	-3568		4.09	46	1.63	3364			10.39	Si
SLV 14	-96	-6632	-2226	-135699		19.36	7.61	1.63	557			0.25	No, Vu<V
SLV 14	114	-10364	284	-3178		5.01	46	1.63	3364			11.85	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.25	3.01	-6235	2832	105706	37.32	Si
SLV 3	14	0.25	3.01	-6235	2832	105706	37.32	Si
SLV 7	14	0.25	3.39	-7013	2832	114039	40.27	Si
SLV 8	14	0.25	3.39	-7013	2832	114039	40.27	Si
SLV 2	14	0.25	3.66	-7579	2832	119429	42.17	Si
SLV 1	14	0.25	3.66	-7579	2832	119429	42.17	Si
SLV 12	14	0.25	4.36	-9023	2832	130595	46.11	Si
SLV 11	14	0.25	4.36	-9023	2832	130595	46.11	Si
SLV 13	14	0.25	6.9	-14281	2832	139897	49.4	Si
SLV 14	14	0.25	6.9	-14281	2832	139897	49.4	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-2476	-4943	-173	0.04	3.314	0.935	61.43	480.788	No
SLV 7	-2476	-4943	-173	0.04	3.314	0.935	61.43	480.788	No
SLV 12	-3877	-4473	-221	0.043	4.734	0.952	65.331	480.788	No
SLV 11	-3877	-4473	-221	0.043	4.734	0.952	65.331	480.788	No
SLV 10	-7220	-8636	-123	0.073	8.135	0.971	109.511	480.788	No
SLV 9	-7220	-8636	-123	0.073	8.135	0.971	109.511	480.788	No
SLV 15	-6681	-5383	-242	0.056	7.586	0.969	83.712	347.831	No
SLV 16	-6681	-5383	-242	0.056	7.586	0.969	83.712	347.831	No
SLV 6	-5820	-9105	-76	0.078	6.709	0.965	117.97	480.788	No
SLV 5	-5820	-9105	-76	0.078	6.709	0.965	117.97	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.179	SLU 84	Si
V_SLU	1.267	SLU 82	Si
PF_SLV	0	SLV 15	No
V_SLV	0	SLV 15	No
PFFP_SLV	37.324	SLV 3	Si
R_SLV	0.128	SLV 7	No

Maschio 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1849.8	104.6	-1849.8	-328.4	L1	L3	433	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 81	-96	-41863	-1109114	3.22	5477623	4.939	Si
SLU 81	173	-21997	178967	1.69	3772295	21.078	Si
SLU 41	-96	-35641	-1054187	2.74	5117222	4.854	Si
SLU 41	173	-18986	112351	1.46	3372887	30.021	Si
SLU 77	-96	-41434	-1188683	3.19	5457894	4.592	Si
SLU 77	173	-21715	146895	1.67	3736482	25.436	Si
SLU 32	-96	-34265	-994524	2.64	5016140	5.044	Si
SLU 32	173	-18180	114909	1.4	3259696	28.368	Si
SLU 83	-96	-42336	-1178730	3.26	5498577	4.665	Si
SLU 83	173	-22259	161652	1.71	3805295	23.54	Si
SLU 69	-96	-37598	-1035988	2.89	5247692	5.065	Si
SLU 69	173	-19412	150087	1.49	3431634	22.864	Si
SLU 79	-96	-41166	-1182905	3.17	5445155	4.603	Si
SLU 79	173	-21534	145705	1.66	3713279	25.485	Si
SLU 37	-96	-34471	-1058361	2.65	5031737	4.754	Si
SLU 37	173	-18261	96404	1.41	3271159	33.932	Si
SLU 35	-96	-34739	-1064140	2.67	5051825	4.747	Si
SLU 35	173	-18442	97594	1.42	3296789	33.781	Si
SLU 74	-96	-40961	-1119067	3.15	5435191	4.857	Si
SLU 74	173	-21453	164210	1.65	3702898	22.55	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 11	-96	-26389	-1698014	2.03	4763323	2.805	Si
SLV 11	173	-12150	177630	0.94	2429035	13.675	Si
SLV 3	-96	-31564	-2254505	2.43	5474591	2.428	Si
SLV 3	173	-15785	-170715	1.22	3077607	18.028	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	-96	-26389	-1698014	2.03	4763323	2.805	Si
SLV 12	173	-12150	177630	0.94	2429035	13.675	Si
SLV 1	-96	-32096	-1443398	2.47	5543610	3.841	Si
SLV 1	173	-16927	-137720	1.3	3273793	23.771	Si
SLD 8	-96	-28362	-1404517	2.18	5043086	3.591	Si
SLD 8	173	-13999	82663	1.08	2763525	33.431	Si
SLV 7	-96	-28491	-2391606	2.19	5061014	2.116	Si
SLV 7	173	-13213	-911	1.02	2622463	1000	Si
SLV 2	-96	-32096	-1443398	2.47	5543610	3.841	Si
SLV 2	173	-16927	-137720	1.3	3273793	23.771	Si
SLD 7	-96	-28362	-1404517	2.18	5043086	3.591	Si
SLD 7	173	-13999	82663	1.08	2763525	33.431	Si
SLV 4	-96	-31564	-2254505	2.43	5474591	2.428	Si
SLV 4	173	-15785	-170715	1.22	3077607	18.028	Si
SLV 8	-96	-28491	-2391606	2.19	5061014	2.116	Si
SLV 8	173	-13213	-911	1.02	2622463	1000	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 23	-96	-29638	2304	-567024		2.28	433	0.86	11168			4.85	Si
SLU 23	173	-16082	3869	174089		1.24	433	0.72	9361			2.42	Si
SLU 2	-96	-26199	2410	-403088		2.02	433	0.82	10710			4.44	Si
SLU 2	173	-13971	3801	188141		1.08	433	0.7	9080			2.39	Si
SLU 76	-96	-40643	1985	-913877		3.13	433	0.97	12636			6.37	Si
SLU 76	173	-21920	4115	202884		1.69	433	0.78	10139			2.46	Si
SLU 31	-96	-33474	2336	-719719		2.58	433	0.9	11680			5	Si
SLU 31	173	-18385	4095	170897		1.42	433	0.74	9668			2.36	Si
SLU 55	-96	-37205	2091	-749941		2.86	433	0.94	12177			5.82	Si
SLU 55	173	-19810	4047	216936		1.52	433	0.76	9858			2.44	Si
SLU 52	-96	-36731	2439	-680326		2.83	433	0.93	12114			4.97	Si
SLU 52	173	-19548	4379	234251		1.5	433	0.76	9823			2.24	Si
SLU 44	-96	-32895	2407	-527631		2.53	433	0.89	11603			4.82	Si
SLU 44	173	-17244	4153	237443		1.33	433	0.73	9516			2.29	Si
SLU 10	-96	-30035	2442	-555783		2.31	433	0.86	11221			4.6	Si
SLU 10	173	-16275	4027	184950		1.25	433	0.72	9387			2.33	Si
SLU 73	-96	-40169	2333	-844262		3.09	433	0.97	12573			5.39	Si
SLU 73	173	-21658	4447	220199		1.67	433	0.78	10104			2.27	Si
SLU 65	-96	-36333	2301	-691567		2.8	433	0.93	12061			5.24	Si
SLU 65	173	-19355	4221	223390		1.49	433	0.75	9797			2.32	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	-96	-28163	15928	1005676		2.17	433	1.27	16458			1.03	Si
SLV 10	173	-15954	18811	287614		1.23	433	1.08	14016			0.75	No, Vu<V
SLV 8	-96	-28491	-16233	-2391606		2.39	397.67	1.31	15640			0.96	No, Vu<V
SLV 8	173	-13213	-16140	-911		1.02	433	1.04	13468			0.83	No, Vu<V
SLV 5	-96	-30265	14262	312084		2.33	433	1.3	16878			1.18	Si
SLV 5	173	-17018	19281	109072		1.31	433	1.1	14229			0.74	No, Vu<V
SLV 11	-96	-26389	-14567	-1698014		2.03	433	1.24	16103			1.11	Si
SLV 11	173	-12150	-16610	177630		0.94	433	1.02	13255			0.8	No, Vu<V
SLV 12	-96	-26389	-14567	-1698014		2.03	433	1.24	16103			1.11	Si
SLV 12	173	-12150	-16610	177630		0.94	433	1.02	13255			0.8	No, Vu<V
SLD 5	-96	-29185	5895	-274478		2.25	433	1.28	16662			2.83	Si
SLD 5	173	-15604	8702	129276		1.2	433	1.07	13946			1.6	Si
SLV 7	-96	-28491	-16233	-2391606		2.39	397.67	1.31	15640			0.96	No, Vu<V
SLV 7	173	-13213	-16140	-911		1.02	433	1.04	13468			0.83	No, Vu<V
SLV 6	-96	-30265	14262	312084		2.33	433	1.3	16878			1.18	Si
SLV 6	173	-17018	19281	109072		1.31	433	1.1	14229			0.74	No, Vu<V
SLD 6	-96	-29185	5895	-274478		2.25	433	1.28	16662			2.83	Si
SLD 6	173	-15604	8702	129276		1.2	433	1.07	13946			1.6	Si
SLV 9	-96	-28163	15928	1005676		2.17	433	1.27	16458			1.03	Si
SLV 9	173	-15954	18811	287614		1.23	433	1.08	14016			0.75	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.25	1.69	-22017	17773	284447	16	Si
SLV 11	14	0.25	1.69	-22017	17773	284447	16	Si
SLV 7	14	0.25	1.72	-22312	17773	287638	16.18	Si
SLV 8	14	0.25	1.72	-22312	17773	287638	16.18	Si
SLV 16	14	0.25	1.74	-22575	17773	290460	16.34	Si
SLV 15	14	0.25	1.74	-22575	17773	290460	16.34	Si
SLV 14	14	0.25	1.8	-23348	17773	298701	16.81	Si
SLV 13	14	0.25	1.8	-23348	17773	298701	16.81	Si
SLV 3	14	0.25	1.81	-23559	17773	300930	16.93	Si
SLV 4	14	0.25	1.81	-23559	17773	300930	16.93	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-15954	-28163	-791	0.024	21.216	0.936	36.525	700.213	No
SLV 10	-15954	-28163	-791	0.024	21.216	0.936	36.525	700.213	No
SLV 5	-17018	-30265	-798	0.025	22.291	0.938	38.53	700.213	No
SLV 6	-17018	-30265	-798	0.025	22.291	0.938	38.53	700.213	No
SLV 12	-12150	-26389	-449	0.038	17.377	0.924	59.539	700.213	No
SLV 11	-12150	-26389	-449	0.038	17.377	0.924	59.539	700.213	No
SLV 7	-13213	-28491	-456	0.039	18.448	0.928	60.48	700.213	No

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-13213	-28491	-456	0.039	18.448	0.928	60.48	700.213	No
SLV 14	-13382	-25090	-663	0.026	18.618	0.928	41.059	421.191	No
SLV 13	-13382	-25090	-663	0.026	18.618	0.928	41.059	421.191	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.592	SLU 77	Si
V_SLU	2.243	SLU 52	Si
PF_SLV	2.116	SLV 7	Si
V_SLV	0.738	SLV 5	No
PFFP_SLV	16.005	SLV 11	Si
R_SLV	0.052	SLV 9	No

Maschio 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1705.3	-500.9	-1705.3	-350.9	L1	L3	150	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 83	-96	-18418	321756	2.73	918635	2.855	Si
SLU 83	173	-12626	783319	1.87	729489	0.931	No, M>Mu
SLU 75	-96	-17843	341403	2.64	903955	2.648	Si
SLU 75	173	-11717	736353	1.74	691530	0.939	No, M>Mu
SLU 81	-96	-18480	318276	2.74	920179	2.891	Si
SLU 81	173	-12673	784886	1.88	731408	0.932	No, M>Mu
SLU 73	-96	-17716	359165	2.62	900581	2.507	Si
SLU 73	173	-11323	717190	1.68	674356	0.94	No, M>Mu
SLU 82	-96	-18346	352844	2.72	916865	2.599	Si
SLU 82	173	-12180	763798	1.8	711149	0.931	No, M>Mu
SLU 84	-96	-18284	356323	2.71	915299	2.569	Si
SLU 84	173	-12133	762232	1.8	709166	0.93	No, M>Mu
SLU 77	-96	-17914	310315	2.65	905823	2.919	Si
SLU 77	173	-12163	755875	1.8	710432	0.94	No, M>Mu
SLU 78	-96	-17780	344882	2.63	902303	2.616	Si
SLU 78	173	-11670	734787	1.73	689487	0.938	No, M>Mu
SLU 80	-96	-17680	343080	2.62	899621	2.622	Si
SLU 80	173	-11557	728115	1.71	684594	0.94	No, M>Mu
SLU 76	-96	-17653	362645	2.62	898907	2.479	Si
SLU 76	173	-11276	715623	1.67	672262	0.939	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 7	-96	-1395	325494	0	0	0	No, e>I/2
SLV 7	173	4523	-174840	0	0	0	No, Trazione
SLV 10	-96	-24566	86737	3.64	1293662	14.915	Si
SLV 10	173	-21606	1233349	3.2	1195941	0.97	No, M>Mu
SLV 8	-96	-1395	325494	0	0	0	No, e>I/2
SLV 8	173	4523	-174840	0	0	0	No, Trazione
SLD 7	-96	-8185	252838	1.21	552924	2.187	Si
SLD 7	173	-3366	249710	0.5	242134	0.97	No, M>Mu
SLV 11	-96	-734	458705	0	0	0	No, e>I/2
SLV 11	173	4152	-159113	0	0	0	No, Trazione
SLV 5	-96	-25227	-46474	3.74	1313309	28.259	Si
SLV 5	173	-21235	1217623	3.15	1182574	0.971	No, M>Mu
SLV 9	-96	-24566	86737	3.64	1293662	14.915	Si
SLV 9	173	-21606	1233349	3.2	1195941	0.97	No, M>Mu
SLV 6	-96	-25227	-46474	3.74	1313309	28.259	Si
SLV 6	173	-21235	1217623	3.15	1182574	0.971	No, M>Mu
SLD 8	-96	-8185	252838	1.21	552924	2.187	Si
SLD 8	173	-3366	249710	0.5	242134	0.97	No, M>Mu
SLV 12	-96	-734	458705	0	0	0	No, e>I/2
SLV 12	173	4152	-159113	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	-96	-18480	-162	318276	2.74	150	0.92	6214				38.3	Si
SLU 81	173	-12673	-1234	784886	7.18	39.2	1.08	1911				1.55	Si
SLU 74	-96	-17977	-127	306835	2.66	150	0.91	6147				48.58	Si
SLU 74	173	-12210	-1181	757441	6.97	38.9	1.08	1896				1.61	Si
SLU 77	-96	-17914	-107	310315	2.65	150	0.91	6139				57.26	Si
SLU 77	173	-12163	-1170	755875	7.01	38.56	1.08	1880				1.61	Si
SLU 53	-96	-17034	-93	275072	2.52	150	0.89	6021				64.56	Si
SLU 53	173	-11278	-1088	699464	6.44	38.94	1.08	1898				1.75	Si
SLU 82	-96	-18346	93	352844	2.72	150	0.92	6196				66.59	Si
SLU 82	173	-12180	-1030	763798	7.34	36.87	1.08	1798				1.75	Si



Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 62	-96	-17475	-110	289993		2.59	150	0.9	6080			55.43	Si
SLU 62	173	-11694	-1130	725342		6.68	38.91	1.08	1897			1.68	Si
SLU 56	-96	-16971	-74	278551		2.51	150	0.89	6013			81.31	Si
SLU 56	173	-11231	-1077	697898		6.47	38.58	1.08	1881			1.75	Si
SLU 79	-96	-17813	-101	308512		2.64	150	0.91	6125			60.79	Si
SLU 79	173	-12050	-1157	749203		6.96	38.48	1.08	1876			1.62	Si
SLU 83	-96	-18418	-143	321756		2.73	150	0.92	6206			43.41	Si
SLU 83	173	-12626	-1223	783319		7.22	38.87	1.08	1895			1.55	Si
SLU 60	-96	-17538	-129	286513		2.6	150	0.9	6088			47.19	Si
SLU 60	173	-11741	-1141	726909		6.65	39.26	1.08	1914			1.68	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	-96	-24566	-2058	86737		3.64	150	1.56	10538			5.12	Si
SLV 10	173	-21606	-2925	1233349		8.93	53.75	1.63	3930			1.34	Si
SLV 4	-96	-10508	500	39891		1.56	150	1.14	7727			15.45	Si
SLV 4	173	-4059	-871	294174		11.87	7.6	1.63	556			0.64	No, Vu<V
SLV 3	-96	-10508	500	39891		1.56	150	1.14	7727			15.45	Si
SLV 3	173	-4059	-871	294174		11.87	7.6	1.63	556			0.64	No, Vu<V
SLV 9	-96	-24566	-2058	86737		3.64	150	1.56	10538			5.12	Si
SLV 9	173	-21606	-2925	1233349		8.93	53.75	1.63	3930			1.34	Si
SLV 8	-96	-1395	1910	325494		0	0	0.83	0			0	No, Vu<V
SLV 8	173	4523	1279	-174840		0	0	0.83	0			0	No, Vu<V
SLV 6	-96	-25227	-2072	-46474		3.74	150	1.58	10670			5.15	Si
SLV 6	173	-21235	-3373	1217623		8.91	52.98	1.63	3874			1.15	Si
SLV 7	-96	-1395	1910	325494		0	0	0.83	0			0	No, Vu<V
SLV 7	173	4523	1279	-174840		0	0	0.83	0			0	No, Vu<V
SLV 12	-96	-734	1923	458705		0	0	0.83	0			0	No, Vu<V
SLV 12	173	4152	1727	-159113		0	0	0.83	0			0	No, Vu<V
SLV 11	-96	-734	1923	458705		0	0	0.83	0			0	No, Vu<V
SLV 11	173	4152	1727	-159113		0	0	0.83	0			0	No, Vu<V
SLV 5	-96	-25227	-2072	-46474		3.74	150	1.58	10670			5.15	Si
SLV 5	173	-21235	-3373	1217623		8.91	52.98	1.63	3874			1.15	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.25	0.14	-939	9235	20884	2.26	Si
SLV 11	14	0.25	0.14	-939	9235	20884	2.26	Si
SLV 8	14	0.25	0.25	-1676	9235	36949	4	Si
SLV 7	14	0.25	0.25	-1676	9235	36949	4	Si
SLV 15	14	0.25	1.06	-7175	9235	147391	15.96	Si
SLV 16	14	0.25	1.06	-7175	9235	147391	15.96	Si
SLV 3	14	0.25	1.43	-9633	9235	191423	20.73	Si
SLV 4	14	0.25	1.43	-9633	9235	191423	20.73	Si
SLV 14	14	0.25	1.96	-13257	9235	250344	27.11	Si
SLV 13	14	0.25	1.96	-13257	9235	250344	27.11	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 12	4152	-734	-74	0	0	0	0	480.788	No, Trazione
SLV 7	4523	-1395	20	0	0	0	0	480.788	No, Trazione
SLV 8	4523	-1395	20	0	0	0	0	480.788	No, Trazione
SLV 11	4152	-734	-74	0	0	0	0	480.788	No, Trazione
SLV 10	-21606	-24566	-276	0.078	24.553	0.968	116.521	480.788	No
SLV 9	-21606	-24566	-276	0.078	24.553	0.968	116.521	480.788	No
SLV 5	-21235	-25227	-183	0.082	24.176	0.968	122.569	480.788	No
SLV 6	-21235	-25227	-183	0.082	24.176	0.968	122.569	480.788	No
SLV 16	-5296	-8304	-254	0.067	8.008	0.917	105.772	347.831	No
SLV 15	-5296	-8304	-254	0.067	8.008	0.917	105.772	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.93	SLU 84	No
V_SLU	1.549	SLU 81	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 7	No
PFFP_SLV	2.261	SLV 11	Si
R_SLV	0	SLV 12	No

Maschio 14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1376.3	-478.4	-1705.3	-478.4	L1	L3	329	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

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Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 36	-96	-27741	-786567	1.87	3513688	4.467	Si
SLU 36	173	-16602	-88076	1.12	2355030	26.739	Si
SLU 76	-96	-34098	-892442	2.3	4023172	4.508	Si
SLU 76	173	-20482	-8436	1.38	2797056	331.574	Si
SLU 42	-96	-28290	-806846	1.91	3562053	4.415	Si
SLU 42	173	-17003	-82495	1.15	2402644	29.125	Si
SLU 79	-96	-34897	-907782	2.36	4079463	4.494	Si
SLU 79	173	-20504	-81048	1.38	2799411	34.54	Si
SLU 77	-96	-34931	-905573	2.36	4081826	4.507	Si
SLU 77	173	-20545	-74867	1.39	2803892	37.452	Si
SLU 38	-96	-27707	-788776	1.87	3510657	4.451	Si
SLU 38	173	-16560	-94257	1.12	2350105	24.933	Si
SLU 84	-96	-35180	-937499	2.38	4098961	4.372	Si
SLU 84	173	-21006	-49360	1.42	2853585	57.812	Si
SLU 83	-96	-35480	-925851	2.4	4119418	4.449	Si
SLU 83	173	-20946	-69286	1.41	2847189	41.093	Si
SLU 78	-96	-34631	-917221	2.34	4060918	4.427	Si
SLU 78	173	-20605	-54941	1.39	2810352	51.153	Si
SLU 80	-96	-34597	-919430	2.34	4058528	4.414	Si
SLU 80	173	-20563	-61122	1.39	2805879	45.906	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 15	-96	-16500	-585913	1.11	2466660	4.21	Si
SLD 15	173	-7818	282525	0.53	1230449	4.355	Si
SLD 13	-96	-20722	-705994	1.4	3018263	4.275	Si
SLD 13	173	-10617	190185	0.72	1644040	8.644	Si
SLV 15	-96	-4805	-606796	0.32	769497	1.268	Si
SLV 15	173	1599	610390	0	0	0	No, Trazione
SLD 14	-96	-20722	-705994	1.4	3018263	4.275	Si
SLD 14	173	-10617	190185	0.72	1644040	8.644	Si
SLV 11	-96	-3784	-157648	0.26	609512	3.866	Si
SLV 11	173	224	533246	0	0	0	No, Trazione
SLV 12	-96	-3784	-157648	0.26	609512	3.866	Si
SLV 12	173	224	533246	0	0	0	No, Trazione
SLD 16	-96	-16500	-585913	1.11	2466660	4.21	Si
SLD 16	173	-7818	282525	0.53	1230449	4.355	Si
SLV 16	-96	-4805	-606796	0.32	769497	1.268	Si
SLV 16	173	1599	610390	0	0	0	No, Trazione
SLV 13	-96	-14866	-885939	1	2244436	2.533	Si
SLV 13	173	-5056	396981	0.34	808465	2.037	Si
SLV 14	-96	-14866	-885939	1	2244436	2.533	Si
SLV 14	173	-5056	396981	0.34	808465	2.037	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	-96	-35480	5520	-925851		2.4	329	0.88	12956			2.35	Si
SLU 83	173	-20946	1986	-69286		1.41	329	0.74	11018			5.55	Si
SLU 80	-96	-34597	5466	-919430		2.34	329	0.87	12838			2.35	Si
SLU 80	173	-20563	2013	-61122		1.39	329	0.74	10967			5.45	Si
SLU 78	-96	-34631	5458	-917221		2.34	329	0.87	12842			2.35	Si
SLU 78	173	-20605	2007	-54941		1.39	329	0.74	10972			5.47	Si
SLU 75	-96	-34332	5317	-882468		2.32	329	0.86	12803			2.41	Si
SLU 75	173	-20483	1943	-15539		1.38	329	0.74	10956			5.64	Si
SLU 82	-96	-34881	5417	-902747		2.36	329	0.87	12876			2.38	Si
SLU 82	173	-20885	1964	-9958		1.41	329	0.74	11010			5.61	Si
SLU 77	-96	-34931	5419	-905573		2.36	329	0.87	12883			2.38	Si
SLU 77	173	-20545	1965	-74867		1.39	329	0.74	10964			5.58	Si
SLU 84	-96	-35180	5558	-937499		2.38	329	0.87	12916			2.32	Si
SLU 84	173	-21006	2028	-49360		1.42	329	0.74	11026			5.44	Si
SLU 79	-96	-34897	5427	-907782		2.36	329	0.87	12878			2.37	Si
SLU 79	173	-20504	1971	-81048		1.38	329	0.74	10959			5.56	Si
SLU 81	-96	-35181	5378	-891099		2.38	329	0.87	12916			2.4	Si
SLU 81	173	-20825	1923	-29884		1.41	329	0.74	11002			5.72	Si
SLU 76	-96	-34098	5351	-892442		2.3	329	0.86	12771			2.39	Si
SLU 76	173	-20482	1977	-8436		1.38	329	0.74	10956			5.54	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	-96	-4805	-5888	-606796		0.93	114.68	1.02	5262			0.89	No, Vu<V
SLV 16	173	1599	-6047	610390		0	0	0.83	0			0	No, Vu<V
SLV 13	-96	-14866	-4293	-885939		1.05	314.71	1.04	14775			3.44	Si
SLV 13	173	-5056	-5871	396981		0.44	257.95	0.92	10684			1.82	Si
SLV 11	-96	-3784	-1645	-157648		0.26	329	0.88	13094			7.96	Si
SLV 11	173	224	-1166	533246		0	0	0.83	0			0	No, Vu<V
SLV 1	-96	-45482	13146	-533137		3.07	329	1.45	21434			1.63	Si
SLV 1	173	-31171	8660	-534792		2.11	329	1.25	18572			2.14	Si
SLV 14	-96	-14866	-4293	-885939		1.05	314.71	1.04	14775			3.44	Si
SLV 14	173	-5056	-5871	396981		0.44	257.95	0.92	10684			1.82	Si
SLV 15	-96	-4805	-5888	-606796		0.93	114.68	1.02	5262			0.89	No, Vu<V
SLV 15	173	1599	-6047	610390		0	0	0.83	0			0	No, Vu<V
SLV 2	-96	-45482	13146	-533137		3.07	329	1.45	21434			1.63	Si
SLV 2	173	-31171	8660	-534792		2.11	329	1.25	18572			2.14	Si
SLV 12	-96	-3784	-1645	-157648		0.26	329	0.88	13094			7.96	Si
SLV 12	173	224	-1166	533246		0	0	0.83	0			0	No, Vu<V
SLV 4	-96	-35422	11551	-253994		2.39	329	1.31	19422			1.68	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	173	-24515	8485	-321383		1.66	329	1.16	17241			2.03	Si
SLV 3	-96	-35422	11551	-253994		2.39	329	1.31	19422			1.68	Si
SLV 3	173	-24515	8485	-321383		1.66	329	1.16	17241			2.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.25	0.21	-3092	20256	68378	3.38	Si
SLV 16	14	0.25	0.21	-3092	20256	68378	3.38	Si
SLV 11	14	0.25	0.21	-3134	20256	69299	3.42	Si
SLV 12	14	0.25	0.21	-3134	20256	69299	3.42	Si
SLV 14	14	0.25	0.76	-11293	20256	238238	11.76	Si
SLV 13	14	0.25	0.76	-11293	20256	238238	11.76	Si
SLV 8	14	0.25	0.77	-11372	20256	239788	11.84	Si
SLV 7	14	0.25	0.77	-11372	20256	239788	11.84	Si
SLV 10	14	0.25	2.06	-30473	20256	570139	28.15	Si
SLV 9	14	0.25	2.06	-30473	20256	570139	28.15	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	224	-3784	93	0	0	0	0	480.788	No, Trazione
SLV 12	224	-3784	93	0	0	0	0	480.788	No, Trazione
SLV 16	1599	-4805	379	0	0	0	0	347.831	No, Trazione
SLV 15	1599	-4805	379	0	0	0	0	347.831	No, Trazione
SLV 6	-29795	-46503	-1452	0.049	35.956	0.954	74.824	480.788	No
SLV 5	-29795	-46503	-1452	0.049	35.956	0.954	74.824	480.788	No
SLV 1	-31171	-45482	-1738	0.042	37.354	0.956	64.279	347.831	No
SLV 2	-31171	-45482	-1738	0.042	37.354	0.956	64.279	347.831	No
SLV 3	-24515	-35422	-1438	0.043	30.595	0.947	66.206	347.831	No
SLV 4	-24515	-35422	-1438	0.043	30.595	0.947	66.206	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.372	SLU 84	Si
V_SLU	2.324	SLU 84	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 11	No
PFFP_SLV	3.376	SLV 15	Si
R_SLV	0	SLV 16	No

Maschio 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.7	220.1	-1505.8	635.1	L1	L3	415	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 78	-96	-59887	768860	4.81	5088595	6.618	Si
SLU 78	124	-55392	1339102	4.45	5216074	3.895	Si
SLU 80	-96	-59141	792312	4.75	5115463	6.456	Si
SLU 80	124	-54611	1350524	4.39	5229805	3.872	Si
SLU 79	-96	-59140	796359	4.75	5115512	6.424	Si
SLU 79	124	-54610	1354555	4.39	5229821	3.861	Si
SLU 72	-96	-52622	795753	4.23	5253474	6.602	Si
SLU 72	124	-48098	1250369	3.86	5247029	4.196	Si
SLU 71	-96	-52620	799800	4.23	5253485	6.569	Si
SLU 71	124	-48097	1254400	3.86	5247019	4.183	Si
SLU 77	-96	-59885	772906	4.81	5088648	6.584	Si
SLU 77	124	-55391	1343132	4.45	5216093	3.884	Si
SLU 83	-96	-62826	625951	5.05	4960495	7.925	Si
SLU 83	124	-58237	1270894	4.68	5144990	4.048	Si
SLU 84	-96	-62828	621904	5.05	4960425	7.976	Si
SLU 84	124	-58238	1266863	4.68	5144960	4.061	Si
SLU 69	-96	-53366	776347	4.29	5246513	6.758	Si
SLU 69	124	-48879	1242977	3.93	5254120	4.227	Si
SLU 70	-96	-53367	772300	4.29	5246497	6.793	Si
SLU 70	124	-48880	1238947	3.93	5254127	4.241	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 8	-96	-31588	3632163	2.54	5193544	1.43	Si
SLV 8	124	-30880	2674536	2.48	5106973	1.909	Si
SLV 5	-96	-57701	-3227203	4.63	7431606	2.303	Si
SLV 5	124	-50662	-1246360	4.07	7011416	5.626	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 16	-96	-31474	1820845	2.53	5179626	2.845	Si
SLV 16	124	-29771	1537462	2.39	4968561	3.232	Si
SLV 10	-96	-53430	-2955145	4.29	7192787	2.434	Si
SLV 10	124	-46954	-1137788	3.77	6735768	5.92	Si
SLV 9	-96	-53430	-2955145	4.29	7192787	2.434	Si
SLV 9	124	-46954	-1137788	3.77	6735768	5.92	Si
SLV 11	-96	-27317	3904222	2.19	4650467	1.191	Si
SLV 11	124	-27173	2783108	2.18	4631257	1.664	Si
SLV 7	-96	-31588	3632163	2.54	5193544	1.43	Si
SLV 7	124	-30880	2674536	2.48	5106973	1.909	Si
SLV 6	-96	-57701	-3227203	4.63	7431606	2.303	Si
SLV 6	124	-50662	-1246360	4.07	7011416	5.626	Si
SLV 15	-96	-31474	1820845	2.53	5179626	2.845	Si
SLV 15	124	-29771	1537462	2.39	4968561	3.232	Si
SLV 12	-96	-27317	3904222	2.19	4650467	1.191	Si
SLV 12	124	-27173	2783108	2.18	4631257	1.664	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 27	-96	-43520	1058	705388		3.5	415	1.02	12719			12.02	Si
SLU 27	124	-40155	1194	1080366		3.23	415	0.99	12271			10.27	Si
SLU 29	-96	-42775	1115	728841		3.44	415	1.01	12620			11.32	Si
SLU 29	124	-39374	1241	1091789		3.16	415	0.98	12167			9.81	Si
SLU 28	-96	-43522	1056	701341		3.5	415	1.02	12720			12.05	Si
SLU 28	124	-40156	1193	1076336		3.23	415	0.99	12271			10.29	Si
SLU 9	-96	-37297	966	652720		3	415	0.95	11890			12.31	Si
SLU 9	124	-33790	1092	949353		2.71	415	0.92	11422			10.46	Si
SLU 71	-96	-52620	1138	799800		4.23	415	1.08	13488			11.85	Si
SLU 71	124	-48097	1321	1254400		3.86	415	1.07	13330			10.09	Si
SLU 8	-96	-37295	968	656767		3	415	0.95	11889			12.28	Si
SLU 8	124	-33789	1094	953383		2.71	415	0.92	11422			10.45	Si
SLU 79	-96	-59140	1117	796359		4.75	415	1.08	13488			12.08	Si
SLU 79	124	-54610	1296	1354555		4.39	415	1.08	13488			10.41	Si
SLU 80	-96	-59141	1114	792312		4.75	415	1.08	13488			12.1	Si
SLU 80	124	-54611	1294	1350524		4.39	415	1.08	13488			10.42	Si
SLU 30	-96	-42776	1113	724794		3.44	415	1.01	12620			11.34	Si
SLU 30	124	-39375	1239	1087758		3.16	415	0.98	12167			9.82	Si
SLU 72	-96	-52622	1136	795753		4.23	415	1.08	13488			11.88	Si
SLU 72	124	-48098	1320	1250369		3.86	415	1.07	13330			10.1	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	-96	-53430	-17000	-2955145		4.29	415	1.63	20231			1.19	Si
SLV 9	124	-46954	-14537	-1137788		3.77	415	1.59	19766			1.36	Si
SLD 12	-96	-36171	7635	1835819		2.91	415	1.41	17609			2.31	Si
SLD 12	124	-34030	6361	1611727		2.73	415	1.38	17181			2.7	Si
SLV 7	-96	-31588	17560	3632163		3.79	277.55	1.59	13256			0.75	No, Vu<V
SLV 7	124	-30880	15480	2674536		2.84	362.67	1.4	15243			0.98	No, Vu<V
SLV 12	-96	-27317	17640	3904222		4.7	193.74	1.63	9445			0.54	No, Vu<V
SLV 12	124	-27173	14409	2783108		2.87	315.24	1.41	13316			0.92	No, Vu<V
SLV 8	-96	-31588	17560	3632163		3.79	277.55	1.59	13256			0.75	No, Vu<V
SLV 8	124	-30880	15480	2674536		2.84	362.67	1.4	15243			0.98	No, Vu<V
SLV 6	-96	-57701	-17080	-3227203		4.63	415	1.63	20231			1.18	Si
SLV 6	124	-50662	-13465	-1246360		4.07	415	1.63	20231			1.5	Si
SLD 11	-96	-36171	7635	1835819		2.91	415	1.41	17609			2.31	Si
SLD 11	124	-34030	6361	1611727		2.73	415	1.38	17181			2.7	Si
SLV 11	-96	-27317	17640	3904222		4.7	193.74	1.63	9445			0.54	No, Vu<V
SLV 11	124	-27173	14409	2783108		2.87	315.24	1.41	13316			0.92	No, Vu<V
SLV 10	-96	-53430	-17000	-2955145		4.29	415	1.63	20231			1.19	Si
SLV 10	124	-46954	-14537	-1137788		3.77	415	1.59	19766			1.36	Si
SLV 5	-96	-57701	-17080	-3227203		4.63	415	1.63	20231			1.18	Si
SLV 5	124	-50662	-13465	-1246360		4.07	415	1.63	20231			1.5	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.25	2.15	-26798	17034	331159	19.44	Si
SLV 12	14	0.25	2.15	-26798	17034	331159	19.44	Si
SLV 16	14	0.25	2.43	-30244	17034	363472	21.34	Si
SLV 15	14	0.25	2.43	-30244	17034	363472	21.34	Si
SLV 8	14	0.25	2.48	-30832	17034	368748	21.65	Si
SLV 7	14	0.25	2.48	-30832	17034	368748	21.65	Si
SLV 13	14	0.25	2.99	-37233	17034	421800	24.76	Si
SLV 14	14	0.25	2.99	-37233	17034	421800	24.76	Si
SLV 3	14	0.25	3.51	-43692	17034	467146	27.42	Si
SLV 4	14	0.25	3.51	-43692	17034	467146	27.42	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-27685	-31588	-408	0.048	32.909	0.958	72.772	700.213	No
SLV 7	-27685	-31588	-408	0.048	32.909	0.958	72.772	700.213	No
SLV 11	-24152	-27317	-331	0.05	29.319	0.953	75.908	700.213	No
SLV 12	-24152	-27317	-331	0.05	29.319	0.953	75.908	700.213	No
SLV 9	-43569	-53430	372	0.051	49.073	0.971	76.952	700.213	No
SLV 10	-43569	-53430	372	0.051	49.073	0.971	76.952	700.213	No
SLV 6	-47102	-57701	294	0.053	52.671	0.973	79.564	700.213	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-47102	-57701	294	0.053	52.671	0.973	79.564	700.213	No
SLV 3	-38603	-45711	-252	0.054	44.017	0.968	80.729	421.191	No
SLV 4	-38603	-45711	-252	0.054	44.017	0.968	80.729	421.191	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.861	SLU 79	Si
V_SLU	9.807	SLU 29	Si
PF_SLV	1.191	SLV 11	Si
V_SLV	0.535	SLV 11	No
PFFP_SLV	19.441	SLV 11	Si
R_SLV	0.104	SLV 7	No

Maschio 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1376.3	-478.4	-1376.3	-331.4	L1	L3	147	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 81	-96	-25039	64859	5.68	557416	8.594	Si
SLU 81	173	-28667	-30390	6.5	425395	13.998	Si
SLU 75	-96	-24359	62913	5.52	576178	9.158	Si
SLU 75	173	-28059	-31438	6.36	451280	14.354	Si
SLU 80	-96	-24605	58411	5.58	569622	9.752	Si
SLU 80	173	-28464	-35789	6.46	434217	12.133	Si
SLU 61	-96	-23657	61744	5.36	593553	9.613	Si
SLU 61	173	-27052	-33913	6.13	490831	14.473	Si
SLU 82	-96	-25074	69486	5.69	556405	8.007	Si
SLU 82	173	-28653	-29430	6.5	426027	14.476	Si
SLU 78	-96	-24657	59598	5.59	568193	9.534	Si
SLU 78	173	-28512	-34433	6.47	432132	12.55	Si
SLU 84	-96	-25372	66171	5.75	547549	8.275	Si
SLU 84	173	-29106	-32425	6.6	405778	12.514	Si
SLU 83	-96	-25337	61543	5.75	548603	8.914	Si
SLU 83	173	-29120	-33385	6.6	405119	12.135	Si
SLU 76	-96	-24330	64812	5.52	576938	8.902	Si
SLU 76	173	-28001	-32155	6.35	453671	14.109	Si
SLU 73	-96	-24032	68127	5.45	584524	8.58	Si
SLU 73	173	-27548	-29160	6.25	471871	16.182	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 2	-96	-17717	-289806	4.02	873932	3.016	Si
SLV 2	173	-24122	-334765	5.47	979116	2.925	Si
SLV 11	-96	-8843	270548	2.01	543245	2.008	Si
SLV 11	173	-8019	111896	1.82	501614	4.483	Si
SLV 15	-96	-16139	369318	3.66	830818	2.25	Si
SLV 15	173	-15122	284642	3.43	799437	2.809	Si
SLV 12	-96	-8843	270548	2.01	543245	2.008	Si
SLV 12	173	-8019	111896	1.82	501614	4.483	Si
SLV 16	-96	-16139	369318	3.66	830818	2.25	Si
SLV 16	173	-15122	284642	3.43	799437	2.809	Si
SLV 13	-96	-21313	282336	4.83	946768	3.353	Si
SLV 13	173	-21882	255601	4.96	955054	3.737	Si
SLV 3	-96	-12543	-202824	2.84	707219	3.487	Si
SLV 3	173	-17362	-305723	3.94	864809	2.829	Si
SLV 4	-96	-12543	-202824	2.84	707219	3.487	Si
SLV 4	173	-17362	-305723	3.94	864809	2.829	Si
SLV 14	-96	-21313	282336	4.83	946768	3.353	Si
SLV 14	173	-21882	255601	4.96	955054	3.737	Si
SLV 1	-96	-17717	-289806	4.02	873932	3.016	Si
SLV 1	173	-24122	-334765	5.47	979116	2.925	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	-96	-24570	-5789	53784		5.57	146.99	1.08	4777			0.83	No, Vu<V
SLU 79	173	-28478	-3025	-36748		6.46	146.99	1.08	4777			1.58	Si
SLU 82	-96	-25074	-5788	69486		5.69	146.99	1.08	4777			0.83	No, Vu<V
SLU 82	173	-28653	-3026	-29430		6.5	146.99	1.08	4777			1.58	Si
SLU 83	-96	-25337	-5960	61543		5.75	146.99	1.08	4777			0.8	No, Vu<V
SLU 83	173	-29120	-3153	-33385		6.6	146.99	1.08	4777			1.51	Si
SLU 78	-96	-24657	-5746	59598		5.59	146.99	1.08	4777			0.83	No, Vu<V
SLU 78	173	-28512	-2975	-34433		6.47	146.99	1.08	4777			1.61	Si
SLU 74	-96	-24324	-5678	58285		5.52	146.99	1.08	4777			0.84	No, Vu<V
SLU 74	173	-28074	-2955	-32397		6.37	146.99	1.08	4777			1.62	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	-96	-24622	-5798	54970		5.58	146.99	1.08	4777			0.82	No, Vu<V
SLU 77	173	-28527	-3029	-35392		6.47	146.99	1.08	4777			1.58	Si
SLU 81	-96	-25039	-5840	64859		5.68	146.99	1.08	4777			0.82	No, Vu<V
SLU 81	173	-28667	-3080	-30390		6.5	146.99	1.08	4777			1.55	Si
SLU 84	-96	-25372	-5908	66171		5.75	146.99	1.08	4777			0.81	No, Vu<V
SLU 84	173	-29106	-3099	-32425		6.6	146.99	1.08	4777			1.54	Si
SLU 80	-96	-24605	-5736	58411		5.58	146.99	1.08	4777			0.83	No, Vu<V
SLU 80	173	-28464	-2970	-35789		6.46	146.99	1.08	4777			1.61	Si
SLU 75	-96	-24359	-5625	62913		5.52	146.99	1.08	4777			0.85	No, Vu<V
SLU 75	173	-28059	-2901	-31438		6.36	146.99	1.08	4777			1.65	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	-96	-25013	-10897	-191036		5.67	146.99	1.63	7166			0.66	No, Vu<V
SLV 5	173	-31225	-8072	-162019		7.08	146.99	1.63	7166			0.89	No, Vu<V
SLV 1	-96	-17717	-7481	-289806		4.02	146.99	1.63	7166			0.96	No, Vu<V
SLV 1	173	-24122	-5293	-334765		5.47	146.99	1.63	7166			1.35	Si
SLV 10	-96	-26092	-9898	-19393		5.92	146.99	1.63	7166			0.72	No, Vu<V
SLV 10	173	-30553	-7071	15091		6.93	146.99	1.63	7166			1.01	Si
SLV 2	-96	-17717	-7481	-289806		4.02	146.99	1.63	7166			0.96	No, Vu<V
SLV 2	173	-24122	-5293	-334765		5.47	146.99	1.63	7166			1.35	Si
SLD 5	-96	-20347	-6853	-58203		4.61	146.99	1.63	7166			1.05	Si
SLD 5	173	-24522	-4537	-83004		5.56	146.99	1.63	7166			1.58	Si
SLD 6	-96	-20347	-6853	-58203		4.61	146.99	1.63	7166			1.05	Si
SLD 6	173	-24522	-4537	-83004		5.56	146.99	1.63	7166			1.58	Si
SLD 10	-96	-20807	-6428	14962		4.72	146.99	1.63	7166			1.11	Si
SLD 10	173	-24235	-4116	-7585		5.5	146.99	1.63	7166			1.74	Si
SLV 9	-96	-26092	-9898	-19393		5.92	146.99	1.63	7166			0.72	No, Vu<V
SLV 9	173	-30553	-7071	15091		6.93	146.99	1.63	7166			1.01	Si
SLV 6	-96	-25013	-10897	-191036		5.67	146.99	1.63	7166			0.66	No, Vu<V
SLV 6	173	-31225	-8072	-162019		7.08	146.99	1.63	7166			0.89	No, Vu<V
SLD 9	-96	-20807	-6428	14962		4.72	146.99	1.63	7166			1.11	Si
SLD 9	173	-24235	-4116	-7585		5.5	146.99	1.63	7166			1.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.25	1.77	-7822	6033	100298	16.62	Si
SLV 7	14	0.25	1.77	-7822	6033	100298	16.62	Si
SLV 11	14	0.25	1.83	-8086	6033	103084	17.09	Si
SLV 12	14	0.25	1.83	-8086	6033	103084	17.09	Si
SLV 4	14	0.25	3.3	-14569	6033	159442	26.43	Si
SLV 3	14	0.25	3.3	-14569	6033	159442	26.43	Si
SLV 16	14	0.25	3.5	-15447	6033	165277	27.39	Si
SLV 15	14	0.25	3.5	-15447	6033	165277	27.39	Si
SLV 2	14	0.25	4.68	-20615	6033	190912	31.64	Si
SLV 1	14	0.25	4.68	-20615	6033	190912	31.64	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-31225	-25013	139	0.053	33.471	0.984	78.717	700.213	No
SLV 6	-31225	-25013	139	0.053	33.471	0.984	78.717	700.213	No
SLV 11	-8019	-8843	-88	0.053	9.84	0.951	80.512	700.213	No
SLV 12	-8019	-8843	-88	0.053	9.84	0.951	80.512	700.213	No
SLV 9	-30553	-26092	57	0.056	32.786	0.984	82.466	700.213	No
SLV 10	-30553	-26092	57	0.056	32.786	0.984	82.466	700.213	No
SLV 8	-8691	-7764	-6	0.061	10.523	0.954	93.306	700.213	No
SLV 7	-8691	-7764	-6	0.061	10.523	0.954	93.306	700.213	No
SLV 2	-24122	-17717	183	0.051	26.233	0.98	75.425	421.191	No
SLV 1	-24122	-17717	183	0.051	26.233	0.98	75.425	421.191	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.007	SLU 82	Si
V_SLU	0.801	SLU 83	No
PF_SLV	2.008	SLV 11	Si
V_SLV	0.658	SLV 5	No
PFFP_SLV	16.625	SLV 7	Si
R_SLV	0.112	SLV 5	No

Maschio 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1376.3	-331.4	-1376.3	104.6	Z medio 3 cm	L3	436	30	170	71	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	f ν_0	μ	ϕ	f ν_{lim}	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

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Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 60	102	-65550	127633	5.01	5498932	43.084	Si
SLU 60	173	-59535	-1057972	4.55	5727021	5.413	Si
SLU 83	102	-71591	259245	5.47	5120804	19.753	Si
SLU 83	173	-65070	-1041637	4.97	5522560	5.302	Si
SLU 73	102	-67790	216127	5.18	5376134	24.875	Si
SLU 73	173	-61588	-1045692	4.71	5665814	5.418	Si
SLU 84	102	-71820	262951	5.49	5103567	19.409	Si
SLU 84	173	-65283	-1051335	4.99	5512189	5.243	Si
SLU 82	102	-71212	259202	5.44	5148928	19.865	Si
SLU 82	173	-64707	-1053207	4.95	5539811	5.26	Si
SLU 76	102	-68398	219876	5.23	5339283	24.283	Si
SLU 76	173	-62164	-1043820	4.75	5645542	5.409	Si
SLU 62	102	-66158	131382	5.06	5467652	41.616	Si
SLU 62	173	-60111	-1056100	4.6	5711588	5.408	Si
SLU 81	102	-70984	255495	5.43	5165596	20.218	Si
SLU 81	173	-64494	-1043509	4.93	5549680	5.318	Si
SLU 61	102	-65779	131339	5.03	5487345	41.78	Si
SLU 61	173	-59748	-1067670	4.57	5721473	5.359	Si
SLU 63	102	-66386	135089	5.08	5455497	40.384	Si
SLU 63	173	-60324	-1065798	4.61	5705538	5.353	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 9	102	-43474	-873052	3.32	6899670	7.903	Si
SLV 9	173	-40278	-1062090	3.08	6568000	6.184	Si
SLV 4	102	-36782	-96656	2.81	6173295	63.869	Si
SLV 4	173	-32166	-883644	2.46	5601065	6.339	Si
SLV 2	102	-32756	-761709	2.5	5677493	7.454	Si
SLV 2	173	-28799	-1090696	2.2	5147074	4.719	Si
SLV 5	102	-36360	-1179769	2.78	6123379	5.19	Si
SLV 5	173	-33167	-1186782	2.54	5730160	4.828	Si
SLV 10	102	-43474	-873052	3.32	6899670	7.903	Si
SLV 10	173	-40278	-1062090	3.08	6568000	6.184	Si
SLV 3	102	-36782	-96656	2.81	6173295	63.869	Si
SLV 3	173	-32166	-883644	2.46	5601065	6.339	Si
SLV 6	102	-36360	-1179769	2.78	6123379	5.19	Si
SLV 6	173	-33167	-1186782	2.54	5730160	4.828	Si
SLV 1	102	-32756	-761709	2.5	5677493	7.454	Si
SLV 1	173	-28799	-1090696	2.2	5147074	4.719	Si
SLV 12	102	-56894	1343794	4.35	7988016	5.944	Si
SLV 12	173	-51500	-371919	3.94	7609631	20.46	Si
SLV 11	102	-56894	1343794	4.35	7988016	5.944	Si
SLV 11	173	-51500	-371919	3.94	7609631	20.46	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 65	102	-59450	1900	109853		4.54	436.01	1.08	14170			7.46	Si
SLU 65	173	-53979	1564	-1013070		4.13	436.01	1.08	14170			9.06	Si
SLU 60	102	-65550	1918	127633		5.01	436.01	1.08	14170			7.39	Si
SLU 60	173	-59535	1576	-1057972		4.55	436.01	1.08	14170			8.99	Si
SLU 82	102	-71212	2184	259202		5.44	436.01	1.08	14170			6.49	Si
SLU 82	173	-64707	1816	-1053207		4.95	436.01	1.08	14170			7.8	Si
SLU 55	102	-62964	1948	92014		4.81	436.01	1.08	14170			7.28	Si
SLU 55	173	-57205	1599	-1058283		4.37	436.01	1.08	14170			8.86	Si
SLU 76	102	-68398	1926	219876		5.23	436.01	1.08	14170			7.36	Si
SLU 76	173	-62164	1558	-1043820		4.75	436.01	1.08	14170			9.1	Si
SLU 52	102	-62357	2254	88264		4.77	436.01	1.08	14170			6.29	Si
SLU 52	173	-56629	1912	-1060155		4.33	436.01	1.08	14170			7.41	Si
SLU 73	102	-67790	2233	216127		5.18	436.01	1.08	14170			6.35	Si
SLU 73	173	-61588	1871	-1045692		4.71	436.01	1.08	14170			7.57	Si
SLU 44	102	-54017	1922	-18010		4.13	436.01	1.08	14170			7.37	Si
SLU 44	173	-49020	1605	-1027533		3.75	436.01	1.06	13803			8.6	Si
SLU 10	102	-51412	1916	127568		3.93	436.01	1.08	14122			7.37	Si
SLU 10	173	-46707	1639	-822947		3.57	436.01	1.03	13494			8.23	Si
SLU 61	102	-65779	2205	131339		5.03	436.01	1.08	14170			6.43	Si
SLU 61	173	-59748	1856	-1067670		4.57	436.01	1.08	14170			7.63	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	102	-36360	-16475	-1179769		2.78	436.01	1.39	18172			1.1	Si
SLV 6	173	-33167	-15103	-1186782		2.54	436.01	1.34	17534			1.16	Si
SLV 8	102	-49779	16970	1037077		3.81	436.01	1.59	20856			1.23	Si
SLV 8	173	-44389	14022	-496611		3.39	436.01	1.51	19778			1.41	Si
SLV 12	102	-56894	18861	1343794		4.35	436.01	1.63	21256			1.13	Si
SLV 12	173	-51500	16983	-371919		3.94	436.01	1.62	21200			1.25	Si
SLV 5	102	-36360	-16475	-1179769		2.78	436.01	1.39	18172			1.1	Si
SLV 5	173	-33167	-15103	-1186782		2.54	436.01	1.34	17534			1.16	Si
SLV 10	102	-43474	-14584	-873052		3.32	436.01	1.5	19595			1.34	Si
SLV 10	173	-40278	-12142	-1062090		3.08	436.01	1.45	18956			1.56	Si
SLV 11	102	-56894	18861	1343794		4.35	436.01	1.63	21256			1.13	Si
SLV 11	173	-51500	16983	-371919		3.94	436.01	1.62	21200			1.25	Si
SLV 7	102	-49779	16970	1037077		3.81	436.01	1.59	20856			1.23	Si
SLV 7	173	-44389	14022	-496611		3.39	436.01	1.51	19778			1.41	Si
SLV 9	102	-43474	-14584	-873052		3.32	436.01	1.5	19595			1.34	Si
SLV 9	173	-40278	-12142	-1062090		3.08	436.01	1.45	18956			1.56	Si
SLV 1	102	-32756	-6975	-761709		2.5	436.01	1.33	17452			2.5	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	173	-28799	-8364	-1090696		2.2	436.01	1.27	16660			1.99	Si
SLV 2	102	-32756	-6975	-761709		2.5	436.01	1.33	17452			2.5	Si
SLV 2	173	-28799	-8364	-1090696		2.2	436.01	1.27	16660			1.99	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 137.5 Wa 0.05 denominatore $8 \gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.27	2.44	-31873	7715	382750	49.61	Si
SLV 2	14	0.27	2.44	-31873	7715	382750	49.61	Si
SLV 4	14	0.27	2.67	-34924	7715	409394	53.06	Si
SLV 3	14	0.27	2.67	-34924	7715	409394	53.06	Si
SLV 5	14	0.27	2.74	-35844	7715	417083	54.06	Si
SLV 6	14	0.27	2.74	-35844	7715	417083	54.06	Si
SLV 9	14	0.27	3.23	-42300	7715	466573	60.47	Si
SLV 10	14	0.27	3.23	-42300	7715	466573	60.47	Si
SLV 7	14	0.27	3.52	-46017	7715	491515	63.71	Si
SLV 8	14	0.27	3.52	-46017	7715	491515	63.71	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 137.5 Wa = 0.05 Ta = 0.0161

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-33167	-36360	336	0.084	36.9	0.974	124.926	380.106	No
SLV 6	-33167	-36360	336	0.084	36.9	0.974	124.926	380.106	No
SLV 10	-40278	-43474	246	0.087	44.143	0.978	128.684	380.106	No
SLV 9	-40278	-43474	246	0.087	44.143	0.978	128.684	380.106	No
SLV 8	-44389	-49779	127	0.089	48.332	0.98	132.454	380.106	No
SLV 7	-44389	-49779	127	0.089	48.332	0.98	132.454	380.106	No
SLV 12	-51500	-56894	38	0.091	55.577	0.982	134.381	380.106	No
SLV 11	-51500	-56894	38	0.091	55.577	0.982	134.381	380.106	No
SLV 1	-28799	-32756	367	0.082	32.451	0.971	122.857	316.669	No
SLV 2	-28799	-32756	367	0.082	32.451	0.971	122.857	316.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.243	SLU 84	Si
V_SLU	6.286	SLU 52	Si
PF_SLV	4.719	SLV 1	Si
V_SLV	1.103	SLV 5	Si
PFFP_SLV	49.61	SLV 1	Si
R_SLV	0.329	SLV 5	No

Maschio 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1246.3	-361.9	-1246.3	-331.5	L1	L3	30.4	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 53	-96	-536	3382	0.59	7563	2.236	Si
SLU 53	173	29	-847	0	0	0	No, Trazione
SLU 54	-96	-533	3394	0.58	7525	2.217	Si
SLU 54	173	29	-848	0	0	0	No, Trazione
SLU 61	-96	-709	3679	0.78	9753	2.651	Si
SLU 61	173	36	-1025	0	0	0	No, Trazione
SLU 59	-96	-529	3414	0.58	7467	2.187	Si
SLU 59	173	29	-844	0	0	0	No, Trazione
SLU 57	-96	-520	3441	0.57	7350	2.136	Si
SLU 57	173	29	-848	0	0	0	No, Trazione
SLU 58	-96	-532	3402	0.58	7505	2.206	Si
SLU 58	173	29	-844	0	0	0	No, Trazione
SLU 55	-96	-540	3375	0.59	7618	2.257	Si
SLU 55	173	29	-844	0	0	0	No, Trazione
SLU 60	-96	-712	3667	0.78	9788	2.669	Si
SLU 60	173	36	-1025	0	0	0	No, Trazione
SLU 1	-96	-146	1997	0.16	2174	1.089	Si
SLU 1	173	12	-343	0	0	0	No, Trazione
SLU 56	-96	-523	3429	0.57	7387	2.154	Si
SLU 56	173	29	-848	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 11	-96	1488	10308	0	0	0	No, Trazione
SLV 11	173	5	-42	0	0	0	No, Trazione
SLV 13	-96	-1514	-3418	1.66	19898	5.821	Si
SLV 13	173	26	-763	0	0	0	No, Trazione



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 1	-96	-190	2519	0.21	2835	1.125	Si
SLD 1	173	17	-486	0	0	0	No, Trazione
SLV 7	-96	1905	12161	0	0	0	No, Trazione
SLV 7	173	2	36	0	0	0	No, Trazione
SLV 8	-96	1905	12161	0	0	0	No, Trazione
SLV 8	173	2	36	0	0	0	No, Trazione
SLV 6	-96	-1966	-5631	2.15	24617	4.372	Si
SLV 6	173	29	-933	0	0	0	No, Trazione
SLV 14	-96	-1514	-3418	1.66	19898	5.821	Si
SLV 14	173	26	-763	0	0	0	No, Trazione
SLV 9	-96	-2383	-7484	2.61	28484	3.806	Si
SLV 9	173	32	-1011	0	0	0	No, Trazione
SLV 10	-96	-2383	-7484	2.61	28484	3.806	Si
SLV 10	173	32	-1011	0	0	0	No, Trazione
SLV 12	-96	1488	10308	0	0	0	No, Trazione
SLV 12	173	5	-42	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 55	-96	-540	44	3375	0.67	0	26.87	0.64	520	0	0	11.69	Si
SLU 55	173	29	26	-844	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 54	-96	-533	46	3394	0.67	0	26.52	0.64	513	0	0	11.17	Si
SLU 54	173	29	26	-848	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 61	-96	-709	36	3679	0.79	0	30.05	0.66	595	0	0	16.57	Si
SLU 61	173	36	31	-1025	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 58	-96	-532	46	3402	0.67	0	26.41	0.65	511	0	0	11.02	Si
SLU 58	173	29	26	-844	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 57	-96	-520	49	3441	0.67	0	25.75	0.65	498	0	0	10.15	Si
SLU 57	173	29	26	-848	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 60	-96	-712	35	3667	0.79	0	30.16	0.66	598	0	0	17	Si
SLU 60	173	36	31	-1025	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 53	-96	-536	45	3382	0.67	0	26.69	0.64	516	0	0	11.43	Si
SLU 53	173	29	26	-847	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 56	-96	-523	48	3429	0.67	0	25.93	0.65	502	0	0	10.38	Si
SLU 56	173	29	26	-848	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 1	-96	-146	44	1997	1.07	0	4.55	0.7	95	0	0	2.18	Si
SLU 1	173	12	10	-343	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 59	-96	-529	47	3414	0.67	0	26.24	0.65	508	0	0	10.77	Si
SLU 59	173	29	26	-844	0	0	0	0.56	0	0	0	0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	-96	-1514	-310	-3418	1.66	0	30.41	1.17	1063	0	0	3.43	Si
SLV 13	173	26	26	-763	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 11	-96	1488	528	10308	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 11	173	5	-11	-42	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 8	-96	1905	644	12161	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 8	173	2	-14	36	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 6	-96	-1966	-438	-5631	2.15	0	30.41	1.26	1153	0	0	2.63	Si
SLV 6	173	29	40	-933	0	0	0	0.83	0	0	0	0	No, Vu<V
SLD 1	-96	-190	58	2519	1.1	0	5.77	1.05	182	0	0	3.12	Si
SLD 1	173	17	16	-486	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 10	-96	-2383	-554	-7484	2.61	0	30.41	1.36	1237	0	0	2.23	Si
SLV 10	173	32	42	-1011	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 7	-96	1905	644	12161	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 7	173	2	-14	36	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 14	-96	-1514	-310	-3418	1.66	0	30.41	1.17	1063	0	0	3.43	Si
SLV 14	173	26	26	-763	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 9	-96	-2383	-554	-7484	2.61	0	30.41	1.36	1237	0	0	2.23	Si
SLV 9	173	32	42	-1011	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 12	-96	1488	528	10308	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 12	173	5	-11	-42	0	0	0	0.83	0	0	0	0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.25	0	9	1248	0	0	No, Trazione
SLV 15	14	0.25	0	-66	1248	0	0	No, e>t/2
SLV 11	14	0.25	0	107	1248	0	0	No, Trazione
SLV 12	14	0.25	0	107	1248	0	0	No, Trazione
SLV 8	14	0.25	0	9	1248	0	0	No, Trazione
SLV 16	14	0.25	0	-66	1248	0	0	No, e>t/2
SLV 14	14	0.25	0.34	-314	1248	4571	3.66	Si
SLV 13	14	0.25	0.34	-314	1248	4571	3.66	Si
SLV 4	14	0.25	0.43	-395	1248	5708	4.57	Si
SLV 3	14	0.25	0.43	-395	1248	5708	4.57	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	29	-1966	2	0	0	0	0	700.213	No, Trazione
SLV 1	16	-124	33	0	0	0	0	421.191	No, Trazione
SLV 9	32	-2383	-20	0	0	0	0	700.213	No, Trazione
SLV 8	2	1905	16	0	0	0	0	700.213	No, Trazione
SLV 7	2	1905	16	0	0	0	0	700.213	No, Trazione
SLV 6	29	-1966	2	0	0	0	0	700.213	No, Trazione
SLV 4	8	1037	37	0	0	0	0	421.191	No, Trazione



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 10	32	-2383	-20	0	0	0	0	700.213	No, Trazione
SLV 2	16	-124	33	0	0	0	0	421.191	No, Trazione
SLV 3	8	1037	37	0	0	0	0	421.191	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 16	No

Maschio 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1246.3	-331.5	-1246.3	-191.6	L2	L3	139.9	30	71	71	71			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 56	102	-643	16630	0.15	44115	2.653	Si
SLU 56	173	37	-6682	0	0	0	No, Trazione
SLU 60	102	-714	17229	0.17	48908	2.839	Si
SLU 60	173	30	-7002	0	0	0	No, Trazione
SLU 57	102	-642	16669	0.15	44062	2.643	Si
SLU 57	173	38	-6698	0	0	0	No, Trazione
SLU 1	102	-394	10618	0.09	27217	2.563	Si
SLU 1	173	36	-4148	0	0	0	No, Trazione
SLU 53	102	-647	16404	0.15	44396	2.706	Si
SLU 53	173	36	-6597	0	0	0	No, Trazione
SLU 61	102	-713	17267	0.17	48855	2.829	Si
SLU 61	173	30	-7018	0	0	0	No, Trazione
SLU 54	102	-646	16443	0.15	44343	2.697	Si
SLU 54	173	36	-6613	0	0	0	No, Trazione
SLU 59	102	-645	16505	0.15	44276	2.683	Si
SLU 59	173	37	-6627	0	0	0	No, Trazione
SLU 58	102	-646	16466	0.15	44329	2.692	Si
SLU 58	173	37	-6611	0	0	0	No, Trazione
SLU 55	102	-649	16305	0.15	44521	2.731	Si
SLU 55	173	36	-6552	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 14	102	-417	13404	0.1	28915	2.157	Si
SLV 14	173	45	-6612	0	0	0	No, Trazione
SLD 1	102	-566	5973	0.13	39189	6.561	Si
SLD 1	173	2	-2485	0	0	0	No, Trazione
SLV 13	102	-417	13404	0.1	28915	2.157	Si
SLV 13	173	45	-6612	0	0	0	No, Trazione
SLV 11	102	123	35297	0	0	0	No, Trazione
SLV 11	173	156	-11475	0	0	0	No, Trazione
SLV 3	102	-445	10486	0.11	30877	2.944	Si
SLV 3	173	24	-2875	0	0	0	No, Trazione
SLV 8	102	24	30638	0	0	0	No, Trazione
SLV 8	173	130	-9335	0	0	0	No, Trazione
SLV 12	102	123	35297	0	0	0	No, Trazione
SLV 12	173	156	-11475	0	0	0	No, Trazione
SLV 7	102	24	30638	0	0	0	No, Trazione
SLV 7	173	130	-9335	0	0	0	No, Trazione
SLV 15	102	-114	26017	0	0	0	No, e>/2
SLV 15	173	110	-10009	0	0	0	No, Trazione
SLV 4	102	-445	10486	0.11	30877	2.944	Si
SLV 4	173	24	-2875	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 57	102	-642	1098	16669	0.16	131.96	0.58	2285				2.08	Si
SLU 57	173	38	429	-6698	0	0	0.56	0				0	No, Vu<V
SLU 1	102	-394	619	10618	0.1	128.93	0.57	2201				3.56	Si
SLU 1	173	36	254	-4148	0	0	0.56	0				0	No, Vu<V
SLU 59	102	-645	1089	16505	0.16	133.11	0.58	2304				2.12	Si
SLU 59	173	37	425	-6627	0	0	0.56	0				0	No, Vu<V
SLU 55	102	-649	1079	16305	0.16	134.46	0.58	2328				2.16	Si
SLU 55	173	36	421	-6552	0	0	0.56	0				0	No, Vu<V
SLU 58	102	-646	1087	16466	0.16	133.38	0.58	2309				2.12	Si
SLU 58	173	37	424	-6611	0	0	0.56	0				0	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 54	102	-646	1086	16443		0.16	133.51	0.58	2311			2.13	Si
SLU 54	173	36	424	-6613		0	0	0.56	0			0	No, Vu<V
SLU 56	102	-643	1096	16630		0.16	132.24	0.58	2290			2.09	Si
SLU 56	173	37	428	-6682		0	0	0.56	0			0	No, Vu<V
SLU 53	102	-647	1084	16404		0.16	133.79	0.58	2316			2.14	Si
SLU 53	173	36	423	-6597		0	0	0.56	0			0	No, Vu<V
SLU 60	102	-714	1191	17229		0.17	137.48	0.58	2387			2	Si
SLU 60	173	30	457	-7002		0	0	0.56	0			0	No, Vu<V
SLU 61	102	-713	1193	17267		0.17	137.24	0.58	2382			2	Si
SLU 61	173	30	458	-7018		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	102	-445	695	10486		0.11	139.21	0.85	3569			5.14	Si
SLV 3	173	24	203	-2875		0	0	0.83	0			0	No, Vu<V
SLV 7	102	24	1957	30638		0	0	0.83	0			0	No, Vu<V
SLV 7	173	130	532	-9335		0	0	0.83	0			0	No, Vu<V
SLV 13	102	-417	782	13404		0.12	113.37	0.86	2918			3.73	Si
SLV 13	173	45	388	-6612		0	0	0.83	0			0	No, Vu<V
SLV 14	102	-417	782	13404		0.12	113.37	0.86	2918			3.73	Si
SLV 14	173	45	388	-6612		0	0	0.83	0			0	No, Vu<V
SLV 4	102	-445	695	10486		0.11	139.21	0.85	3569			5.14	Si
SLV 4	173	24	203	-2875		0	0	0.83	0			0	No, Vu<V
SLV 15	102	-114	1595	26017		0	0	0.83	0			0	No, Vu<V
SLV 15	173	110	562	-10009		0	0	0.83	0			0	No, Vu<V
SLV 8	102	24	1957	30638		0	0	0.83	0			0	No, Vu<V
SLV 8	173	130	532	-9335		0	0	0.83	0			0	No, Vu<V
SLD 1	102	-566	378	5973		0.13	139.91	0.86	3611			9.56	Si
SLD 1	173	2	182	-2485		0	0	0.83	0			0	No, Vu<V
SLV 12	102	123	2227	35297		0	0	0.83	0			0	No, Vu<V
SLV 12	173	156	639	-11475		0	0	0.83	0			0	No, Vu<V
SLV 11	102	123	2227	35297		0	0	0.83	0			0	No, Vu<V
SLV 11	173	156	639	-11475		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 137.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.27	0.04	-167	432	2492	5.77	Si
SLV 12	14	0.27	0.04	-167	432	2492	5.77	Si
SLV 16	14	0.27	0.04	-183	432	2740	6.34	Si
SLV 15	14	0.27	0.04	-183	432	2740	6.34	Si
SLV 8	14	0.27	0.05	-192	432	2875	6.66	Si
SLV 7	14	0.27	0.05	-192	432	2875	6.66	Si
SLV 14	14	0.27	0.05	-223	432	3334	7.72	Si
SLV 13	14	0.27	0.05	-223	432	3334	7.72	Si
SLV 3	14	0.27	0.06	-269	432	4013	9.29	Si
SLV 4	14	0.27	0.06	-269	432	4013	9.29	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 137.5 Wa = 0.05 Ta = 0.0028

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	156	123	-4	0	0	0	0	274.911	No, Trazione
SLV 14	45	-417	-45	0	0	0	0	266.98	No, Trazione
SLV 7	130	24	21	0	0	0	0	274.911	No, Trazione
SLV 16	110	-114	-40	0	0	0	0	266.98	No, Trazione
SLV 11	156	123	-4	0	0	0	0	274.911	No, Trazione
SLV 3	24	-445	44	0	0	0	0	266.98	No, Trazione
SLV 13	45	-417	-45	0	0	0	0	266.98	No, Trazione
SLV 4	24	-445	44	0	0	0	0	266.98	No, Trazione
SLV 15	110	-114	-40	0	0	0	0	266.98	No, Trazione
SLV 8	130	24	21	0	0	0	0	274.911	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	5.771	SLV 11	Si
R_SLV	0	SLV 16	No

Maschio 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1246.3	-191.6	-1246.3	-35.4	Z medio 3 cm	Z medio 138 cm	156.2	30	134.5	63.5	205.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fV0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

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Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 24	38	-1823	30662	0.39	135580	4.422	Si
SLU 24	102	-978	-11291	0.21	74403	6.589	Si
SLU 26	38	-1821	30387	0.39	135384	4.455	Si
SLU 26	102	-979	-11250	0.21	74516	6.624	Si
SLU 25	38	-1823	30763	0.39	135528	4.406	Si
SLU 25	102	-977	-11359	0.21	74322	6.543	Si
SLU 30	38	-1820	30906	0.39	135358	4.38	Si
SLU 30	102	-974	-11522	0.21	74115	6.432	Si
SLU 28	38	-1822	31349	0.39	135467	4.321	Si
SLU 28	102	-971	-11677	0.21	73867	6.326	Si
SLU 69	38	-2271	37247	0.48	166775	4.478	Si
SLU 69	102	-1194	-14236	0.25	90350	6.346	Si
SLU 27	38	-1822	31249	0.39	135519	4.337	Si
SLU 27	102	-972	-11609	0.21	73948	6.37	Si
SLU 29	38	-1821	30805	0.39	135410	4.396	Si
SLU 29	102	-975	-11454	0.21	74196	6.478	Si
SLU 72	38	-2269	36904	0.48	166618	4.515	Si
SLU 72	102	-1197	-14149	0.26	90515	6.397	Si
SLU 70	38	-2270	37348	0.48	166725	4.464	Si
SLU 70	102	-1193	-14304	0.25	90270	6.311	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 3	38	-1758	39950	0.38	133047	3.33	Si
SLD 3	102	-942	-28162	0.2	72347	2.569	Si
SLD 4	38	-1758	39950	0.38	133047	3.33	Si
SLD 4	102	-942	-28162	0.2	72347	2.569	Si
SLD 7	38	-1667	46203	0.36	126389	2.735	Si
SLD 7	102	-813	-32691	0.17	62617	1.915	Si
SLV 7	38	-1188	70883	0.25	90826	1.281	Si
SLV 7	102	-270	-64708	0	0	0	No, $e > l/2$
SLV 11	38	-1428	60668	0.3	108705	1.792	Si
SLV 11	102	-505	-45984	0	0	0	No, $e > l/2$
SLV 12	38	-1428	60668	0.3	108705	1.792	Si
SLV 12	102	-505	-45984	0	0	0	No, $e > l/2$
SLV 4	38	-1405	56190	0.3	107029	1.905	Si
SLV 4	102	-576	-54137	0	0	0	No, $e > l/2$
SLV 8	38	-1188	70883	0.25	90826	1.281	Si
SLV 8	102	-270	-64708	0	0	0	No, $e > l/2$
SLV 3	38	-1405	56190	0.3	107029	1.905	Si
SLV 3	102	-576	-54137	0	0	0	No, $e > l/2$
SLD 8	38	-1667	46203	0.36	126389	2.735	Si
SLD 8	102	-813	-32691	0.17	62617	1.915	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 70	38	-2270	1509	37348		0.48	156.18	0.62	2906			1.93	Si
SLU 70	102	-1193	1931	-14304		0.25	156.18	0.59	2762			1.43	Si
SLU 68	38	-2269	1465	36385		0.48	156.18	0.62	2906			1.98	Si
SLU 68	102	-1202	1875	-13877		0.26	156.18	0.59	2763			1.47	Si
SLU 66	38	-2272	1472	36661		0.48	156.18	0.62	2906			1.97	Si
SLU 66	102	-1201	1887	-13918		0.26	156.18	0.59	2763			1.46	Si
SLU 69	38	-2271	1502	37247		0.48	156.18	0.62	2906			1.93	Si
SLU 69	102	-1194	1924	-14236		0.25	156.18	0.59	2762			1.44	Si
SLU 67	38	-2271	1479	36761		0.48	156.18	0.62	2906			1.96	Si
SLU 67	102	-1199	1895	-13987		0.26	156.18	0.59	2763			1.46	Si
SLU 77	38	-3338	1524	41938		0.71	156.18	0.65	3048			2	Si
SLU 77	102	-2278	1948	-10412		0.49	156.18	0.62	2907			1.49	Si
SLU 65	38	-2270	1435	35799		0.48	156.18	0.62	2906			2.03	Si
SLU 65	102	-1208	1839	-13559		0.26	156.18	0.59	2764			1.5	Si
SLU 78	38	-3337	1531	42039		0.71	156.18	0.65	3048			1.99	Si
SLU 78	102	-2277	1955	-10480		0.49	156.18	0.62	2907			1.49	Si
SLU 72	38	-2269	1490	36904		0.48	156.18	0.62	2905			1.95	Si
SLU 72	102	-1197	1906	-14149		0.26	156.18	0.59	2763			1.45	Si
SLU 71	38	-2269	1483	36804		0.48	156.18	0.62	2906			1.96	Si
SLU 71	102	-1198	1899	-14081		0.26	156.18	0.59	2763			1.45	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 8	38	-1667	3074	46203		0.37	151.12	0.91	4111			1.34	Si
SLD 8	102	-813	3173	-32691		0.24	113.7	0.88	3005			0.95	No, $V_u < V$
SLV 9	38	-2848	-3659	-15362		0.61	156.18	0.95	4474			1.22	Si
SLV 9	102	-2161	-2888	46630		0.46	156.18	0.93	4337			1.5	Si
SLV 7	38	-1188	5784	70883		0.72	55.23	0.98	1618			0.28	No, $V_u < V$
SLV 7	102	-270	5616	-64708		0	0	0.83	0			0	No, $V_u < V$
SLV 10	38	-2848	-3659	-15362		0.61	156.18	0.95	4474			1.22	Si
SLV 10	102	-2161	-2888	46630		0.46	156.18	0.93	4337			1.5	Si
SLV 4	38	-1405	3086	56190		0.41	114.3	0.92	3138			1.02	Si
SLV 4	102	-576	3854	-54137		0	0	0.83	0			0	No, $V_u < V$
SLD 7	38	-1667	3074	46203		0.37	151.12	0.91	4111			1.34	Si
SLD 7	102	-813	3173	-32691		0.24	113.7	0.88	3005			0.95	No, $V_u < V$
SLV 3	38	-1405	3086	56190		0.41	114.3	0.92	3138			1.02	Si
SLV 3	102	-576	3854	-54137		0	0	0.83	0			0	No, $V_u < V$
SLV 11	38	-1428	5384	60668		0.45	106.78	0.92	2955			0.55	No, $V_u < V$
SLV 11	102	-505	4815	-45984		0	0	0.83	0			0	No, $V_u < V$
SLV 8	38	-1188	5784	70883		0.72	55.23	0.98	1618			0.28	No, $V_u < V$



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	102	-270	5616	-64708		0	0	0.83	0			0	No, Vu<V
SLV 12	38	-1428	5384	60668		0.45	106.78	0.92	2955			0.55	No, Vu<V
SLV 12	102	-505	4815	-45984		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 70.2 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.26	0	220	1643	0	0	No, Trazione
SLV 8	14	0.26	0	220	1643	0	0	No, Trazione
SLV 11	14	0.26	0.05	-218	1643	3251	1.98	Si
SLV 12	14	0.26	0.05	-218	1643	3251	1.98	Si
SLV 3	14	0.26	0.07	-308	1643	4599	2.8	Si
SLV 4	14	0.26	0.07	-308	1643	4599	2.8	Si
SLV 2	14	0.26	0.26	-1199	1643	17608	10.72	Si
SLV 1	14	0.26	0.26	-1199	1643	17608	10.72	Si
SLV 16	14	0.26	0.38	-1768	1643	25694	15.64	Si
SLV 15	14	0.26	0.38	-1768	1643	25694	15.64	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 70.2 Wa = 0.05 Ta = 0.0101

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-270	-1188	60	0.116	1.29	0.902	186.972	315.496	No
SLV 7	-270	-1188	60	0.116	1.29	0.902	186.972	315.496	No
SLV 9	-2161	-2848	-27	0.125	3.103	0.924	196.073	315.496	No
SLV 10	-2161	-2848	-27	0.125	3.103	0.924	196.073	315.496	No
SLV 4	-576	-1405	60	0.114	1.549	0.889	186.785	282.618	No
SLV 3	-576	-1405	60	0.114	1.549	0.889	186.785	282.618	No
SLV 6	-1926	-2608	-7	0.134	2.868	0.919	212.024	315.496	No
SLV 5	-1926	-2608	-7	0.134	2.868	0.919	212.024	315.496	No
SLV 12	-505	-1428	39	0.134	1.485	0.889	219.23	315.496	No
SLV 11	-505	-1428	39	0.134	1.485	0.889	219.23	315.496	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.321	SLU 28	Si
V_SLU	1.43	SLU 70	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 8	No
R_SLV	0.593	SLV 7	No

Maschio 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1246.3	-35.4	-1246.3	104.6	Z medio -64 cm	L3	140	30	237.2	205.4	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	μ	ϕ	fv,lim	E	G	FC	
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 43	-32	-11108	118446	2.64	525101	4.433	Si
SLU 43	173	-3381	177515	0.8	213259	1.201	Si
SLU 45	-32	-11374	122335	2.71	531480	4.344	Si
SLU 45	173	-3465	182833	0.82	217976	1.192	Si
SLU 69	-32	-12839	141400	3.06	561456	3.971	Si
SLU 69	173	-3999	204279	0.95	247188	1.21	Si
SLU 49	-32	-11533	124758	2.75	535173	4.29	Si
SLU 49	173	-3505	185037	0.83	220217	1.19	Si
SLU 48	-32	-11515	124462	2.74	534768	4.297	Si
SLU 48	173	-3502	184936	0.83	220030	1.19	Si
SLU 46	-32	-11391	122631	2.71	531895	4.337	Si
SLU 46	173	-3468	182933	0.83	218164	1.193	Si
SLU 47	-32	-11279	121067	2.69	529250	4.372	Si
SLU 47	173	-3423	179787	0.82	215639	1.199	Si
SLU 51	-32	-11409	122996	2.72	532317	4.328	Si
SLU 51	173	-3458	181823	0.82	217574	1.197	Si
SLU 44	-32	-11137	118940	2.65	525825	4.421	Si
SLU 44	173	-3386	177683	0.81	213573	1.202	Si
SLU 50	-32	-11392	122700	2.71	531903	4.335	Si
SLU 50	173	-3454	181723	0.82	217386	1.196	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 9	-32	-7691	63892	1.83	457698	7.164	Si
SLV 9	173	-5301	310437	1.26	332735	1.072	Si
SLV 5	-32	-5357	29408	1.28	335835	11.42	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 5	173	-4530	266976	1.08	289095	1.083	Si
SLD 5	-32	-7954	72862	1.89	470478	6.457	Si
SLD 5	173	-3774	195064	0.9	244782	1.255	Si
SLV 10	-32	-7691	63892	1.83	457698	7.164	Si
SLV 10	173	-5301	310437	1.26	332735	1.072	Si
SLD 6	-32	-7954	72862	1.89	470478	6.457	Si
SLD 6	173	-3774	195064	0.9	244782	1.255	Si
SLV 13	-32	-12762	144771	3.04	671173	4.636	Si
SLV 13	173	-5014	258602	1.19	316714	1.225	Si
SLD 10	-32	-8948	87616	2.13	517169	5.903	Si
SLD 10	173	-4100	213474	0.98	264073	1.237	Si
SLD 9	-32	-8948	87616	2.13	517169	5.903	Si
SLD 9	173	-4100	213474	0.98	264073	1.237	Si
SLV 14	-32	-12762	144771	3.04	671173	4.636	Si
SLV 14	173	-5014	258602	1.19	316714	1.225	Si
SLV 6	-32	-5357	29408	1.28	335835	11.42	Si
SLV 6	173	-4530	266976	1.08	289095	1.083	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 45	-32	-11374	-911	122335	2.71	140	0.92	3850				4.22	Si
SLU 45	173	-3465	-988	182833	2.23	51.7	0.85	1324				1.34	Si
SLU 48	-32	-11515	-922	124462	2.74	140	0.92	3869				4.2	Si
SLU 48	173	-3502	-990	184936	2.26	51.56	0.86	1326				1.34	Si
SLU 49	-32	-11533	-921	124758	2.75	140	0.92	3871				4.2	Si
SLU 49	173	-3505	-984	185037	2.26	51.63	0.86	1328				1.35	Si
SLU 51	-32	-11409	-906	122996	2.72	140	0.92	3855				4.25	Si
SLU 51	173	-3458	-969	181823	2.21	52.24	0.85	1332				1.37	Si
SLU 50	-32	-11392	-907	122700	2.71	140	0.92	3852				4.24	Si
SLU 50	173	-3454	-974	181723	2.21	52.18	0.85	1330				1.37	Si
SLU 69	-32	-12839	-1050	141400	3.06	140	0.96	4045				3.85	Si
SLU 69	173	-3999	-1079	204279	2.35	56.74	0.87	1479				1.37	Si
SLU 43	-32	-11108	-886	118446	2.64	140	0.91	3814				4.3	Si
SLU 43	173	-3381	-972	177515	2.15	52.47	0.84	1325				1.36	Si
SLU 46	-32	-11391	-910	122631	2.71	140	0.92	3852				4.23	Si
SLU 46	173	-3468	-983	182933	2.23	51.76	0.85	1325				1.35	Si
SLU 67	-32	-12714	-1038	139569	3.03	140	0.96	4029				3.88	Si
SLU 67	173	-3965	-1073	202276	2.32	56.96	0.86	1478				1.38	Si
SLU 66	-32	-12697	-1039	139273	3.02	140	0.96	4026				3.87	Si
SLU 66	173	-3962	-1078	202175	2.32	56.9	0.86	1477				1.37	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 8	-32	-12062	2463	145543	2.87	140	1.41	5912				2.4	Si
SLV 8	173	-1141	5159	-25995	0.27	140	0.89	3728				0.72	No, Vu<V
SLD 9	-32	-8948	-2164	87616	2.13	140	1.26	5290				2.44	Si
SLD 9	173	-4100	-3276	213474	2.54	53.8	1.34	2165				0.66	No, Vu<V
SLV 7	-32	-12062	2463	145543	2.87	140	1.41	5912				2.4	Si
SLV 7	173	-1141	5159	-25995	0.27	140	0.89	3728				0.72	No, Vu<V
SLV 9	-32	-7691	-4027	63892	1.83	140	1.2	5038				1.25	Si
SLV 9	173	-5301	-6685	310437	5.15	34.31	1.63	1673				0.25	No, Vu<V
SLV 6	-32	-5357	-3501	29408	1.28	140	1.09	4571				1.31	Si
SLV 6	173	-4530	-4739	266976	4.55	33.19	1.63	1618				0.34	No, Vu<V
SLV 14	-32	-12762	-2553	144771	3.04	140	1.44	6052				2.37	Si
SLV 14	173	-5014	-5491	258602	3.02	55.29	1.44	2385				0.43	No, Vu<V
SLV 5	-32	-5357	-3501	29408	1.28	140	1.09	4571				1.31	Si
SLV 5	173	-4530	-4739	266976	4.55	33.19	1.63	1618				0.34	No, Vu<V
SLV 10	-32	-7691	-4027	63892	1.83	140	1.2	5038				1.25	Si
SLV 10	173	-5301	-6685	310437	5.15	34.31	1.63	1673				0.25	No, Vu<V
SLD 10	-32	-8948	-2164	87616	2.13	140	1.26	5290				2.44	Si
SLD 10	173	-4100	-3276	213474	2.54	53.8	1.34	2165				0.66	No, Vu<V
SLV 13	-32	-12762	-2553	144771	3.04	140	1.44	6052				2.37	Si
SLV 13	173	-5014	-5491	258602	3.02	55.29	1.44	2385				0.43	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 70.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.26	1.36	-5717	4583	76199	16.63	Si
SLV 2	14	0.26	1.36	-5717	4583	76199	16.63	Si
SLV 4	14	0.26	1.45	-6085	4583	80454	17.56	Si
SLV 3	14	0.26	1.45	-6085	4583	80454	17.56	Si
SLV 5	14	0.26	1.86	-7812	4583	99345	21.68	Si
SLV 6	14	0.26	1.86	-7812	4583	99345	21.68	Si
SLV 8	14	0.26	2.15	-9040	4583	111716	24.38	Si
SLV 7	14	0.26	2.15	-9040	4583	111716	24.38	Si
SLV 9	14	0.26	2.38	-9977	4583	120559	26.31	Si
SLV 10	14	0.26	2.38	-9977	4583	120559	26.31	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 70.3 Wa = 0.05 Ta = 0.0313

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	-1427	-6992	184	0.009	2.935	0.894	13.818	376.664	No
SLV 4	-1427	-6992	184	0.009	2.935	0.894	13.818	376.664	No
SLV 1	-2444	-4980	182	0.026	3.933	0.911	41.256	376.664	No
SLV 2	-2444	-4980	182	0.026	3.933	0.911	41.256	376.664	No
SLV 16	-3998	-14773	-187	0.037	5.492	0.93	57.129	376.664	No
SLV 15	-3998	-14773	-187	0.037	5.492	0.93	57.129	376.664	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 14	-5014	-12762	-190	0.041	6.52	0.94	63.06	376.664	No
SLV 13	-5014	-12762	-190	0.041	6.52	0.94	63.06	376.664	No
SLV 9	-5301	-7691	-62	0.062	6.81	0.942	96.187	553.744	No
SLV 10	-5301	-7691	-62	0.062	6.81	0.942	96.187	553.744	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.19	SLU 48	Si
V_SLU	1.339	SLU 45	Si
PF_SLV	1.072	SLV 9	Si
V_SLV	0.25	SLV 9	No
PFFP_SLV	16.628	SLV 1	Si
R_SLV	0.037	SLV 3	No

Maschio 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1963.8	104.6	-2465.3	104.6	L1	L3	501.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 75	-96	-123693	1086178	5.48	10146544	9.342	Si
SLU 75	114	-116491	-587586	5.16	10700111	18.21	Si
SLU 74	-96	-123761	1075259	5.48	10140575	9.431	Si
SLU 74	114	-116622	-638670	5.17	10691305	16.74	Si
SLU 78	-96	-125440	1084868	5.56	9990880	9.209	Si
SLU 78	114	-118313	-633106	5.24	10573390	16.701	Si
SLU 82	-96	-126933	1099271	5.62	9851353	8.962	Si
SLU 82	114	-119940	-609591	5.31	10452619	17.147	Si
SLU 77	-96	-125509	1073949	5.56	9984583	9.297	Si
SLU 77	114	-118444	-684189	5.25	10563932	15.44	Si
SLU 80	-96	-124662	1057819	5.52	10061265	9.511	Si
SLU 80	114	-117489	-634424	5.21	10631840	16.758	Si
SLU 83	-96	-128749	1087043	5.71	9673337	8.899	Si
SLU 83	114	-121894	-706195	5.4	10298057	14.582	Si
SLU 76	-96	-122868	1066408	5.44	10217092	9.581	Si
SLU 76	114	-115579	-554848	5.12	10760110	19.393	Si
SLU 81	-96	-127001	1088352	5.63	9844776	9.046	Si
SLU 81	114	-120071	-660675	5.32	10442580	15.806	Si
SLU 84	-96	-128680	1097961	5.7	9680242	8.817	Si
SLU 84	114	-121763	-655111	5.4	10308747	15.736	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 2	-96	-101900	6279808	4.52	16109069	2.565	Si
SLV 2	114	-102906	1050388	4.56	16174023	15.398	Si
SLV 14	-96	-65045	-5328864	2.88	12462751	2.339	Si
SLV 14	114	-51664	-1734949	2.29	10527551	6.068	Si
SLV 8	-96	-91400	3375764	4.05	15321877	4.539	Si
SLV 8	114	-87736	22179	3.89	15000026	676.319	Si
SLV 1	-96	-101900	6279808	4.52	16109069	2.565	Si
SLV 1	114	-102906	1050388	4.56	16174023	15.398	Si
SLV 4	-96	-103007	6814727	4.56	16180406	2.374	Si
SLV 4	114	-104183	1025769	4.62	16253691	15.845	Si
SLV 7	-96	-91400	3375764	4.05	15321877	4.539	Si
SLV 7	114	-87736	22179	3.89	15000026	676.319	Si
SLV 15	-96	-66153	-4793945	2.93	12608313	2.63	Si
SLV 15	114	-52940	-1759568	2.35	10726140	6.096	Si
SLV 16	-96	-66153	-4793945	2.93	12608313	2.63	Si
SLV 16	114	-52940	-1759568	2.35	10726140	6.096	Si
SLV 13	-96	-65045	-5328864	2.88	12462751	2.339	Si
SLV 13	114	-51664	-1734949	2.29	10527551	6.068	Si
SLV 3	-96	-103007	6814727	4.56	16180406	2.374	Si
SLV 3	114	-104183	1025769	4.62	16253691	15.845	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	-96	-128680	14290	1097961		5.7	501.5	1.08	24448			1.71	Si
SLU 84	114	-121763	14665	-655111		5.4	501.5	1.08	24448			1.67	Si
SLU 83	-96	-128749	14561	1087043		5.71	501.5	1.08	24448			1.68	Si
SLU 83	114	-121894	14944	-706195		5.4	501.5	1.08	24448			1.64	Si
SLU 79	-96	-124730	13953	1046900		5.53	501.5	1.08	24448			1.75	Si
SLU 79	114	-117620	14328	-685508		5.21	501.5	1.08	24448			1.71	Si
SLU 74	-96	-123761	13807	1075259		5.48	501.5	1.08	24448			1.77	Si
SLU 74	114	-116622	14180	-638670		5.17	501.5	1.08	24448			1.72	Si
SLU 77	-96	-125509	14135	1073949		5.56	501.5	1.08	24448			1.73	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	114	-118444	14513	-684189		5.25	501.5	1.08	24448			1.68	Si
SLU 81	-96	-127001	14233	1088352		5.63	501.5	1.08	24448			1.72	Si
SLU 81	114	-120071	14610	-660675		5.32	501.5	1.08	24448			1.67	Si
SLU 78	-96	-125440	13864	1084868		5.56	501.5	1.08	24448			1.76	Si
SLU 78	114	-118313	14235	-633106		5.24	501.5	1.08	24448			1.72	Si
SLU 80	-96	-124662	13682	1057819		5.52	501.5	1.08	24448			1.79	Si
SLU 80	114	-117489	14050	-634424		5.21	501.5	1.08	24448			1.74	Si
SLU 75	-96	-123693	13536	1086178		5.48	501.5	1.08	24448			1.81	Si
SLU 75	114	-116491	13901	-587586		5.16	501.5	1.08	24448			1.76	Si
SLU 82	-96	-126933	13962	1099271		5.62	501.5	1.08	24448			1.75	Si
SLU 82	114	-119940	14331	-609591		5.31	501.5	1.08	24448			1.71	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	-96	-66153	-19225	-4793945		2.93	501.5	1.42	32037			1.67	Si
SLV 15	114	-52940	-19593	-1759568		2.35	501.5	1.3	29394			1.5	Si
SLD 3	-96	-92131	21640	3335399		4.08	501.5	1.63	36672			1.69	Si
SLD 3	114	-89104	21849	235734		3.95	501.5	1.62	36627			1.68	Si
SLV 3	-96	-103007	38967	6814727		4.56	501.5	1.63	36672			0.94	No, Vu<V
SLV 3	114	-104183	39132	1025769		4.62	501.5	1.63	36672			0.94	No, Vu<V
SLV 4	-96	-103007	38967	6814727		4.56	501.5	1.63	36672			0.94	No, Vu<V
SLV 4	114	-104183	39132	1025769		4.62	501.5	1.63	36672			0.94	No, Vu<V
SLV 1	-96	-101900	36715	6279808		4.52	501.5	1.63	36672			1	No, Vu<V
SLV 1	114	-102906	37603	1050388		4.56	501.5	1.63	36672			0.98	No, Vu<V
SLV 2	-96	-101900	36715	6279808		4.52	501.5	1.63	36672			1	No, Vu<V
SLV 2	114	-102906	37603	1050388		4.56	501.5	1.63	36672			0.98	No, Vu<V
SLV 13	-96	-65045	-21476	-5328864		2.88	501.5	1.41	31815			1.48	Si
SLV 13	114	-51664	-21122	-1734949		2.29	501.5	1.29	29139			1.38	Si
SLV 14	-96	-65045	-21476	-5328864		2.88	501.5	1.41	31815			1.48	Si
SLV 14	114	-51664	-21122	-1734949		2.29	501.5	1.29	29139			1.38	Si
SLV 16	-96	-66153	-19225	-4793945		2.93	501.5	1.42	32037			1.67	Si
SLV 16	114	-52940	-19593	-1759568		2.35	501.5	1.3	29394			1.5	Si
SLD 4	-96	-92131	21640	3335399		4.08	501.5	1.63	36672			1.69	Si
SLD 4	114	-89104	21849	235734		3.95	501.5	1.62	36627			1.68	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.25	2.56	-57848	30876	1028527	33.31	Si
SLV 14	14	0.25	2.56	-57848	30876	1028527	33.31	Si
SLV 15	14	0.25	2.59	-58527	30876	1037356	33.6	Si
SLV 16	14	0.25	2.59	-58527	30876	1037356	33.6	Si
SLV 9	14	0.25	3.21	-72484	30876	1202188	38.94	Si
SLV 10	14	0.25	3.21	-72484	30876	1202188	38.94	Si
SLV 12	14	0.25	3.31	-74747	30876	1225919	39.7	Si
SLV 11	14	0.25	3.31	-74747	30876	1225919	39.7	Si
SLV 5	14	0.25	3.8	-85708	30876	1329034	43.04	Si
SLV 6	14	0.25	3.8	-85708	30876	1329034	43.04	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-76003	-91400	-429	0.084	85.926	0.97	125.88	480.788	No
SLV 8	-76003	-91400	-429	0.084	85.926	0.97	125.88	480.788	No
SLV 9	-63661	-76652	461	0.084	73.363	0.965	125.899	480.788	No
SLV 10	-63661	-76652	461	0.084	73.363	0.965	125.899	480.788	No
SLV 5	-74746	-87709	424	0.084	84.646	0.969	126.039	480.788	No
SLV 6	-74746	-87709	424	0.084	84.646	0.969	126.039	480.788	No
SLV 11	-64919	-80344	-392	0.085	74.643	0.965	127.307	480.788	No
SLV 12	-64919	-80344	-392	0.085	74.643	0.965	127.307	480.788	No
SLV 4	-88495	-103007	-174	0.087	98.647	0.973	129.39	347.831	No
SLV 3	-88495	-103007	-174	0.087	98.647	0.973	129.39	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.817	SLU 84	Si
V_SLU	1.636	SLU 83	Si
PF_SLV	2.339	SLV 13	Si
V_SLV	0.937	SLV 3	No
PFFP_SLV	33.311	SLV 13	Si
R_SLV	0.262	SLV 7	No

Maschio 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1506.3	104.6	-1883.8	104.6	L1	L3	377.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

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Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 73	-96	-107272	-632335	6.31	4551425	7.198	Si
SLU 73	114	-104678	-560841	6.16	4811723	8.579	Si
SLU 82	-96	-113378	-613999	6.67	3866191	6.297	Si
SLU 82	114	-110810	-585648	6.52	4166721	7.115	Si
SLU 78	-96	-113038	-599030	6.65	3906989	6.522	Si
SLU 78	114	-110204	-475393	6.49	4235064	8.909	Si
SLU 80	-96	-112224	-599104	6.61	4003470	6.682	Si
SLU 80	114	-109322	-458695	6.44	4332687	9.446	Si
SLU 83	-96	-116497	-553599	6.86	3476898	6.281	Si
SLU 83	114	-113513	-510339	6.68	3849915	7.544	Si
SLU 75	-96	-110883	-593753	6.53	4158395	7.004	Si
SLU 75	114	-108072	-514347	6.36	4467398	8.686	Si
SLU 84	-96	-115532	-619276	6.8	3600123	5.813	Si
SLU 84	114	-112942	-546694	6.65	3918463	7.168	Si
SLU 76	-96	-109426	-637612	6.44	4321247	6.777	Si
SLU 76	114	-106810	-521886	6.29	4599128	8.813	Si
SLU 77	-96	-114003	-533352	6.71	3790327	7.107	Si
SLU 77	114	-110774	-439038	6.52	4170778	9.5	Si
SLU 81	-96	-114342	-548322	6.73	3748636	6.837	Si
SLU 81	114	-111381	-549294	6.56	4101492	7.467	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	-96	-63335	-2226088	3.73	8306776	3.732	Si
SLV 10	114	-64155	211521	3.78	8366490	39.554	Si
SLV 14	-96	-77248	-5108527	4.55	9154245	1.792	Si
SLV 14	114	-73084	261407	4.3	8937548	34.19	Si
SLV 9	-96	-63335	-2226088	3.73	8306776	3.732	Si
SLV 9	114	-64155	211521	3.78	8366490	39.554	Si
SLV 15	-96	-85407	-4818327	5.03	9487448	1.969	Si
SLV 15	114	-78519	25008	4.62	9214118	368.449	Si
SLV 2	-96	-64692	4094345	3.81	8404930	2.053	Si
SLV 2	114	-65687	-669120	3.87	8474794	12.666	Si
SLV 1	-96	-64692	4094345	3.81	8404930	2.053	Si
SLV 1	114	-65687	-669120	3.87	8474794	12.666	Si
SLV 4	-96	-72851	4384545	4.29	8924446	2.035	Si
SLV 4	114	-71122	-905519	4.19	8824479	9.745	Si
SLV 13	-96	-77248	-5108527	4.55	9154245	1.792	Si
SLV 13	114	-73084	261407	4.3	8937548	34.19	Si
SLV 16	-96	-85407	-4818327	5.03	9487448	1.969	Si
SLV 16	114	-78519	25008	4.62	9214118	368.449	Si
SLV 3	-96	-72851	4384545	4.29	8924446	2.035	Si
SLV 3	114	-71122	-905519	4.19	8824479	9.745	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	-96	-110883	3538	-593753		6.53	377.5	1.08	18403			5.2	Si
SLU 75	114	-108072	3337	-514347		6.36	377.5	1.08	18403			5.51	Si
SLU 84	-96	-115532	3735	-619276		6.8	377.5	1.08	18403			4.93	Si
SLU 84	114	-112942	3526	-546694		6.65	377.5	1.08	18403			5.22	Si
SLU 40	-96	-96910	3490	-532929		5.7	377.5	1.08	18403			5.27	Si
SLU 40	114	-95517	3312	-513307		5.62	377.5	1.08	18403			5.56	Si
SLU 81	-96	-114342	3812	-548322		6.73	377.5	1.08	18403			4.83	Si
SLU 81	114	-111381	3610	-549294		6.56	377.5	1.08	18403			5.1	Si
SLU 73	-96	-107272	3734	-632335		6.31	377.5	1.08	18403			4.93	Si
SLU 73	114	-104678	3534	-560841		6.16	377.5	1.08	18403			5.21	Si
SLU 82	-96	-113378	3962	-613999		6.67	377.5	1.08	18403			4.65	Si
SLU 82	114	-110810	3754	-585648		6.52	377.5	1.08	18403			4.9	Si
SLU 76	-96	-109426	3508	-637612		6.44	377.5	1.08	18403			5.25	Si
SLU 76	114	-106810	3305	-521886		6.29	377.5	1.08	18403			5.57	Si
SLU 61	-96	-101818	3644	-561646		5.99	377.5	1.08	18403			5.05	Si
SLU 61	114	-98706	3458	-551894		5.81	377.5	1.08	18403			5.32	Si
SLU 83	-96	-116497	3586	-553599		6.86	377.5	1.08	18403			5.13	Si
SLU 83	114	-113513	3382	-510339		6.68	377.5	1.08	18403			5.44	Si
SLU 60	-96	-102783	3495	-495968		6.05	377.5	1.08	18403			5.27	Si
SLU 60	114	-99276	3314	-515539		5.84	377.5	1.08	18403			5.55	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	-96	-77248	-24950	-5108527		4.67	367.86	1.63	26899			1.08	Si
SLV 14	114	-73084	-25416	261407		4.3	377.5	1.63	27605			1.09	Si
SLV 13	-96	-77248	-24950	-5108527		4.67	367.86	1.63	26899			1.08	Si
SLV 13	114	-73084	-25416	261407		4.3	377.5	1.63	27605			1.09	Si
SLV 15	-96	-85407	-23405	-4818327		5.03	377.5	1.63	27605			1.18	Si
SLV 15	114	-78519	-23723	25008		4.62	377.5	1.63	27605			1.16	Si
SLV 1	-96	-64692	27889	4094345		3.82	376.38	1.6	27053			0.97	No, Vu<V
SLV 1	114	-65687	27944	-669120		3.87	377.5	1.61	27294			0.98	No, Vu<V
SLV 4	-96	-72851	29434	4384545		4.29	377.5	1.63	27605			0.94	No, Vu<V
SLV 4	114	-71122	29637	-905519		4.19	377.5	1.63	27605			0.93	No, Vu<V
SLV 3	-96	-72851	29434	4384545		4.29	377.5	1.63	27605			0.94	No, Vu<V
SLV 3	114	-71122	29637	-905519		4.19	377.5	1.63	27605			0.93	No, Vu<V
SLD 3	-96	-74059	13850	1661970		4.36	377.5	1.63	27605			1.99	Si
SLD 3	114	-71654	13860	-569912		4.22	377.5	1.63	27605			1.99	Si
SLV 16	-96	-85407	-23405	-4818327		5.03	377.5	1.63	27605			1.18	Si
SLV 16	114	-78519	-23723	25008		4.62	377.5	1.63	27605			1.16	Si
SLD 4	-96	-74059	13850	1661970		4.36	377.5	1.63	27605			1.99	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 4	114	-71654	13860	-569912		4.22	377.5	1.63	27605			1.99	Si
SLV 2	-96	-64692	27889	4094345		3.82	376.38	1.6	27053			0.97	No, Vu<V
SLV 2	114	-65687	27944	-669120		3.87	377.5	1.61	27294			0.98	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.25	3.62	-61500	23242	973755	41.9	Si
SLV 6	14	0.25	3.62	-61500	23242	973755	41.9	Si
SLV 10	14	0.25	3.73	-63367	23242	990495	42.62	Si
SLV 9	14	0.25	3.73	-63367	23242	990495	42.62	Si
SLV 1	14	0.25	3.93	-66837	23242	1019595	43.87	Si
SLV 2	14	0.25	3.93	-66837	23242	1019595	43.87	Si
SLV 13	14	0.25	4.3	-73062	23242	1065254	45.83	Si
SLV 14	14	0.25	4.3	-73062	23242	1065254	45.83	Si
SLV 4	14	0.25	4.31	-73280	23242	1066699	45.9	Si
SLV 3	14	0.25	4.31	-73280	23242	1066699	45.9	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-72486	-90531	-959	0.076	80.236	0.975	112.681	480.788	No
SLV 11	-72486	-90531	-959	0.076	80.236	0.975	112.681	480.788	No
SLV 5	-54166	-59568	719	0.077	61.581	0.968	115.896	480.788	No
SLV 6	-54166	-59568	719	0.077	61.581	0.968	115.896	480.788	No
SLV 8	-70096	-86764	-737	0.078	77.801	0.974	116.845	480.788	No
SLV 7	-70096	-86764	-737	0.078	77.801	0.974	116.845	480.788	No
SLV 10	-56557	-63335	497	0.081	64.014	0.969	121.632	480.788	No
SLV 9	-56557	-63335	497	0.081	64.014	0.969	121.632	480.788	No
SLV 15	-69700	-85407	-709	0.079	77.398	0.974	117.386	347.831	No
SLV 16	-69700	-85407	-709	0.079	77.398	0.974	117.386	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.813	SLU 84	Si
V_SLU	4.645	SLU 82	Si
PF_SLV	1.792	SLV 13	Si
V_SLV	0.931	SLV 3	No
PFFP_SLV	41.896	SLV 5	Si
R_SLV	0.234	SLV 11	No

Maschio 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1358.3	104.6	-1406.3	104.6	L1	L3	48	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 76	-96	-18262	-15693	8.45	0	0	No, Rottura per schiacciamento
SLU 76	120	-10854	-133473	5.02	99803	0.748	No, M>Mu
SLU 79	-96	-18321	-16849	8.48	0	0	No, Rottura per schiacciamento
SLU 79	120	-11032	-135623	5.11	98761	0.728	No, M>Mu
SLU 81	-96	-18944	-15463	8.77	0	0	No, Rottura per schiacciamento
SLU 81	120	-11301	-139077	5.23	97020	0.698	No, M>Mu
SLU 80	-96	-18388	-16761	8.51	0	0	No, Rottura per schiacciamento
SLU 80	120	-11026	-135545	5.1	98798	0.729	No, M>Mu
SLU 73	-96	-18090	-14683	8.37	0	0	No, Rottura per schiacciamento
SLU 73	120	-10686	-131453	4.95	100706	0.766	No, M>Mu
SLU 74	-96	-18323	-15747	8.48	0	0	No, Rottura per schiacciamento
SLU 74	120	-10969	-134916	5.08	99137	0.735	No, M>Mu
SLU 77	-96	-18495	-16757	8.56	0	0	No, Rottura per schiacciamento
SLU 77	120	-11137	-136937	5.16	98103	0.716	No, M>Mu
SLU 75	-96	-18390	-15659	8.51	0	0	No, Rottura per schiacciamento
SLU 75	120	-10963	-134839	5.08	99172	0.735	No, M>Mu
SLU 84	-96	-19182	-16385	8.88	0	0	No, Rottura per schiacciamento
SLU 84	120	-11463	-141019	5.31	95877	0.68	No, M>Mu



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 83	-96	-19115	-16473	8.85	0	0	No, Rottura per schiacciamento
SLU 83	120	-11469	-141097	5.31	95834	0.679	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 15	-96	-19099	-50225	8.84	126672	2.522	Si
SLV 15	120	-9946	-117330	4.6	148750	1.268	Si
SLD 12	-96	-15185	-15178	7.03	154757	10.196	Si
SLD 12	120	-7909	-96955	3.66	132938	1.371	Si
SLD 11	-96	-15185	-15178	7.03	154757	10.196	Si
SLD 11	120	-7909	-96955	3.66	132938	1.371	Si
SLD 16	-96	-15222	-27234	7.05	154624	5.678	Si
SLD 16	120	-8414	-101338	3.9	137557	1.357	Si
SLV 11	-96	-19051	-21864	8.82	127180	5.817	Si
SLV 11	120	-8788	-107339	4.07	140684	1.311	Si
SLV 16	-96	-19099	-50225	8.84	126672	2.522	Si
SLV 16	120	-9946	-117330	4.6	148750	1.268	Si
SLV 13	-96	-16016	-50455	7.42	151122	2.995	Si
SLV 13	120	-9483	-111116	4.39	145815	1.312	Si
SLV 14	-96	-16016	-50455	7.42	151122	2.995	Si
SLV 14	120	-9483	-111116	4.39	145815	1.312	Si
SLD 15	-96	-15222	-27234	7.05	154624	5.678	Si
SLD 15	120	-8414	-101338	3.9	137557	1.357	Si
SLV 12	-96	-19051	-21864	8.82	127180	5.817	Si
SLV 12	120	-8788	-107339	4.07	140684	1.311	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	-96	-19182	-235	-16385	8.88	48	1.08	2340				9.95	Si
SLU 84	120	-11463	352	-141019	7.26	35.09	1.08	1711				4.86	Si
SLU 77	-96	-18495	-242	-16757	8.56	48	1.08	2340				9.65	Si
SLU 77	120	-11137	347	-136937	7.05	35.11	1.08	1712				4.93	Si
SLU 80	-96	-18388	-240	-16761	8.51	48	1.08	2340				9.77	Si
SLU 80	120	-11026	342	-135545	6.98	35.12	1.08	1712				5	Si
SLU 79	-96	-18321	-243	-16849	8.48	48	1.08	2340				9.63	Si
SLU 79	120	-11032	345	-135623	6.98	35.12	1.08	1712				4.96	Si
SLU 81	-96	-18944	-225	-15463	8.77	48	1.08	2340				10.42	Si
SLU 81	120	-11301	348	-139077	7.16	35.08	1.08	1710				4.91	Si
SLU 74	-96	-18323	-228	-15747	8.48	48	1.08	2340				10.26	Si
SLU 74	120	-10969	340	-134916	6.94	35.1	1.08	1711				5.03	Si
SLU 75	-96	-18390	-225	-15659	8.51	48	1.08	2340				10.42	Si
SLU 75	120	-10963	338	-134839	6.94	35.1	1.08	1711				5.07	Si
SLU 78	-96	-18562	-239	-16669	8.59	48	1.08	2340				9.8	Si
SLU 78	120	-11131	344	-136859	7.04	35.12	1.08	1712				4.97	Si
SLU 83	-96	-19115	-239	-16473	8.85	48	1.08	2340				9.8	Si
SLU 83	120	-11469	355	-141097	7.26	35.09	1.08	1711				4.82	Si
SLU 82	-96	-19011	-221	-15375	8.8	48	1.08	2340				10.59	Si
SLU 82	120	-11295	346	-138999	7.15	35.08	1.08	1710				4.95	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	-96	-16016	-1114	-50455	7.42	48	1.63	3510				3.15	Si
SLV 13	120	-9483	311	-111116	5.72	36.85	1.63	2694				8.66	Si
SLV 4	-96	-8688	822	30039	4.02	48	1.63	3510				4.27	Si
SLV 4	120	-5092	146	-68070	3.55	31.89	1.54	2214				15.21	Si
SLD 13	-96	-13922	-560	-27325	6.45	48	1.63	3510				6.27	Si
SLD 13	120	-8226	264	-98806	5.08	35.97	1.63	2630				9.96	Si
SLV 2	-96	-5606	744	29809	2.6	48	1.35	2921				3.92	Si
SLV 2	120	-4628	180	-61856	3.22	31.9	1.48	2122				11.82	Si
SLV 14	-96	-16016	-1114	-50455	7.42	48	1.63	3510				3.15	Si
SLV 14	120	-9483	311	-111116	5.72	36.85	1.63	2694				8.66	Si
SLV 3	-96	-8688	822	30039	4.02	48	1.63	3510				4.27	Si
SLV 3	120	-5092	146	-68070	3.55	31.89	1.54	2214				15.21	Si
SLV 1	-96	-5606	744	29809	2.6	48	1.35	2921				3.92	Si
SLV 1	120	-4628	180	-61856	3.22	31.9	1.48	2122				11.82	Si
SLV 16	-96	-19099	-1037	-50225	8.84	48	1.63	3510				3.38	Si
SLV 16	120	-9946	277	-117330	6.04	36.61	1.63	2677				9.66	Si
SLV 15	-96	-19099	-1037	-50225	8.84	48	1.63	3510				3.38	Si
SLV 15	120	-9946	277	-117330	6.04	36.61	1.63	2677				9.66	Si
SLD 14	-96	-13922	-560	-27325	6.45	48	1.63	3510				6.27	Si
SLD 14	120	-8226	264	-98806	5.08	35.97	1.63	2630				9.96	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.25	3.11	-6717	2955	112672	38.13	Si
SLV 2	14	0.25	3.11	-6717	2955	112672	38.13	Si
SLV 4	14	0.25	3.69	-7967	2955	125146	42.35	Si
SLV 3	14	0.25	3.69	-7967	2955	125146	42.35	Si
SLV 15	14	0.25	8.45	-18262	2955	126579	42.83	Si
SLV 16	14	0.25	8.45	-18262	2955	126579	42.83	Si
SLV 5	14	0.25	4.1	-8863	2955	132447	44.82	Si
SLV 6	14	0.25	4.1	-8863	2955	132447	44.82	Si
SLV 13	14	0.25	7.88	-17013	2955	136042	46.03	Si
SLV 14	14	0.25	7.88	-17013	2955	136042	46.03	Si



Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-9684	-19051	88	0.079	10.678	0.976	118.081	480.788	No
SLV 12	-9684	-19051	88	0.079	10.678	0.976	118.081	480.788	No
SLV 8	-8072	-15928	78	0.08	9.037	0.972	119.134	480.788	No
SLV 7	-8072	-15928	78	0.08	9.037	0.972	119.134	480.788	No
SLV 5	-5832	-5653	-67	0.08	6.756	0.964	120.666	480.788	No
SLV 6	-5832	-5653	-67	0.08	6.756	0.964	120.666	480.788	No
SLV 10	-7443	-8776	-57	0.082	8.396	0.97	122.861	480.788	No
SLV 9	-7443	-8776	-57	0.082	8.396	0.97	122.861	480.788	No
SLV 16	-10779	-19099	49	0.083	11.794	0.978	123.529	347.831	No
SLV 15	-10779	-19099	49	0.083	11.794	0.978	123.529	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 73	No
V_SLU	4.82	SLU 83	Si
PF_SLV	1.268	SLV 15	Si
V_SLV	3.15	SLV 13	Si
PFFP_SLV	38.126	SLV 1	Si
R_SLV	0.246	SLV 11	No

Maschio 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1223.8	104.6	-1261.3	104.6	L1	L3	37.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 84	-96	-15117	-15211	8.96	0	0	No, Rottura per schiacciamento
SLU 84	120	-6811	-29430	4.04	64430	2.189	Si
SLU 75	-96	-14494	-14671	8.59	0	0	No, Rottura per schiacciamento
SLU 75	120	-6517	-28097	3.86	64262	2.287	Si
SLU 74	-96	-14474	-14612	8.58	0	0	No, Rottura per schiacciamento
SLU 74	120	-6509	-28067	3.86	64254	2.289	Si
SLU 77	-96	-14628	-15263	8.67	0	0	No, Rottura per schiacciamento
SLU 77	120	-6582	-28246	3.9	64320	2.277	Si
SLU 80	-96	-14509	-15222	8.6	0	0	No, Rottura per schiacciamento
SLU 80	120	-6524	-27975	3.87	64268	2.297	Si
SLU 79	-96	-14489	-15164	8.59	0	0	No, Rottura per schiacciamento
SLU 79	120	-6515	-27945	3.86	64260	2.3	Si
SLU 76	-96	-14368	-14611	8.51	0	0	No, Rottura per schiacciamento
SLU 76	120	-6456	-27816	3.83	64197	2.308	Si
SLU 81	-96	-14943	-14503	8.86	0	0	No, Rottura per schiacciamento
SLU 81	120	-6730	-29221	3.99	64407	2.204	Si
SLU 83	-96	-15097	-15153	8.95	0	0	No, Rottura per schiacciamento
SLU 83	120	-6803	-29400	4.03	64428	2.191	Si
SLU 73	-96	-14214	-13960	8.42	0	0	No, Rottura per schiacciamento
SLU 73	120	-6383	-27637	3.78	64107	2.32	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 16	-96	-14536	-60709	8.61	80411	1.325	Si
SLV 16	120	-6501	-16709	3.85	83462	4.995	Si
SLV 4	-96	-6180	40533	3.66	81146	2.002	Si
SLV 4	120	-2711	-24224	1.61	44148	1.822	Si
SLV 1	-96	-4942	41492	2.93	70457	1.698	Si
SLV 1	120	-2190	-20754	1.3	36694	1.768	Si
SLV 7	-96	-10549	3979	6.25	96600	24.276	Si
SLV 7	120	-4646	-25642	2.75	67483	2.632	Si
SLV 15	-96	-14536	-60709	8.61	80411	1.325	Si
SLV 15	120	-6501	-16709	3.85	83462	4.995	Si
SLV 8	-96	-10549	3979	6.25	96600	24.276	Si
SLV 8	120	-4646	-25642	2.75	67483	2.632	Si
SLV 14	-96	-13298	-59750	7.88	88532	1.482	Si
SLV 14	120	-5980	-13240	3.54	79603	6.012	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	-96	-13298	-59750	7.88	88532	1.482	Si
SLV 13	120	-5980	-13240	3.54	79603	6.012	Si
SLV 2	-96	-4942	41492	2.93	70457	1.698	Si
SLV 2	120	-2190	-20754	1.3	36694	1.768	Si
SLV 3	-96	-6180	40533	3.66	81146	2.002	Si
SLV 3	120	-2711	-24224	1.61	44148	1.822	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	-96	-14489	-177	-15164		8.59	37.5	1.08	1828			10.31	Si
SLU 79	120	-6515	154	-27945		3.86	37.5	1.07	1806			11.71	Si
SLU 77	-96	-14628	-179	-15263		8.67	37.5	1.08	1828			10.23	Si
SLU 77	120	-6582	153	-28246		3.9	37.5	1.08	1815			11.83	Si
SLU 80	-96	-14509	-178	-15222		8.6	37.5	1.08	1828			10.28	Si
SLU 80	120	-6524	154	-27975		3.87	37.5	1.07	1807			11.77	Si
SLU 83	-96	-15097	-178	-15153		8.95	37.5	1.08	1828			10.27	Si
SLU 83	120	-6803	165	-29400		4.03	37.5	1.08	1828			11.06	Si
SLU 74	-96	-14474	-172	-14612		8.58	37.5	1.08	1828			10.65	Si
SLU 74	120	-6509	153	-28067		3.86	37.5	1.07	1805			11.82	Si
SLU 78	-96	-14648	-179	-15321		8.68	37.5	1.08	1828			10.2	Si
SLU 78	120	-6591	153	-28276		3.91	37.5	1.08	1816			11.89	Si
SLU 82	-96	-14963	-171	-14561		8.87	37.5	1.08	1828			10.66	Si
SLU 82	120	-6738	164	-29251		3.99	37.5	1.08	1828			11.15	Si
SLU 75	-96	-14494	-172	-14671		8.59	37.5	1.08	1828			10.62	Si
SLU 75	120	-6517	152	-28097		3.86	37.5	1.07	1806			11.88	Si
SLU 76	-96	-14368	-171	-14611		8.51	37.5	1.08	1828			10.68	Si
SLU 76	120	-6456	152	-27816		3.83	37.5	1.07	1798			11.8	Si
SLU 84	-96	-15117	-178	-15211		8.96	37.5	1.08	1828			10.24	Si
SLU 84	120	-6811	165	-29430		4.04	37.5	1.08	1828			11.1	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	-96	-6180	327	40533		3.76	36.57	1.58	2608			7.97	Si
SLV 3	120	-2711	-102	-24224		2.05	29.44	1.24	1646			16.08	Si
SLV 10	-96	-8929	-232	-23196		5.29	37.5	1.63	2742			11.82	Si
SLV 10	120	-4045	315	-11822		2.4	37.5	1.31	2215			7.04	Si
SLV 16	-96	-14536	-562	-60709		8.61	37.5	1.63	2742			4.88	Si
SLV 16	120	-6501	202	-16709		3.85	37.5	1.6	2706			13.37	Si
SLV 9	-96	-8929	-232	-23196		5.29	37.5	1.63	2742			11.82	Si
SLV 9	120	-4045	315	-11822		2.4	37.5	1.31	2215			7.04	Si
SLV 2	-96	-4942	336	41492		3.54	31.06	1.54	2153			6.41	Si
SLV 2	120	-2190	-1	-20754		1.75	27.81	1.18	1481			1000	Si
SLV 1	-96	-4942	336	41492		3.54	31.06	1.54	2153			6.41	Si
SLV 1	120	-2190	-1	-20754		1.75	27.81	1.18	1481			1000	Si
SLV 14	-96	-13298	-553	-59750		7.88	37.5	1.63	2742			4.96	Si
SLV 14	120	-5980	303	-13240		3.54	37.5	1.54	2602			8.57	Si
SLV 13	-96	-13298	-553	-59750		7.88	37.5	1.63	2742			4.96	Si
SLV 13	120	-5980	303	-13240		3.54	37.5	1.54	2602			8.57	Si
SLV 4	-96	-6180	327	40533		3.76	36.57	1.58	2608			7.97	Si
SLV 4	120	-2711	-102	-24224		2.05	29.44	1.24	1646			16.08	Si
SLV 15	-96	-14536	-562	-60709		8.61	37.5	1.63	2742			4.88	Si
SLV 15	120	-6501	202	-16709		3.85	37.5	1.6	2706			13.37	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.25	2.8	-4723	2309	81920	35.48	Si
SLV 2	14	0.25	2.8	-4723	2309	81920	35.48	Si
SLV 3	14	0.25	3.53	-5953	2309	95271	41.26	Si
SLV 4	14	0.25	3.53	-5953	2309	95271	41.26	Si
SLV 6	14	0.25	3.61	-6100	2309	96647	41.86	Si
SLV 5	14	0.25	3.61	-6100	2309	96647	41.86	Si
SLV 15	14	0.25	8.29	-13990	2309	101200	43.83	Si
SLV 16	14	0.25	8.29	-13990	2309	101200	43.83	Si
SLV 13	14	0.25	7.56	-12760	2309	109432	47.4	Si
SLV 14	14	0.25	7.56	-12760	2309	109432	47.4	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-6688	-10549	-871	0	7.449	0.974	0	480.788	No
SLV 7	-6688	-10549	-871	0	7.449	0.974	0	480.788	No
SLV 6	-3988	-6423	789	0	4.701	0.96	0	480.788	No
SLV 4	-3388	-6180	-432	0	4.09	0.954	0	347.831	No
SLV 9	-6007	-8929	911	0	6.755	0.971	0	480.788	No
SLV 10	-6007	-8929	911	0	6.755	0.971	0	480.788	No
SLV 5	-3988	-6423	789	0	4.701	0.96	0	480.788	No
SLV 3	-3388	-6180	-432	0	4.09	0.954	0	347.831	No
SLV 12	-8707	-13055	-748	0.005	9.505	0.979	7.874	480.788	No
SLV 11	-8707	-13055	-748	0.005	9.505	0.979	7.874	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 73	No
V_SLU	10.203	SLU 78	Si
PF_SLV	1.325	SLV 15	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	4.879	SLV 15	Si
PFFP_SLV	35.482	SLV 1	Si
R_SLV	0	SLV 3	No

Maschio 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1071.3	104.6	-1123.8	104.6	L1	L3	52.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 81	-96	-19573	15462	8.28	0	0	No, Rottura per schiacciamento
SLU 81	120	-12389	39425	5.24	115853	2.939	Si
SLU 74	-96	-18714	14185	7.92	13545	0.955	No, M>Mu
SLU 74	120	-11869	38284	5.02	119404	3.119	Si
SLU 78	-96	-18783	13359	7.95	11815	0.884	No, M>Mu
SLU 78	120	-11956	39097	5.06	118865	3.04	Si
SLU 83	-96	-19558	15033	8.28	0	0	No, Rottura per schiacciamento
SLU 83	120	-12470	40142	5.28	115233	2.871	Si
SLU 75	-96	-18799	13788	7.96	11431	0.829	No, M>Mu
SLU 75	120	-11875	38379	5.03	119372	3.11	Si
SLU 82	-96	-19658	15066	8.32	0	0	No, Rottura per schiacciamento
SLU 82	120	-12394	39521	5.25	115813	2.93	Si
SLU 73	-96	-18670	13849	7.9	14643	1.057	Si
SLU 73	120	-11679	37398	4.94	120524	3.223	Si
SLU 77	-96	-18699	13756	7.91	13925	1.012	Si
SLU 77	120	-11950	39001	5.06	118899	3.049	Si
SLU 76	-96	-18654	13420	7.9	15021	1.119	Si
SLU 76	120	-11760	38115	4.98	120060	3.15	Si
SLU 84	-96	-19643	14637	8.31	0	0	No, Rottura per schiacciamento
SLU 84	120	-12475	40238	5.28	115192	2.863	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 13	-96	-7959	-129160	3.37	151320	1.172	Si
SLV 13	120	-4998	75983	2.12	108479	1.428	Si
SLV 5	-96	-6698	54473	2.83	135021	2.479	Si
SLV 5	120	-6165	6344	2.61	127264	20.062	Si
SLV 14	-96	-7959	-129160	3.37	151320	1.172	Si
SLV 14	120	-4998	75983	2.12	108479	1.428	Si
SLV 1	-96	-13317	150113	5.64	188305	1.254	Si
SLV 1	120	-9332	-27436	3.95	165769	6.042	Si
SLV 16	-96	-12025	-130965	5.09	184165	1.406	Si
SLV 16	120	-6412	78055	2.71	130931	1.677	Si
SLV 3	-96	-17383	148308	7.36	181527	1.224	Si
SLV 3	120	-10746	-25364	4.55	177073	6.981	Si
SLV 4	-96	-17383	148308	7.36	181527	1.224	Si
SLV 4	120	-10746	-25364	4.55	177073	6.981	Si
SLV 15	-96	-12025	-130965	5.09	184165	1.406	Si
SLV 15	120	-6412	78055	2.71	130931	1.677	Si
SLV 2	-96	-13317	150113	5.64	188305	1.254	Si
SLV 2	120	-9332	-27436	3.95	165769	6.042	Si
SLV 6	-96	-6698	54473	2.83	135021	2.479	Si
SLV 6	120	-6165	6344	2.61	127264	20.062	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 74	-96	-18714	285	14185		7.92	52.5	1.08	2559			8.97	Si
SLU 74	120	-11869	675	38284		5.02	52.5	1.08	2559			3.79	Si
SLU 83	-96	-19558	301	15033		8.28	52.5	1.08	2559			8.49	Si
SLU 83	120	-12470	704	40142		5.28	52.5	1.08	2559			3.64	Si
SLU 77	-96	-18699	285	13756		7.91	52.5	1.08	2559			8.98	Si
SLU 77	120	-11950	683	39001		5.06	52.5	1.08	2559			3.75	Si
SLU 81	-96	-19573	302	15462		8.28	52.5	1.08	2559			8.49	Si
SLU 81	120	-12389	696	39425		5.24	52.5	1.08	2559			3.68	Si
SLU 80	-96	-18582	277	13255		7.87	52.5	1.08	2559			9.23	Si
SLU 80	120	-11837	676	38769		5.01	52.5	1.08	2559			3.79	Si
SLU 84	-96	-19643	296	14637		8.31	52.5	1.08	2559			8.66	Si
SLU 84	120	-12475	706	40238		5.28	52.5	1.08	2559			3.62	Si
SLU 75	-96	-18799	279	13788		7.96	52.5	1.08	2559			9.16	Si
SLU 75	120	-11875	678	38379		5.03	52.5	1.08	2559			3.78	Si
SLU 82	-96	-19658	296	15066		8.32	52.5	1.08	2559			8.65	Si
SLU 82	120	-12394	699	39521		5.25	52.5	1.08	2559			3.66	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	-96	-18783	279	13359		7.95	52.5	1.08	2559			9.16	Si
SLU 78	120	-11956	686	39097		5.06	52.5	1.08	2559			3.73	Si
SLU 79	-96	-18497	283	13652		7.83	52.5	1.08	2559			9.04	Si
SLU 79	120	-11832	673	38673		5.01	52.5	1.08	2559			3.8	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	-96	-12025	-1201	-130965		5.8	46.08	1.63	3369			2.81	Si
SLV 16	120	-6412	786	78055		3.37	42.23	1.51	2866			3.65	Si
SLV 2	-96	-13317	1577	150113		6.59	44.93	1.63	3286			2.08	Si
SLV 2	120	-9332	104	-27436		3.95	52.5	1.62	3835			36.78	Si
SLV 1	-96	-13317	1577	150113		6.59	44.93	1.63	3286			2.08	Si
SLV 1	120	-9332	104	-27436		3.95	52.5	1.62	3835			36.78	Si
SLV 15	-96	-12025	-1201	-130965		5.8	46.08	1.63	3369			2.81	Si
SLV 15	120	-6412	786	78055		3.37	42.23	1.51	2866			3.65	Si
SLV 13	-96	-7959	-1151	-129160		5.88	30.07	1.63	2199			1.91	Si
SLV 13	120	-4998	726	75983		3.35	33.14	1.5	2242			3.09	Si
SLV 4	-96	-17383	1527	148308		7.36	52.5	1.63	3839			2.51	Si
SLV 4	120	-10746	164	-25364		4.55	52.5	1.63	3839			23.4	Si
SLV 6	-96	-6698	681	54473		2.83	52.5	1.4	3308			4.86	Si
SLV 6	120	-6165	252	6344		2.61	52.5	1.36	3202			12.7	Si
SLV 3	-96	-17383	1527	148308		7.36	52.5	1.63	3839			2.51	Si
SLV 3	120	-10746	164	-25364		4.55	52.5	1.63	3839			23.4	Si
SLV 14	-96	-7959	-1151	-129160		5.88	30.07	1.63	2199			1.91	Si
SLV 14	120	-4998	726	75983		3.35	33.14	1.5	2242			3.09	Si
SLV 5	-96	-6698	681	54473		2.83	52.5	1.4	3308			4.86	Si
SLV 5	120	-6165	252	6344		2.61	52.5	1.36	3202			12.7	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.25	2.58	-6091	3232	108129	33.45	Si
SLV 9	14	0.25	2.58	-6091	3232	108129	33.45	Si
SLV 14	14	0.25	2.84	-6703	3232	115797	35.82	Si
SLV 13	14	0.25	2.84	-6703	3232	115797	35.82	Si
SLV 6	14	0.25	3.44	-8125	3232	131353	40.64	Si
SLV 5	14	0.25	3.44	-8125	3232	131353	40.64	Si
SLV 15	14	0.25	3.92	-9261	3232	141524	43.78	Si
SLV 16	14	0.25	3.92	-9261	3232	141524	43.78	Si
SLV 7	14	0.25	7.05	-16652	3232	158539	49.05	Si
SLV 8	14	0.25	7.05	-16652	3232	158539	49.05	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-3197	-5090	428	0	4.157	0.94	0	480.788	No
SLV 10	-3197	-5090	428	0	4.157	0.94	0	480.788	No
SLV 5	-4914	-6698	394	0.021	5.9	0.955	31.265	480.788	No
SLV 6	-4914	-6698	394	0.021	5.9	0.955	31.265	480.788	No
SLV 11	-7088	-18644	-394	0.038	8.111	0.967	57.752	480.788	No
SLV 12	-7088	-18644	-394	0.038	8.111	0.967	57.752	480.788	No
SLV 7	-8806	-20252	-428	0.043	9.86	0.972	64.409	480.788	No
SLV 8	-8806	-20252	-428	0.043	9.86	0.972	64.409	480.788	No
SLV 14	-2555	-7959	180	0.042	3.508	0.93	64.843	347.831	No
SLV 13	-2555	-7959	180	0.042	3.508	0.93	64.843	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 81	No
V_SLU	3.623	SLU 84	Si
PF_SLV	1.172	SLV 13	Si
V_SLV	1.911	SLV 13	Si
PFFP_SLV	33.452	SLV 9	Si
R_SLV	0	SLV 9	No

Maschio 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-742.8	104.6	-971.3	104.6	L1	L3	228.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	-96	-72097	-256436	7.01	1146935	4.473	Si
SLU 82	114	-67235	284406	6.54	1515459	5.329	Si
SLU 79	-96	-70200	-255582	6.83	1298349	5.08	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 79	114	-65339	211623	6.35	1641722	7.758	Si
SLU 81	-96	-72425	-250206	7.04	1119760	4.475	Si
SLU 81	114	-67563	261040	6.57	1492632	5.718	Si
SLU 78	-96	-70452	-267085	6.85	1278806	4.788	Si
SLU 78	114	-65591	242587	6.38	1625520	6.701	Si
SLU 77	-96	-70780	-260855	6.88	1253102	4.804	Si
SLU 77	114	-65919	219221	6.41	1604164	7.318	Si
SLU 75	-96	-69685	-255995	6.78	1337782	5.226	Si
SLU 75	114	-64824	255880	6.3	1674324	6.543	Si
SLU 83	-96	-73192	-261297	7.12	1055054	4.038	Si
SLU 83	114	-68330	247747	6.65	1438098	5.805	Si
SLU 74	-96	-70013	-249764	6.81	1312763	5.256	Si
SLU 74	114	-65152	232515	6.34	1653654	7.112	Si
SLU 80	-96	-69873	-261812	6.8	1323534	5.055	Si
SLU 80	114	-65011	234989	6.32	1662559	7.075	Si
SLU 84	-96	-72864	-267527	7.09	1082915	4.048	Si
SLU 84	114	-68002	271113	6.61	1461610	5.391	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 4	-96	-55781	2238236	5.42	3543524	1.583	Si
SLV 4	114	-51835	-823266	5.04	3478854	4.226	Si
SLV 15	-96	-43904	-2639985	4.27	3263222	1.236	Si
SLV 15	114	-40228	1267286	3.91	3124468	2.465	Si
SLV 14	-96	-38042	-2548250	3.7	3030271	1.189	Si
SLV 14	114	-34508	1130959	3.36	2859684	2.529	Si
SLV 16	-96	-43904	-2639985	4.27	3263222	1.236	Si
SLV 16	114	-40228	1267286	3.91	3124468	2.465	Si
SLD 16	-96	-45612	-1215565	4.44	3319322	2.731	Si
SLD 16	114	-41896	628704	4.07	3190463	5.075	Si
SLV 13	-96	-38042	-2548250	3.7	3030271	1.189	Si
SLV 13	114	-34508	1130959	3.36	2859684	2.529	Si
SLV 1	-96	-49918	2329971	4.85	3437216	1.475	Si
SLV 1	114	-46115	-959593	4.48	3334823	3.475	Si
SLD 15	-96	-45612	-1215565	4.44	3319322	2.731	Si
SLD 15	114	-41896	628704	4.07	3190463	5.075	Si
SLV 2	-96	-49918	2329971	4.85	3437216	1.475	Si
SLV 2	114	-46115	-959593	4.48	3334823	3.475	Si
SLV 3	-96	-55781	2238236	5.42	3543524	1.583	Si
SLV 3	114	-51835	-823266	5.04	3478854	4.226	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	-96	-72097	-2576	-256436		7.01	228.5	1.08	11139			4.33	Si
SLU 82	114	-67235	-2576	284406		6.54	228.5	1.08	11139			4.33	Si
SLU 81	-96	-72425	-2435	-250206		7.04	228.5	1.08	11139			4.58	Si
SLU 81	114	-67563	-2435	261040		6.57	228.5	1.08	11139			4.58	Si
SLU 78	-96	-70452	-2427	-267085		6.85	228.5	1.08	11139			4.59	Si
SLU 78	114	-65591	-2427	242587		6.38	228.5	1.08	11139			4.59	Si
SLU 80	-96	-69873	-2366	-261812		6.8	228.5	1.08	11139			4.71	Si
SLU 80	114	-65011	-2366	234989		6.32	228.5	1.08	11139			4.71	Si
SLU 75	-96	-69685	-2438	-255995		6.78	228.5	1.08	11139			4.57	Si
SLU 75	114	-64824	-2438	255880		6.3	228.5	1.08	11139			4.57	Si
SLU 83	-96	-73192	-2424	-261297		7.12	228.5	1.08	11139			4.6	Si
SLU 83	114	-68330	-2424	247747		6.65	228.5	1.08	11139			4.6	Si
SLU 61	-96	-64501	-2376	-231084		6.27	228.5	1.08	11139			4.69	Si
SLU 61	114	-59639	-2376	267864		5.8	228.5	1.08	11139			4.69	Si
SLU 84	-96	-72864	-2565	-267527		7.09	228.5	1.08	11139			4.34	Si
SLU 84	114	-68002	-2565	271113		6.61	228.5	1.08	11139			4.34	Si
SLU 73	-96	-68120	-2481	-243785		6.62	228.5	1.08	11139			4.49	Si
SLU 73	114	-63259	-2481	277153		6.15	228.5	1.08	11139			4.49	Si
SLU 76	-96	-68887	-2470	-254875		6.7	228.5	1.08	11139			4.51	Si
SLU 76	114	-64025	-2470	263860		6.23	228.5	1.08	11139			4.51	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	-96	-55781	14572	2238236		5.57	222.37	1.63	16261			1.12	Si
SLV 3	114	-51835	14629	-823266		5.04	228.5	1.63	16709			1.14	Si
SLD 16	-96	-45612	-8774	-1215565		4.44	228.5	1.63	16709			1.9	Si
SLD 16	114	-41896	-8826	628704		4.07	228.5	1.63	16709			1.89	Si
SLV 4	-96	-55781	14572	2238236		5.57	222.37	1.63	16261			1.12	Si
SLV 4	114	-51835	14629	-823266		5.04	228.5	1.63	16709			1.14	Si
SLV 14	-96	-38042	-17514	-2548250		5.96	141.79	1.63	10369			0.59	No, Vu<V
SLV 14	114	-34508	-17571	1130959		3.36	228.5	1.5	15470			0.88	No, Vu<V
SLV 2	-96	-49918	15649	2329971		5.47	202.72	1.63	14824			0.95	No, Vu<V
SLV 2	114	-46115	15770	-959593		4.48	228.5	1.63	16709			1.06	Si
SLV 1	-96	-49918	15649	2329971		5.47	202.72	1.63	14824			0.95	No, Vu<V
SLV 1	114	-46115	15770	-959593		4.48	228.5	1.63	16709			1.06	Si
SLD 15	-96	-45612	-8774	-1215565		4.44	228.5	1.63	16709			1.9	Si
SLD 15	114	-41896	-8826	628704		4.07	228.5	1.63	16709			1.89	Si
SLV 15	-96	-43904	-18591	-2639985		6.01	162.36	1.63	11873			0.64	No, Vu<V
SLV 15	114	-40228	-18711	1267286		3.91	228.5	1.62	16614			0.89	No, Vu<V
SLV 16	-96	-43904	-18591	-2639985		6.01	162.36	1.63	11873			0.64	No, Vu<V
SLV 16	114	-40228	-18711	1267286		3.91	228.5	1.62	16614			0.89	No, Vu<V
SLV 13	-96	-38042	-17514	-2548250		5.96	141.79	1.63	10369			0.59	No, Vu<V
SLV 13	114	-34508	-17571	1130959		3.36	228.5	1.5	15470			0.88	No, Vu<V



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.25	3.26	-33485	14068	552618	39.28	Si
SLV 10	14	0.25	3.26	-33485	14068	552618	39.28	Si
SLV 14	14	0.25	3.52	-36227	14068	580074	41.23	Si
SLV 13	14	0.25	3.52	-36227	14068	580074	41.23	Si
SLV 6	14	0.25	3.58	-36820	14068	585662	41.63	Si
SLV 5	14	0.25	3.58	-36820	14068	585662	41.63	Si
SLV 16	14	0.25	4.08	-41911	14068	628430	44.67	Si
SLV 15	14	0.25	4.08	-41911	14068	628430	44.67	Si
SLV 1	14	0.25	4.6	-47342	14068	663820	47.19	Si
SLV 2	14	0.25	4.6	-47342	14068	663820	47.19	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-42034	-58465	-56	0.087	46.691	0.974	129.882	480.788	No
SLV 8	-42034	-58465	-56	0.087	46.691	0.974	129.882	480.788	No
SLV 12	-39054	-54902	30	0.088	43.656	0.973	131.396	480.788	No
SLV 11	-39054	-54902	30	0.088	43.656	0.973	131.396	480.788	No
SLV 9	-24707	-35358	68	0.089	29.053	0.96	134.444	480.788	No
SLV 10	-24707	-35358	68	0.089	29.053	0.96	134.444	480.788	No
SLV 5	-27687	-38921	-18	0.09	32.085	0.964	135.667	480.788	No
SLV 6	-27687	-38921	-18	0.09	32.085	0.964	135.667	480.788	No
SLV 3	-40490	-55781	-142	0.085	45.119	0.973	127.165	347.831	No
SLV 4	-40490	-55781	-142	0.085	45.119	0.973	127.165	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.038	SLU 83	Si
V_SLU	4.325	SLU 82	Si
PF_SLV	1.189	SLV 13	Si
V_SLV	0.592	SLV 13	No
PFFP_SLV	39.281	SLV 9	Si
R_SLV	0.27	SLV 7	No

Maschio 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-598.8	104.6	-652.8	104.6	L1	L3	54	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 78	-96	-17496	-18961	7.2	54858	2.893	Si
SLU 78	114	-18583	18629	7.65	30702	1.648	Si
SLU 80	-96	-17385	-18545	7.15	57139	3.081	Si
SLU 80	114	-18442	18186	7.59	34014	1.87	Si
SLU 84	-96	-17882	-19335	7.36	46652	2.413	Si
SLU 84	114	-19132	19146	7.87	17293	0.903	No, M>Mu
SLU 77	-96	-17993	-18833	7.4	44220	2.348	Si
SLU 77	114	-18755	18420	7.72	26595	1.444	Si
SLU 79	-96	-17882	-18417	7.36	46651	2.533	Si
SLU 79	114	-18614	17977	7.66	29973	1.667	Si
SLU 82	-96	-17512	-18765	7.21	54517	2.905	Si
SLU 82	114	-18807	18716	7.74	25327	1.353	Si
SLU 75	-96	-17126	-18392	7.05	62334	3.389	Si
SLU 75	114	-18259	18200	7.51	38250	2.102	Si
SLU 83	-96	-18379	-19207	7.56	35490	1.848	Si
SLU 83	114	-19303	18936	7.94	12929	0.683	No, M>Mu
SLU 74	-96	-17623	-18263	7.25	52197	2.858	Si
SLU 74	114	-18430	17991	7.58	34295	1.906	Si
SLU 81	-96	-18009	-18637	7.41	43857	2.353	Si
SLU 81	114	-18979	18507	7.81	21115	1.141	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	-96	-10754	-114869	4.43	185190	1.612	Si
SLV 13	114	-11989	96783	4.93	192998	1.994	Si
SLV 4	-96	-12816	92347	5.27	196670	2.13	Si
SLV 4	114	-12395	-74539	5.1	194954	2.615	Si
SLV 1	-96	-10530	101120	4.33	183477	1.814	Si
SLV 1	114	-11898	-93567	4.9	192516	2.058	Si
SLV 16	-96	-13040	-123642	5.37	197452	1.597	Si
SLV 16	114	-12486	115811	5.14	195353	1.687	Si
SLV 14	-96	-10754	-114869	4.43	185190	1.612	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 14	114	-11989	96783	4.93	192998	1.994	Si
SLV 2	-96	-10530	101120	4.33	183477	1.814	Si
SLV 2	114	-11898	-93567	4.9	192516	2.058	Si
SLV 12	-96	-15628	-58281	6.43	199861	3.429	Si
SLV 12	114	-13033	71389	5.36	197430	2.766	Si
SLV 11	-96	-15628	-58281	6.43	199861	3.429	Si
SLV 11	114	-13033	71389	5.36	197430	2.766	Si
SLV 15	-96	-13040	-123642	5.37	197452	1.597	Si
SLV 15	114	-12486	115811	5.14	195353	1.687	Si
SLV 3	-96	-12816	92347	5.27	196670	2.13	Si
SLV 3	114	-12395	-74539	5.1	194954	2.615	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	-96	-18009	-166	-18637	7.41	54	1.08	2633				15.86	Si
SLU 81	114	-18979	-167	-18507	7.81	54	1.08	2633				15.72	Si
SLU 80	-96	-17385	-163	-18545	7.15	54	1.08	2633				16.14	Si
SLU 80	114	-18442	-165	-18186	7.59	54	1.08	2633				15.91	Si
SLU 84	-96	-17882	-170	-19335	7.36	54	1.08	2633				15.44	Si
SLU 84	114	-19132	-173	-19146	7.87	54	1.08	2633				15.22	Si
SLU 78	-96	-17496	-167	-18961	7.2	54	1.08	2633				15.76	Si
SLU 78	114	-18583	-169	-18629	7.65	54	1.08	2633				15.54	Si
SLU 77	-96	-17993	-168	-18833	7.4	54	1.08	2633				15.71	Si
SLU 77	114	-18755	-169	-18420	7.72	54	1.08	2633				15.58	Si
SLU 83	-96	-18379	-171	-19207	7.56	54	1.08	2633				15.39	Si
SLU 83	114	-19303	-172	-18936	7.94	54	1.08	2633				15.26	Si
SLU 79	-96	-17882	-164	-18417	7.36	54	1.08	2633				16.09	Si
SLU 79	114	-18614	-165	-17977	7.66	54	1.08	2633				15.95	Si
SLU 74	-96	-17623	-163	-18263	7.25	54	1.08	2633				16.19	Si
SLU 74	114	-18430	-164	-17991	7.58	54	1.08	2633				16.05	Si
SLU 82	-96	-17512	-166	-18765	7.21	54	1.08	2633				15.91	Si
SLU 82	114	-18807	-168	-18716	7.74	54	1.08	2633				15.67	Si
SLU 75	-96	-17126	-162	-18392	7.05	54	1.08	2633				16.24	Si
SLU 75	114	-18259	-164	-18200	7.51	54	1.08	2633				16.01	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	-96	-15628	-551	-58281	6.43	54	1.63	3949				7.17	Si
SLV 11	114	-13033	-510	71389	5.36	54	1.63	3949				7.74	Si
SLV 12	-96	-15628	-551	-58281	6.43	54	1.63	3949				7.17	Si
SLV 12	114	-13033	-510	71389	5.36	54	1.63	3949				7.74	Si
SLV 16	-96	-13040	-1087	-123642	5.51	52.55	1.63	3843				3.54	Si
SLV 16	114	-12486	-1030	115811	5.22	53.17	1.63	3888				3.78	Si
SLV 15	-96	-13040	-1087	-123642	5.51	52.55	1.63	3843				3.54	Si
SLV 15	114	-12486	-1030	115811	5.22	53.17	1.63	3888				3.78	Si
SLV 2	-96	-10530	887	101120	4.48	52.19	1.63	3816				4.3	Si
SLV 2	114	-11898	828	-93567	4.9	54	1.63	3949				4.77	Si
SLV 3	-96	-12816	785	92347	5.27	54	1.63	3949				5.03	Si
SLV 3	114	-12395	742	-74539	5.1	54	1.63	3949				5.32	Si
SLV 13	-96	-10754	-985	-114869	4.88	48.95	1.63	3580				3.63	Si
SLV 13	114	-11989	-944	96783	4.93	54	1.63	3949				4.18	Si
SLV 1	-96	-10530	887	101120	4.48	52.19	1.63	3816				4.3	Si
SLV 1	114	-11898	828	-93567	4.9	54	1.63	3949				4.77	Si
SLV 14	-96	-10754	-985	-114869	4.88	48.95	1.63	3580				3.63	Si
SLV 14	114	-11989	-944	96783	4.93	54	1.63	3949				4.18	Si
SLV 4	-96	-12816	785	92347	5.27	54	1.63	3949				5.03	Si
SLV 4	114	-12395	742	-74539	5.1	54	1.63	3949				5.32	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.25	3.89	-9445	3325	144914	43.59	Si
SLV 10	14	0.25	3.89	-9445	3325	144914	43.59	Si
SLV 6	14	0.25	3.9	-9478	3325	145178	43.67	Si
SLV 5	14	0.25	3.9	-9478	3325	145178	43.67	Si
SLV 13	14	0.25	4.41	-10721	3325	154121	46.36	Si
SLV 14	14	0.25	4.41	-10721	3325	154121	46.36	Si
SLV 1	14	0.25	4.46	-10828	3325	154785	46.56	Si
SLV 2	14	0.25	4.46	-10828	3325	154785	46.56	Si
SLV 15	14	0.25	4.88	-11846	3325	160198	48.18	Si
SLV 16	14	0.25	4.88	-11846	3325	160198	48.18	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-5327	-7941	22	0.088	6.345	0.957	133.901	480.788	No
SLV 6	-5327	-7941	22	0.088	6.345	0.957	133.901	480.788	No
SLV 10	-5228	-8008	22	0.088	6.245	0.957	134.142	480.788	No
SLV 9	-5228	-8008	22	0.088	6.245	0.957	134.142	480.788	No
SLV 8	-6128	-15561	11	0.089	7.16	0.962	134.972	480.788	No
SLV 7	-6128	-15561	11	0.089	7.16	0.962	134.972	480.788	No
SLV 12	-6030	-15628	11	0.089	7.06	0.961	135.202	480.788	No
SLV 11	-6030	-15628	11	0.089	7.06	0.961	135.202	480.788	No
SLV 2	-5722	-10530	19	0.088	6.747	0.959	134.044	347.831	No
SLV 1	-5722	-10530	19	0.088	6.747	0.959	134.044	347.831	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.683	SLU 83	No
V_SLU	15.222	SLU 84	Si
PF_SLV	1.597	SLV 15	Si
V_SLV	3.536	SLV 15	Si
PFFP_SLV	43.587	SLV 9	Si
R_SLV	0.279	SLV 5	No

Maschio 33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	104.6	-508.8	104.6	L1	L3	496.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 83	-96	-119910	-1562695	5.37	10155145	6.498	Si
SLU 83	114	-112908	976644	5.05	10640540	10.895	Si
SLU 80	-96	-115880	-1581801	5.19	10450826	6.607	Si
SLU 80	114	-108694	829793	4.86	10868196	13.097	Si
SLU 77	-96	-116566	-1592213	5.22	10403638	6.534	Si
SLU 77	114	-109422	903885	4.9	10832332	11.984	Si
SLU 81	-96	-118695	-1513853	5.31	10248983	6.77	Si
SLU 81	114	-111594	939895	4.99	10716730	11.402	Si
SLU 84	-96	-119954	-1581442	5.37	10151702	6.419	Si
SLU 84	114	-112937	902475	5.05	10638825	11.788	Si
SLU 82	-96	-118739	-1532601	5.31	10245685	6.685	Si
SLU 82	114	-111623	865726	5	10715117	12.377	Si
SLU 74	-96	-115351	-1543372	5.16	10486389	6.794	Si
SLU 74	114	-108108	867136	4.84	10896023	12.566	Si
SLU 78	-96	-116610	-1610960	5.22	10400593	6.456	Si
SLU 78	114	-109450	829716	4.9	10830889	13.054	Si
SLU 75	-96	-115395	-1562119	5.16	10483489	6.711	Si
SLU 75	114	-108136	792967	4.84	10894683	13.739	Si
SLU 79	-96	-115837	-1563054	5.18	10453784	6.688	Si
SLU 79	114	-108665	903962	4.86	10869580	12.024	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 1	-96	-71213	5438721	3.19	13067076	2.403	Si
SLV 1	114	-59819	1547244	2.68	11596195	7.495	Si
SLD 15	-96	-82013	-3812704	3.67	14243303	3.736	Si
SLD 15	114	-78183	5683	3.5	13850463	1000	Si
SLD 16	-96	-82013	-3812704	3.67	14243303	3.736	Si
SLD 16	114	-78183	5683	3.5	13850463	1000	Si
SLV 2	-96	-71213	5438721	3.19	13067076	2.403	Si
SLV 2	114	-59819	1547244	2.68	11596195	7.495	Si
SLV 3	-96	-72267	4960513	3.23	13191146	2.659	Si
SLV 3	114	-60213	1760553	2.69	11650880	6.618	Si
SLV 15	-96	-86342	-7529667	3.86	14655259	1.946	Si
SLV 15	114	-85555	-610800	3.83	14582941	23.875	Si
SLV 4	-96	-72267	4960513	3.23	13191146	2.659	Si
SLV 4	114	-60213	1760553	2.69	11650880	6.618	Si
SLV 16	-96	-86342	-7529667	3.86	14655259	1.946	Si
SLV 16	114	-85555	-610800	3.83	14582941	23.875	Si
SLV 14	-96	-85289	-7051460	3.82	14558156	2.065	Si
SLV 14	114	-85162	-824109	3.81	14546376	17.651	Si
SLV 13	-96	-85289	-7051460	3.82	14558156	2.065	Si
SLV 13	114	-85162	-824109	3.81	14546376	17.651	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	-96	-118739	-15205	-1532601		5.31	496.5	1.08	24204			1.59	Si
SLU 82	114	-111623	-15223	865726		5	496.5	1.08	24204			1.59	Si
SLU 80	-96	-115880	-15185	-1581801		5.19	496.5	1.08	24204			1.59	Si
SLU 80	114	-108694	-15202	829793		4.86	496.5	1.08	24204			1.59	Si
SLU 79	-96	-115837	-15465	-1563054		5.18	496.5	1.08	24204			1.57	Si
SLU 79	114	-108665	-15495	903962		4.86	496.5	1.08	24204			1.56	Si
SLU 84	-96	-119954	-15729	-1581442		5.37	496.5	1.08	24204			1.54	Si
SLU 84	114	-112937	-15747	902475		5.05	496.5	1.08	24204			1.54	Si
SLU 78	-96	-116610	-15356	-1610960		5.22	496.5	1.08	24204			1.58	Si
SLU 78	114	-109450	-15373	829716		4.9	496.5	1.08	24204			1.57	Si
SLU 83	-96	-119910	-16009	-1562695		5.37	496.5	1.08	24204			1.51	Si
SLU 83	114	-112908	-16040	976644		5.05	496.5	1.08	24204			1.51	Si
SLU 75	-96	-115395	-14832	-1562119		5.16	496.5	1.08	24204			1.63	Si
SLU 75	114	-108136	-14849	792967		4.84	496.5	1.08	24204			1.63	Si
SLU 74	-96	-115351	-15112	-1543372		5.16	496.5	1.08	24204			1.6	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 74	114	-108108	-15142	867136		4.84	496.5	1.08	24204			1.6	Si
SLU 77	-96	-116566	-15636	-1592213		5.22	496.5	1.08	24204			1.55	Si
SLU 77	114	-109422	-15666	903885		4.9	496.5	1.08	24204			1.55	Si
SLU 81	-96	-118695	-15485	-1513853		5.31	496.5	1.08	24204			1.56	Si
SLU 81	114	-111594	-15516	939895		4.99	496.5	1.08	24204			1.56	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	-96	-71213	22324	5438721		3.19	496.5	1.47	32861			1.47	Si
SLV 1	114	-59819	21862	1547244		2.68	496.5	1.37	30583			1.4	Si
SLD 15	-96	-82013	-22931	-3812704		3.67	496.5	1.57	35021			1.53	Si
SLD 15	114	-78183	-22763	5683		3.5	496.5	1.53	34255			1.5	Si
SLV 4	-96	-72267	19850	4960513		3.23	496.5	1.48	33072			1.67	Si
SLV 4	114	-60213	20004	1760553		2.69	496.5	1.37	30661			1.53	Si
SLV 15	-96	-86342	-41110	-7529667		3.97	483.13	1.63	35329			0.86	No, Vu<V
SLV 15	114	-85555	-40688	-610800		3.83	496.5	1.6	35730			0.88	No, Vu<V
SLV 3	-96	-72267	19850	4960513		3.23	496.5	1.48	33072			1.67	Si
SLV 3	114	-60213	20004	1760553		2.69	496.5	1.37	30661			1.53	Si
SLD 16	-96	-82013	-22931	-3812704		3.67	496.5	1.57	35021			1.53	Si
SLD 16	114	-78183	-22763	5683		3.5	496.5	1.53	34255			1.5	Si
SLV 16	-96	-86342	-41110	-7529667		3.97	483.13	1.63	35329			0.86	No, Vu<V
SLV 16	114	-85555	-40688	-610800		3.83	496.5	1.6	35730			0.88	No, Vu<V
SLV 14	-96	-85289	-38635	-7051460		3.82	496.5	1.6	35676			0.92	No, Vu<V
SLV 14	114	-85162	-38830	-824109		3.81	496.5	1.6	35651			0.92	No, Vu<V
SLV 13	-96	-85289	-38635	-7051460		3.82	496.5	1.6	35676			0.92	No, Vu<V
SLV 13	114	-85162	-38830	-824109		3.81	496.5	1.6	35651			0.92	No, Vu<V
SLV 2	-96	-71213	22324	5438721		3.19	496.5	1.47	32861			1.47	Si
SLV 2	114	-59819	21862	1547244		2.68	496.5	1.37	30583			1.4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.25	2.91	-64968	30569	1113900	36.44	Si
SLV 1	14	0.25	2.91	-64968	30569	1113900	36.44	Si
SLV 4	14	0.25	2.93	-65532	30569	1120530	36.66	Si
SLV 3	14	0.25	2.93	-65532	30569	1120530	36.66	Si
SLV 6	14	0.25	3.2	-71476	30569	1187153	38.84	Si
SLV 5	14	0.25	3.2	-71476	30569	1187153	38.84	Si
SLV 8	14	0.25	3.28	-73358	30569	1207029	39.49	Si
SLV 7	14	0.25	3.28	-73358	30569	1207029	39.49	Si
SLV 9	14	0.25	3.47	-77620	30569	1249888	40.89	Si
SLV 10	14	0.25	3.47	-77620	30569	1249888	40.89	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-60579	-74911	668	0.08	70.141	0.964	121.22	480.788	No
SLV 5	-60579	-74911	668	0.08	70.141	0.964	121.22	480.788	No
SLV 9	-65251	-79133	663	0.081	74.896	0.966	121.37	480.788	No
SLV 10	-65251	-79133	663	0.081	74.896	0.966	121.37	480.788	No
SLV 12	-66140	-82645	-609	0.081	75.8	0.966	122.523	480.788	No
SLV 11	-66140	-82645	-609	0.081	75.8	0.966	122.523	480.788	No
SLV 8	-61468	-78422	-604	0.081	71.045	0.964	122.653	480.788	No
SLV 7	-61468	-78422	-604	0.081	71.045	0.964	122.653	480.788	No
SLV 14	-71013	-85289	213	0.087	80.761	0.968	130.262	347.831	No
SLV 13	-71013	-85289	213	0.087	80.761	0.968	130.262	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.419	SLU 84	Si
V_SLV	1.509	SLU 83	Si
PF_SLV	1.946	SLV 15	Si
V_SLV	0.859	SLV 15	No
PFFP_SLV	36.439	SLV 1	Si
R_SLV	0.252	SLV 5	No

Maschio 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1505.7	333.1	-1475.8	333.1	L1	L3	30	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 45	-96	-3062	488	3.41	26709	54.746	Si
SLU 45	124	-1792	-4918	1.99	20290	4.126	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 43	-96	-3142	708	3.49	26893	37.981	Si
SLU 43	124	-1816	-5188	2.02	20469	3.945	Si
SLU 65	-96	-3430	68	3.81	27336	402.964	Si
SLU 65	124	-2119	-5197	2.36	22572	4.344	Si
SLU 47	-96	-2997	345	3.33	26540	76.965	Si
SLU 47	124	-1768	-4706	1.97	20104	4.272	Si
SLU 49	-96	-2915	122	3.24	26305	216.486	Si
SLU 49	124	-1744	-4431	1.94	19915	4.494	Si
SLU 44	-96	-3146	716	3.5	26900	37.574	Si
SLU 44	124	-1817	-5198	2.02	20481	3.94	Si
SLU 2	-96	-2496	382	2.78	24661	64.623	Si
SLU 2	124	-1478	-4001	1.64	17681	4.42	Si
SLU 46	-96	-3064	493	3.41	26715	54.232	Si
SLU 46	124	-1793	-4924	1.99	20297	4.122	Si
SLU 64	-96	-3426	60	3.81	27332	455.823	Si
SLU 64	124	-2118	-5186	2.35	22562	4.35	Si
SLU 1	-96	-2492	374	2.77	24643	65.938	Si
SLU 1	124	-1476	-3990	1.64	17668	4.428	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 6	-96	-5051	8521	5.62	40903	4.8	Si
SLV 6	124	-2240	-13333	2.49	26726	2.005	Si
SLV 1	-96	-4546	13350	5.06	39944	2.992	Si
SLV 1	124	-1767	-16918	1.96	22222	1.314	Si
SLV 2	-96	-4546	13350	5.06	39944	2.992	Si
SLV 2	124	-1767	-16918	1.96	22222	1.314	Si
SLV 11	-96	-302	-8647	0	0	0	No, $e > l/2$
SLV 11	124	-1110	5397	1.23	14957	2.771	Si
SLV 5	-96	-5051	8521	5.62	40903	4.8	Si
SLV 5	124	-2240	-13333	2.49	26726	2.005	Si
SLV 12	-96	-302	-8647	0	0	0	No, $e > l/2$
SLV 12	124	-1110	5397	1.23	14957	2.771	Si
SLV 3	-96	-3350	10344	3.73	34900	3.374	Si
SLV 3	124	-1413	-13304	1.57	18449	1.387	Si
SLV 16	-96	-808	-13476	0	0	0	No, $e > l/2$
SLV 16	124	-1583	8982	1.76	20308	2.261	Si
SLV 4	-96	-3350	10344	3.73	34900	3.374	Si
SLV 4	124	-1413	-13304	1.57	18449	1.387	Si
SLV 15	-96	-808	-13476	0	0	0	No, $e > l/2$
SLV 15	124	-1583	8982	1.76	20308	2.261	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 2	-96	-2496	15	382		2.78	29.98	0.93	832			54.12	Si
SLU 2	124	-1478	62	-4001		1.64	29.98	0.77	697			11.24	Si
SLU 64	-96	-3426	9	60		3.81	29.98	1.06	956			103.11	Si
SLU 64	124	-2118	71	-5186		2.35	29.98	0.87	782			11.02	Si
SLU 49	-96	-2915	10	122		3.24	29.98	0.99	888			90.95	Si
SLU 49	124	-1744	66	-4431		1.94	29.98	0.81	732			11.16	Si
SLU 47	-96	-2997	16	345		3.33	29.98	1	899			57.7	Si
SLU 47	124	-1768	72	-4706		1.97	29.98	0.82	735			10.16	Si
SLU 65	-96	-3430	9	68		3.81	29.98	1.06	957			101.11	Si
SLU 65	124	-2119	71	-5197		2.36	29.98	0.87	782			10.95	Si
SLU 43	-96	-3142	25	708		3.49	29.98	1.02	919			36.43	Si
SLU 43	124	-1816	85	-5188		2.02	29.98	0.82	742			8.76	Si
SLU 45	-96	-3062	19	488		3.41	29.98	1.01	908			46.62	Si
SLU 45	124	-1792	78	-4918		1.99	29.98	0.82	739			9.45	Si
SLU 46	-96	-3064	20	493		3.41	29.98	1.01	908			46.37	Si
SLU 46	124	-1793	78	-4924		1.99	29.98	0.82	739			9.42	Si
SLU 44	-96	-3146	25	716		3.5	29.98	1.02	919			36.18	Si
SLU 44	124	-1817	85	-5198		2.02	29.98	0.83	742			8.71	Si
SLU 48	-96	-2913	10	117		3.24	29.98	0.99	888			91.99	Si
SLU 48	124	-1743	65	-4425		1.94	29.98	0.81	732			11.2	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	-96	-4546	403	13350		5.06	29.98	1.63	1461			3.63	Si
SLV 2	124	-1767	201	-16918		3.63	16.24	1.56	759			3.78	Si
SLV 6	-96	-5051	252	8521		5.62	29.98	1.63	1461			5.8	Si
SLV 6	124	-2240	265	-13333		2.75	27.1	1.38	1126			4.25	Si
SLV 11	-96	-302	-243	-8647		0	0	0.83	0			0	No, $V_u < V$
SLV 11	124	-1110	-162	5397		1.23	29.98	1.08	971			6	Si
SLV 15	-96	-808	-394	-13476		0	0	0.83	0			0	No, $V_u < V$
SLV 15	124	-1583	-98	8982		1.89	27.94	1.21	1015			10.35	Si
SLV 5	-96	-5051	252	8521		5.62	29.98	1.63	1461			5.8	Si
SLV 5	124	-2240	265	-13333		2.75	27.1	1.38	1126			4.25	Si
SLV 16	-96	-808	-394	-13476		0	0	0.83	0			0	No, $V_u < V$
SLV 16	124	-1583	-98	8982		1.89	27.94	1.21	1015			10.35	Si
SLV 13	-96	-2003	-310	-10470		2.28	29.29	1.29	1133			3.66	Si
SLV 13	124	-1937	13	5369		2.15	29.98	1.26	1137			87.33	Si
SLV 1	-96	-4546	403	13350		5.06	29.98	1.63	1461			3.63	Si
SLV 1	124	-1767	201	-16918		3.63	16.24	1.56	759			3.78	Si
SLV 12	-96	-302	-243	-8647		0	0	0.83	0			0	No, $V_u < V$
SLV 12	124	-1110	-162	5397		1.23	29.98	1.08	971			6	Si
SLV 14	-96	-2003	-310	-10470		2.28	29.29	1.29	1133			3.66	Si
SLV 14	124	-1937	13	5369		2.15	29.98	1.26	1137			87.33	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.25	1.01	-911	1230	12531	10.18	Si
SLV 11	14	0.25	1.01	-911	1230	12531	10.18	Si
SLV 15	14	0.25	1.45	-1306	1230	17259	14.03	Si
SLV 16	14	0.25	1.45	-1306	1230	17259	14.03	Si
SLV 7	14	0.25	1.51	-1357	1230	17837	14.5	Si
SLV 8	14	0.25	1.51	-1357	1230	17837	14.5	Si
SLV 13	14	0.25	2.32	-2090	1230	25386	20.63	Si
SLV 14	14	0.25	2.32	-2090	1230	25386	20.63	Si
SLV 3	14	0.25	3.1	-2792	1230	31235	25.39	Si
SLV 4	14	0.25	3.1	-2792	1230	31235	25.39	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-609	-1065	-32	0.032	0.971	0.912	50.404	700.213	No
SLV 8	-609	-1065	-32	0.032	0.971	0.912	50.404	700.213	No
SLV 11	-555	-302	-22	0.043	0.917	0.908	69.5	700.213	No
SLV 12	-555	-302	-22	0.043	0.917	0.908	69.5	700.213	No
SLV 9	-1738	-4289	31	0.046	2.111	0.953	70.026	700.213	No
SLV 10	-1738	-4289	31	0.046	2.111	0.953	70.026	700.213	No
SLV 6	-1792	-5051	21	0.051	2.166	0.954	78.27	700.213	No
SLV 5	-1792	-5051	21	0.051	2.166	0.954	78.27	700.213	No
SLV 4	-1087	-3350	-26	0.045	1.451	0.935	70.495	421.191	No
SLV 3	-1087	-3350	-26	0.045	1.451	0.935	70.495	421.191	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.94	SLU 44	Si
V_SLU	8.713	SLU 44	Si
PF_SLV	0	SLV 11	No
V_SLV	0	SLV 11	No
PFFP_SLV	10.185	SLV 11	Si
R_SLV	0.072	SLV 7	No

Maschio 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.8	333.1	-972.8	333.1	L1	L3	403	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 29	-96	-24117	-223100	1.99	3669574	16.448	Si
SLU 29	124	-15828	-346067	1.31	2676752	7.735	Si
SLU 30	-96	-24146	-222627	2	3672526	16.496	Si
SLU 30	124	-15849	-346178	1.31	2679621	7.741	Si
SLU 37	-96	-28500	-269114	2.36	4080867	15.164	Si
SLU 37	124	-19592	-410977	1.62	3162386	7.695	Si
SLU 78	-96	-34503	-253122	2.85	4516665	17.844	Si
SLU 78	124	-23092	-461484	1.91	3561985	7.719	Si
SLU 38	-96	-28529	-268641	2.36	4083304	15.2	Si
SLU 38	124	-19613	-411088	1.62	3164932	7.699	Si
SLU 79	-96	-34085	-264319	2.82	4491088	16.991	Si
SLU 79	124	-22802	-461562	1.89	3530789	7.65	Si
SLU 35	-96	-28890	-258390	2.39	4113610	15.92	Si
SLU 35	124	-19861	-410789	1.64	3194866	7.777	Si
SLU 77	-96	-34475	-253595	2.85	4514930	17.804	Si
SLU 77	124	-23071	-461373	1.91	3559737	7.716	Si
SLU 36	-96	-28918	-257917	2.39	4116001	15.959	Si
SLU 36	124	-19882	-410899	1.64	3197389	7.781	Si
SLU 80	-96	-34114	-263846	2.82	4492868	17.028	Si
SLU 80	124	-22823	-461672	1.89	3533060	7.653	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 4	-96	-31505	-1770149	2.61	4994317	2.821	Si
SLV 4	124	-20443	-684617	1.69	3549254	5.184	Si
SLV 15	-96	-16965	980775	1.4	3025901	3.085	Si
SLV 15	124	-13206	-244544	1.09	2423126	9.909	Si
SLV 14	-96	-17260	1597698	1.43	3071550	1.922	Si
SLV 14	124	-10978	129502	0.91	2047630	15.812	Si
SLV 8	-96	-26072	-1527070	2.16	4326281	2.833	Si
SLV 8	124	-20510	-966978	1.7	3558959	3.68	Si
SLV 16	-96	-16965	980775	1.4	3025901	3.085	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 16	124	-13206	-244544	1.09	2423126	9.909	Si
SLV 3	-96	-31505	-1770149	2.61	4994317	2.821	Si
SLV 3	124	-20443	-684617	1.69	3549254	5.184	Si
SLV 13	-96	-17260	1597698	1.43	3071550	1.922	Si
SLV 13	124	-10978	129502	0.91	2047630	15.812	Si
SLV 9	-96	-22693	1354619	1.88	3870181	2.857	Si
SLV 9	124	-10911	411862	0.9	2036191	4.944	Si
SLV 7	-96	-26072	-1527070	2.16	4326281	2.833	Si
SLV 7	124	-20510	-966978	1.7	3558959	3.68	Si
SLV 10	-96	-22693	1354619	1.88	3870181	2.857	Si
SLV 10	124	-10911	411862	0.9	2036191	4.944	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	-96	-35402	13	-158040		2.93	403	0.95	11437			880.97	Si
SLU 73	124	-23611	-483	-419889		1.95	403	0.82	9865			20.42	Si
SLU 60	-96	-34074	6	-116205		2.82	403	0.93	11260			1000	Si
SLU 60	124	-22435	-467	-384245		1.86	403	0.8	9708			20.78	Si
SLU 75	-96	-35138	19	-200376		2.91	403	0.94	11402			596.98	Si
SLU 75	124	-23479	-468	-440555		1.94	403	0.81	9847			21.03	Si
SLU 82	-96	-37261	23	-178076		3.08	403	0.97	11685			513.79	Si
SLU 82	124	-25210	-504	-447634		2.09	403	0.83	10078			20.01	Si
SLU 84	-96	-36627	33	-230821		3.03	403	0.96	11600			351.9	Si
SLU 84	124	-24823	-478	-468562		2.05	403	0.83	10026			20.97	Si
SLU 81	-96	-37233	23	-178549		3.08	403	0.97	11681			510.18	Si
SLU 81	124	-25189	-503	-447523		2.08	403	0.83	10075			20.02	Si
SLU 52	-96	-32243	-4	-95697		2.67	403	0.91	11016			1000	Si
SLU 52	124	-20857	-447	-356611		1.73	403	0.79	9498			21.25	Si
SLU 83	-96	-36598	33	-231294		3.03	403	0.96	11596			350.15	Si
SLU 83	124	-24802	-478	-468452		2.05	403	0.83	10024			20.98	Si
SLU 74	-96	-35109	19	-200849		2.9	403	0.94	11398			592.01	Si
SLU 74	124	-23458	-468	-440445		1.94	403	0.81	9844			21.04	Si
SLU 61	-96	-34103	6	-115732		2.82	403	0.93	11264			1000	Si
SLU 61	124	-22456	-468	-384356		1.86	403	0.8	9711			20.77	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	-96	-17260	9613	1597698		1.76	326.8	1.19	11622			1.21	Si
SLV 14	124	-10978	4753	129502		0.91	403	1.01	12271			2.58	Si
SLV 15	-96	-16965	9231	980775		1.4	403	1.11	13468			1.46	Si
SLV 15	124	-13206	5082	-244544		1.09	403	1.05	12716			2.5	Si
SLV 13	-96	-17260	9613	1597698		1.76	326.8	1.19	11622			1.21	Si
SLV 13	124	-10978	4753	129502		0.91	403	1.01	12271			2.58	Si
SLV 3	-96	-31505	-9621	-1770149		2.61	403	1.35	16376			1.7	Si
SLV 3	124	-20443	-5432	-684617		1.69	403	1.17	14164			2.61	Si
SLV 4	-96	-31505	-9621	-1770149		2.61	403	1.35	16376			1.7	Si
SLV 4	124	-20443	-5432	-684617		1.69	403	1.17	14164			2.61	Si
SLV 16	-96	-16965	9231	980775		1.4	403	1.11	13468			1.46	Si
SLV 16	124	-13206	5082	-244544		1.09	403	1.05	12716			2.5	Si
SLV 2	-96	-31799	-9240	-1153226		2.63	403	1.36	16435			1.78	Si
SLV 2	124	-18215	-5761	-310571		1.51	403	1.13	13718			2.38	Si
SLD 13	-96	-21319	4115	630877		1.76	403	1.19	14339			3.48	Si
SLD 13	124	-13695	1838	-105596		1.13	403	1.06	12814			6.97	Si
SLV 1	-96	-31799	-9240	-1153226		2.63	403	1.36	16435			1.78	Si
SLV 1	124	-18215	-5761	-310571		1.51	403	1.13	13718			2.38	Si
SLD 14	-96	-21319	4115	630877		1.76	403	1.19	14339			3.48	Si
SLD 14	124	-13695	1838	-105596		1.13	403	1.06	12814			6.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.25	1.22	-14721	16541	198811	12.02	Si
SLV 15	14	0.25	1.22	-14721	16541	198811	12.02	Si
SLV 13	14	0.25	1.23	-14859	16541	200464	12.12	Si
SLV 14	14	0.25	1.23	-14859	16541	200464	12.12	Si
SLV 11	14	0.25	1.56	-18886	16541	247076	14.94	Si
SLV 12	14	0.25	1.56	-18886	16541	247076	14.94	Si
SLV 10	14	0.25	1.6	-19346	16541	252183	15.25	Si
SLV 9	14	0.25	1.6	-19346	16541	252183	15.25	Si
SLV 7	14	0.25	1.87	-22594	16541	287079	17.36	Si
SLV 8	14	0.25	1.87	-22594	16541	287079	17.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-7697	-22693	-542	0.02	12.56	0.909	32.182	700.213	No
SLV 10	-7697	-22693	-542	0.02	12.56	0.909	32.182	700.213	No
SLV 5	-10116	-27055	-604	0.022	14.976	0.92	34.728	700.213	No
SLV 6	-10116	-27055	-604	0.022	14.976	0.92	34.728	700.213	No
SLV 12	-17005	-21710	637	0.032	21.928	0.941	49.387	700.213	No
SLV 11	-17005	-21710	637	0.032	21.928	0.941	49.387	700.213	No
SLV 8	-19424	-26072	575	0.037	24.38	0.946	57.338	700.213	No
SLV 7	-19424	-26072	575	0.037	24.38	0.946	57.338	700.213	No
SLV 15	-10926	-16965	297	0.046	15.789	0.923	72.585	421.191	No
SLV 16	-10926	-16965	297	0.046	15.789	0.923	72.585	421.191	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.65	SLU 79	Si
V_SLU	20.006	SLU 82	Si
PF_SLV	1.922	SLV 13	Si
V_SLV	1.209	SLV 13	Si
PFFP_SLV	12.019	SLV 15	Si
R_SLV	0.046	SLV 9	No

Maschio 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1969.3	657.6	-1776.8	657.6	L1	L3	192.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 83	104	-24910	-426610	2.88	1551199	3.636	Si
SLU 83	144	-25036	-541192	2.89	1554749	2.873	Si
SLU 78	104	-24388	-413842	2.82	1536070	3.712	Si
SLU 78	144	-24507	-528101	2.83	1539569	2.915	Si
SLU 82	104	-24574	-422810	2.84	1541539	3.646	Si
SLU 82	144	-24692	-534213	2.85	1544971	2.892	Si
SLU 74	104	-24120	-410481	2.78	1527997	3.722	Si
SLU 74	144	-24228	-522371	2.8	1531268	2.931	Si
SLU 75	104	-24086	-410262	2.78	1526966	3.722	Si
SLU 75	144	-24195	-521746	2.79	1530282	2.933	Si
SLU 84	104	-24876	-426390	2.87	1550240	3.636	Si
SLU 84	144	-25004	-540568	2.89	1553836	2.874	Si
SLU 80	104	-24193	-409740	2.79	1530219	3.735	Si
SLU 80	144	-24301	-523254	2.81	1533449	2.931	Si
SLU 77	104	-24422	-414061	2.82	1537073	3.712	Si
SLU 77	144	-24539	-528725	2.83	1540527	2.914	Si
SLU 79	104	-24227	-409960	2.8	1531240	3.735	Si
SLU 79	144	-24333	-523879	2.81	1534425	2.929	Si
SLU 81	104	-24608	-423029	2.84	1542525	3.646	Si
SLU 81	144	-24725	-534837	2.85	1545912	2.89	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 2	104	-15100	-558893	1.74	1246028	2.229	Si
SLV 2	144	-14563	-576142	1.68	1208846	2.098	Si
SLD 6	104	-13448	-319531	1.55	1129914	3.536	Si
SLD 6	144	-13201	-366718	1.52	1112102	3.033	Si
SLV 3	104	-19684	-551413	2.27	1542249	2.797	Si
SLV 3	144	-19439	-602864	2.24	1527371	2.534	Si
SLD 5	104	-13448	-319531	1.55	1129914	3.536	Si
SLD 5	144	-13201	-366718	1.52	1112102	3.033	Si
SLD 2	104	-15952	-398221	1.84	1304006	3.275	Si
SLD 2	144	-15734	-449649	1.82	1289307	2.867	Si
SLD 1	104	-15952	-398221	1.84	1304006	3.275	Si
SLD 1	144	-15734	-449649	1.82	1289307	2.867	Si
SLV 5	104	-9176	-373193	1.06	806615	2.161	Si
SLV 5	144	-8585	-380659	0.99	759325	1.995	Si
SLV 1	104	-15100	-558893	1.74	1246028	2.229	Si
SLV 1	144	-14563	-576142	1.68	1208846	2.098	Si
SLV 6	104	-9176	-373193	1.06	806615	2.161	Si
SLV 6	144	-8585	-380659	0.99	759325	1.995	Si
SLV 4	104	-19684	-551413	2.27	1542249	2.797	Si
SLV 4	144	-19439	-602864	2.24	1527371	2.534	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	104	-24876	562	-426390		2.87	192.5	0.94	8129			14.45	Si
SLU 84	144	-25004	1011	-540568		2.89	192.5	0.94	8146			8.06	Si
SLU 77	104	-24422	601	-414061		2.82	192.5	0.93	8069			13.42	Si
SLU 77	144	-24539	1042	-528725		2.83	192.5	0.93	8084			7.76	Si
SLU 83	104	-24910	575	-426610		2.88	192.5	0.94	8134			14.14	Si
SLU 83	144	-25036	1024	-541192		2.89	192.5	0.94	8151			7.96	Si
SLU 79	104	-24227	610	-409960		2.8	192.5	0.93	8043			13.18	Si
SLU 79	144	-24333	1047	-523879		2.81	192.5	0.93	8057			7.69	Si
SLU 80	104	-24193	598	-409740		2.79	192.5	0.93	8038			13.45	Si
SLU 80	144	-24301	1034	-523254		2.81	192.5	0.93	8053			7.79	Si
SLU 72	104	-21895	573	-362537		2.53	192.5	0.89	7732			13.48	Si
SLU 72	144	-21933	968	-468028		2.53	192.5	0.89	7737			8	Si
SLU 78	104	-24388	588	-413842		2.82	192.5	0.93	8064			13.71	Si
SLU 78	144	-24507	1029	-528101		2.83	192.5	0.93	8080			7.85	Si
SLU 69	104	-22124	577	-366858		2.55	192.5	0.9	7762			13.45	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 69	144	-22172	976	-473499		2.56	192.5	0.9	7769			7.96	Si
SLU 71	104	-21929	586	-362756		2.53	192.5	0.89	7736			13.2	Si
SLU 71	144	-21966	981	-468652		2.54	192.5	0.89	7741			7.89	Si
SLU 70	104	-22090	564	-366638		2.55	192.5	0.9	7758			13.75	Si
SLU 70	144	-22140	962	-472875		2.56	192.5	0.9	7764			8.07	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	104	-18039	8529	4092		2.08	192.5	1.25	10826			1.27	Si
SLV 16	144	-18612	8867	-133411		2.15	192.5	1.26	10941			1.23	Si
SLV 3	104	-19684	-6322	-551413		2.27	192.5	1.29	11156			1.76	Si
SLV 3	144	-19439	-6323	-602864		2.24	192.5	1.28	11107			1.76	Si
SLV 2	104	-15100	-7777	-558893		1.89	177.71	1.21	9684			1.25	Si
SLV 2	144	-14563	-7521	-576142		1.9	170.07	1.21	9290			1.24	Si
SLV 15	104	-18039	8529	4092		2.08	192.5	1.25	10826			1.27	Si
SLV 15	144	-18612	8867	-133411		2.15	192.5	1.26	10941			1.23	Si
SLV 4	104	-19684	-6322	-551413		2.27	192.5	1.29	11156			1.76	Si
SLV 4	144	-19439	-6323	-602864		2.24	192.5	1.28	11107			1.76	Si
SLV 6	104	-9176	-4277	-373193		1.22	166.74	1.08	8088			1.89	Si
SLV 6	144	-8585	-3601	-380659		1.23	155.74	1.08	7557			2.1	Si
SLV 14	104	-13455	7074	-3388		1.55	192.5	1.14	9910			1.4	Si
SLV 14	144	-13736	7670	-106689		1.59	192.5	1.15	9966			1.3	Si
SLV 13	104	-13455	7074	-3388		1.55	192.5	1.14	9910			1.4	Si
SLV 13	144	-13736	7670	-106689		1.59	192.5	1.15	9966			1.3	Si
SLV 5	104	-9176	-4277	-373193		1.22	166.74	1.08	8088			1.89	Si
SLV 5	144	-8585	-3601	-380659		1.23	155.74	1.08	7557			2.1	Si
SLV 1	104	-15100	-7777	-558893		1.89	177.71	1.21	9684			1.25	Si
SLV 1	144	-14563	-7521	-576142		1.9	170.07	1.21	9290			1.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.25	1.06	-9196	11852	188939	15.94	Si
SLV 9	14	0.25	1.06	-9196	11852	188939	15.94	Si
SLV 6	14	0.25	1.13	-9820	11852	200449	16.91	Si
SLV 5	14	0.25	1.13	-9820	11852	200449	16.91	Si
SLV 13	14	0.25	1.69	-14663	11852	284209	23.98	Si
SLV 14	14	0.25	1.69	-14663	11852	284209	23.98	Si
SLV 2	14	0.25	1.93	-16741	11852	317102	26.76	Si
SLV 1	14	0.25	1.93	-16741	11852	317102	26.76	Si
SLV 15	14	0.25	2.31	-19972	11852	364576	30.76	Si
SLV 16	14	0.25	2.31	-19972	11852	364576	30.76	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-7203	-9585	-611	0.037	10.685	0.92	58.226	480.788	No
SLV 5	-7203	-9585	-611	0.037	10.685	0.92	58.226	480.788	No
SLV 8	-22379	-35579	-1064	0.047	26.067	0.962	71.522	480.788	No
SLV 7	-22379	-35579	-1064	0.047	26.067	0.962	71.522	480.788	No
SLV 1	-12112	-20347	-876	0.034	15.638	0.941	53.01	347.831	No
SLV 2	-12112	-20347	-876	0.034	15.638	0.941	53.01	347.831	No
SLV 9	-7548	-8158	-519	0.048	11.031	0.922	75.764	480.788	No
SLV 10	-7548	-8158	-519	0.048	11.031	0.922	75.764	480.788	No
SLV 12	-22724	-34152	-972	0.052	26.418	0.963	77.836	480.788	No
SLV 11	-22724	-34152	-972	0.052	26.418	0.963	77.836	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.873	SLU 83	Si
V_SLV	7.692	SLU 79	Si
PF_SLV	1.995	SLV 5	Si
V_SLV	1.234	SLV 15	Si
PFFP_SLV	15.942	SLV 9	Si
R_SLV	0.121	SLV 5	No

Maschio 37

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1676.8	657.6	-1288.8	657.6	L1	L3	388	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 50	104	-54895	-453698	3.14	6539193	14.413	Si
SLU 50	144	-55394	-388179	3.17	6560934	16.902	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 69	104	-62227	-476692	3.56	6790261	14.245	Si
SLU 69	144	-63004	-398528	3.61	6808269	17.084	Si
SLU 45	104	-54255	-453402	3.11	6510344	14.359	Si
SLU 45	144	-54759	-385791	3.14	6533147	16.934	Si
SLU 66	104	-61094	-468079	3.5	6761045	14.444	Si
SLU 66	144	-61849	-388973	3.54	6780913	17.433	Si
SLU 48	104	-55388	-462015	3.17	6560696	14.2	Si
SLU 48	144	-55913	-395346	3.2	6582831	16.651	Si
SLU 46	104	-54194	-452837	3.1	6507512	14.371	Si
SLU 46	144	-54695	-385108	3.13	6530278	16.957	Si
SLU 51	104	-54833	-453133	3.14	6536468	14.425	Si
SLU 51	144	-55330	-387496	3.17	6558176	16.924	Si
SLU 70	104	-62165	-476127	3.56	6788765	14.258	Si
SLU 70	144	-62939	-397845	3.6	6806843	17.109	Si
SLU 49	104	-55327	-461449	3.17	6558054	14.212	Si
SLU 49	144	-55849	-394663	3.2	6580165	16.673	Si
SLU 67	104	-61032	-467514	3.5	6759359	14.458	Si
SLU 67	144	-61785	-388290	3.54	6779285	17.459	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	104	-36802	774015	2.11	5907951	7.633	Si
SLV 13	144	-36427	2351	2.09	5860259	1000	Si
SLV 5	104	-25527	-521527	1.46	4359664	8.359	Si
SLV 5	144	-21704	-388986	1.24	3782155	9.723	Si
SLV 4	104	-55776	-1458251	3.19	7991563	5.48	Si
SLV 4	144	-57283	-561605	3.28	8129008	14.475	Si
SLV 3	104	-55776	-1458251	3.19	7991563	5.48	Si
SLV 3	144	-57283	-561605	3.28	8129008	14.475	Si
SLV 6	104	-25527	-521527	1.46	4359664	8.359	Si
SLV 6	144	-21704	-388986	1.24	3782155	9.723	Si
SLD 1	104	-44853	-780891	2.57	6872047	8.8	Si
SLD 1	144	-44747	-404108	2.56	6860164	16.976	Si
SLV 14	104	-36802	774015	2.11	5907951	7.633	Si
SLV 14	144	-36427	2351	2.09	5860259	1000	Si
SLV 2	104	-42780	-1372693	2.45	6635151	4.834	Si
SLV 2	144	-41716	-575237	2.39	6510431	11.318	Si
SLD 2	104	-44853	-780891	2.57	6872047	8.8	Si
SLD 2	144	-44747	-404108	2.56	6860164	16.976	Si
SLV 1	104	-42780	-1372693	2.45	6635151	4.834	Si
SLV 1	144	-41716	-575237	2.39	6510431	11.318	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	104	-69705	-4043	-442673		3.99	388	1.08	18915			4.68	Si
SLU 81	144	-70798	-4060	-342148		4.05	388	1.08	18915			4.66	Si
SLU 77	104	-69393	-3835	-470758		3.97	388	1.08	18915			4.93	Si
SLU 77	144	-70440	-3852	-377456		4.03	388	1.08	18915			4.91	Si
SLU 75	104	-68199	-3848	-461580		3.91	388	1.08	18793			4.88	Si
SLU 75	144	-69221	-3864	-367218		3.96	388	1.08	18915			4.89	Si
SLU 84	104	-70777	-4033	-450721		4.05	388	1.08	18915			4.69	Si
SLU 84	144	-71889	-4050	-351020		4.12	388	1.08	18915			4.67	Si
SLU 82	104	-69644	-4044	-442108		3.99	388	1.08	18915			4.68	Si
SLU 82	144	-70734	-4061	-341465		4.05	388	1.08	18915			4.66	Si
SLU 83	104	-70838	-4032	-451286		4.06	388	1.08	18915			4.69	Si
SLU 83	144	-71953	-4049	-351703		4.12	388	1.08	18915			4.67	Si
SLU 73	104	-66531	-3816	-444275		3.81	388	1.06	18571			4.87	Si
SLU 73	144	-67505	-3832	-350041		3.87	388	1.07	18701			4.88	Si
SLU 76	104	-67664	-3805	-452887		3.88	388	1.07	18722			4.92	Si
SLU 76	144	-68659	-3821	-359596		3.93	388	1.08	18855			4.93	Si
SLU 74	104	-68260	-3846	-462145		3.91	388	1.08	18801			4.89	Si
SLU 74	144	-69285	-3863	-367901		3.97	388	1.08	18915			4.9	Si
SLU 78	104	-69332	-3837	-470193		3.97	388	1.08	18915			4.93	Si
SLU 78	144	-70375	-3853	-376773		4.03	388	1.08	18915			4.91	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	104	-36802	14861	774015		2.11	388	1.25	21910			1.47	Si
SLV 14	144	-36427	16631	2351		2.09	388	1.25	21835			1.31	Si
SLV 15	104	-49797	14631	688457		2.85	388	1.4	24509			1.68	Si
SLV 15	144	-51994	16796	15984		2.98	388	1.43	24949			1.49	Si
SLD 2	104	-44853	-9914	-780891		2.57	388	1.35	23521			2.37	Si
SLD 2	144	-44747	-10786	-404108		2.56	388	1.35	23499			2.18	Si
SLV 1	104	-42780	-19792	-1372693		2.45	388	1.32	23106			1.17	Si
SLV 1	144	-41716	-21979	-575237		2.39	388	1.31	22893			1.04	Si
SLV 4	104	-55776	-20022	-1458251		3.19	388	1.47	25705			1.28	Si
SLV 4	144	-57283	-21814	-561605		3.28	388	1.49	26007			1.19	Si
SLV 3	104	-55776	-20022	-1458251		3.19	388	1.47	25705			1.28	Si
SLV 3	144	-57283	-21814	-561605		3.28	388	1.49	26007			1.19	Si
SLD 1	104	-44853	-9914	-780891		2.57	388	1.35	23521			2.37	Si
SLD 1	144	-44747	-10786	-404108		2.56	388	1.35	23499			2.18	Si
SLV 2	104	-42780	-19792	-1372693		2.45	388	1.32	23106			1.17	Si
SLV 2	144	-41716	-21979	-575237		2.39	388	1.31	22893			1.04	Si
SLV 13	104	-36802	14861	774015		2.11	388	1.25	21910			1.47	Si
SLV 13	144	-36427	16631	2351		2.09	388	1.25	21835			1.31	Si
SLV 16	104	-49797	14631	688457		2.85	388	1.4	24509			1.68	Si
SLV 16	144	-51994	16796	15984		2.98	388	1.43	24949			1.49	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.25	1.53	-26793	23888	527132	22.07	Si
SLV 10	14	0.25	1.53	-26793	23888	527132	22.07	Si
SLV 5	14	0.25	1.62	-28200	23888	550637	23.05	Si
SLV 6	14	0.25	1.62	-28200	23888	550637	23.05	Si
SLV 14	14	0.25	2.11	-36906	23888	686735	28.75	Si
SLV 13	14	0.25	2.11	-36906	23888	686735	28.75	Si
SLV 1	14	0.25	2.38	-41598	23888	753453	31.54	Si
SLV 2	14	0.25	2.38	-41598	23888	753453	31.54	Si
SLV 16	14	0.25	2.69	-46982	23888	824297	34.51	Si
SLV 15	14	0.25	2.69	-46982	23888	824297	34.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-25537	-28115	-1620	0.041	32.66	0.943	63.349	480.788	No
SLV 5	-25537	-28115	-1620	0.041	32.66	0.943	63.349	480.788	No
SLV 10	-23977	-26942	-1496	0.043	31.079	0.94	66.698	480.788	No
SLV 9	-23977	-26942	-1496	0.043	31.079	0.94	66.698	480.788	No
SLV 8	-64115	-61761	-1995	0.06	71.889	0.972	89.173	480.788	No
SLV 7	-64115	-61761	-1995	0.06	71.889	0.972	89.173	480.788	No
SLV 12	-62555	-60588	-1870	0.061	70.301	0.971	91.177	480.788	No
SLV 11	-62555	-60588	-1870	0.061	70.301	0.971	91.177	480.788	No
SLV 2	-40859	-41260	-1897	0.049	48.22	0.959	74.875	347.831	No
SLV 1	-40859	-41260	-1897	0.049	48.22	0.959	74.875	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	14.2	SLV 48	Si
V_SLV	4.658	SLV 82	Si
PF_SLV	4.834	SLV 1	Si
V_SLV	1.042	SLV 1	Si
PFFP_SLV	22.066	SLV 9	Si
R_SLV	0.132	SLV 5	No

Maschio 38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1188.8	657.6	-800.8	657.6	L1	L3	388	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 72	104	-56145	310429	3.22	6592376	21.236	Si
SLV 72	144	-51582	162064	2.95	6377619	39.353	Si
SLV 71	104	-56216	311139	3.22	6595259	21.197	Si
SLV 71	144	-51648	163061	2.96	6381171	39.134	Si
SLV 50	104	-49935	311575	2.86	6286166	20.175	Si
SLV 50	144	-45707	183134	2.62	6017546	32.859	Si
SLV 49	104	-50218	313353	2.88	6302448	20.113	Si
SLV 49	144	-45979	183883	2.63	6036264	32.827	Si
SLV 51	104	-49864	310865	2.86	6282071	20.208	Si
SLV 51	144	-45640	182137	2.61	6012911	33.013	Si
SLV 69	104	-56570	313627	3.24	6609494	21.074	Si
SLV 69	144	-51987	164807	2.98	6398980	38.827	Si
SLV 45	104	-48807	286190	2.8	6219305	21.731	Si
SLV 45	144	-44681	162687	2.56	5944988	36.542	Si
SLV 46	104	-48737	285479	2.79	6214992	21.777	Si
SLV 46	144	-44614	161690	2.56	5940166	36.738	Si
SLV 48	104	-50289	314063	2.88	6306475	20.008	Si
SLV 48	144	-46045	184881	2.64	6040837	32.674	Si
SLV 70	104	-56500	312916	3.24	6606679	21.113	Si
SLV 70	144	-51920	163810	2.97	6395489	39.042	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	104	-40406	1236166	2.31	6354119	5.14	Si
SLV 13	144	-35339	300321	2.02	5720150	19.047	Si
SLV 16	104	-51214	1294497	2.93	7550407	5.833	Si
SLV 16	144	-47933	364706	2.75	7209756	19.769	Si
SLV 15	104	-51214	1294497	2.93	7550407	5.833	Si
SLV 15	144	-47933	364706	2.75	7209756	19.769	Si
SLD 13	104	-41042	635525	2.35	6430415	10.118	Si
SLD 13	144	-36970	173905	2.12	5929341	34.095	Si
SLV 3	104	-42461	-860488	2.43	6597927	7.668	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 3	144	-40822	-138128	2.34	6404150	46.364	Si
SLD 14	104	-41042	635525	2.35	6430415	10.118	Si
SLD 14	144	-36970	173905	2.12	5929341	34.095	Si
SLV 14	104	-40406	1236166	2.31	6354119	5.14	Si
SLV 14	144	-35339	300321	2.02	5720150	19.047	Si
SLV 1	104	-31653	-918819	1.81	5229585	5.692	Si
SLV 1	144	-28228	-202514	1.62	4751664	23.463	Si
SLV 4	104	-42461	-860488	2.43	6597927	7.668	Si
SLV 4	144	-40822	-138128	2.34	6404150	46.364	Si
SLV 2	104	-31653	-918819	1.81	5229585	5.692	Si
SLV 2	144	-28228	-202514	1.62	4751664	23.463	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	104	-61093	2317	251586		3.5	388	1.02	17846			7.7	Si
SLU 76	144	-56319	2314	88029		3.23	388	0.99	17209			7.44	Si
SLU 75	104	-61495	2320	254547		3.52	388	1.03	17899			7.71	Si
SLU 75	144	-56702	2317	95053		3.25	388	0.99	17260			7.45	Si
SLU 80	104	-62622	2388	279933		3.59	388	1.03	18050			7.56	Si
SLU 80	144	-57728	2385	110950		3.31	388	1	17397			7.29	Si
SLU 81	104	-62505	2367	211827		3.58	388	1.03	18034			7.62	Si
SLU 81	144	-57701	2364	45656		3.3	388	1	17393			7.36	Si
SLU 82	104	-62434	2376	211117		3.58	388	1.03	18025			7.59	Si
SLU 82	144	-57634	2373	44658		3.3	388	1	17385			7.33	Si
SLU 78	104	-62977	2398	282421		3.61	388	1.04	18097			7.55	Si
SLU 78	144	-58067	2395	112696		3.33	388	1	17442			7.28	Si
SLU 77	104	-63047	2388	283131		3.61	388	1.04	18106			7.58	Si
SLU 77	144	-58134	2385	113694		3.33	388	1	17451			7.32	Si
SLU 84	104	-63916	2454	238990		3.66	388	1.04	18222			7.43	Si
SLU 84	144	-58998	2451	66851		3.38	388	1.01	17566			7.17	Si
SLU 83	104	-63987	2444	239700		3.66	388	1.04	18232			7.46	Si
SLU 83	144	-59065	2441	67849		3.38	388	1.01	17575			7.2	Si
SLU 79	104	-62693	2379	280643		3.59	388	1.03	18059			7.59	Si
SLU 79	144	-57795	2376	111948		3.31	388	1	17406			7.33	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	104	-51214	18562	1294497		2.93	388	1.42	24793			1.34	Si
SLV 16	144	-47933	20065	364706		2.75	388	1.38	24137			1.2	Si
SLV 14	104	-40406	19566	1236166		2.31	388	1.3	22631			1.16	Si
SLV 14	144	-35339	20342	300321		2.02	388	1.24	21618			1.06	Si
SLV 3	104	-42461	-16602	-860488		2.43	388	1.32	23042			1.39	Si
SLV 3	144	-40822	-17382	-138128		2.34	388	1.3	22714			1.31	Si
SLV 4	104	-42461	-16602	-860488		2.43	388	1.32	23042			1.39	Si
SLV 4	144	-40822	-17382	-138128		2.34	388	1.3	22714			1.31	Si
SLV 2	104	-31653	-15597	-918819		1.81	388	1.2	20881			1.34	Si
SLV 2	144	-28228	-17104	-202514		1.62	388	1.16	20196			1.18	Si
SLV 1	104	-31653	-15597	-918819		1.81	388	1.2	20881			1.34	Si
SLV 1	144	-28228	-17104	-202514		1.62	388	1.16	20196			1.18	Si
SLD 13	104	-41042	9198	635525		2.35	388	1.3	22758			2.47	Si
SLD 13	144	-36970	9503	173905		2.12	388	1.26	21944			2.31	Si
SLV 15	104	-51214	18562	1294497		2.93	388	1.42	24793			1.34	Si
SLV 15	144	-47933	20065	364706		2.75	388	1.38	24137			1.2	Si
SLV 13	104	-40406	19566	1236166		2.31	388	1.3	22631			1.16	Si
SLV 13	144	-35339	20342	300321		2.02	388	1.24	21618			1.06	Si
SLD 14	104	-41042	9198	635525		2.35	388	1.3	22758			2.47	Si
SLD 14	144	-36970	9503	173905		2.12	388	1.26	21944			2.31	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.25	1.44	-25167	23888	499465	20.91	Si
SLV 6	14	0.25	1.44	-25167	23888	499465	20.91	Si
SLV 9	14	0.25	1.55	-27107	23888	532406	22.29	Si
SLV 10	14	0.25	1.55	-27107	23888	532406	22.29	Si
SLV 1	14	0.25	1.92	-33583	23888	636674	26.65	Si
SLV 2	14	0.25	1.92	-33583	23888	636674	26.65	Si
SLV 14	14	0.25	2.29	-40047	23888	731919	30.64	Si
SLV 13	14	0.25	2.29	-40047	23888	731919	30.64	Si
SLV 3	14	0.25	2.45	-42736	23888	768939	32.19	Si
SLV 4	14	0.25	2.45	-42736	23888	768939	32.19	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 10	-20522	-27390	-1856	0.023	27.584	0.934	35.693	480.788	No
SLV 9	-20522	-27390	-1856	0.023	27.584	0.934	35.693	480.788	No
SLV 6	-18303	-25754	-1689	0.024	25.344	0.929	38.092	480.788	No
SLV 5	-18303	-25754	-1689	0.024	25.344	0.929	38.092	480.788	No
SLV 11	-52061	-61985	-2306	0.049	59.616	0.966	73.622	480.788	No
SLV 12	-52061	-61985	-2306	0.049	59.616	0.966	73.622	480.788	No
SLV 13	-34150	-41408	-2208	0.035	41.4	0.953	53.85	347.831	No
SLV 14	-34150	-41408	-2208	0.035	41.4	0.953	53.85	347.831	No
SLV 7	-49841	-60348	-2139	0.051	57.358	0.965	76.213	480.788	No
SLV 8	-49841	-60348	-2139	0.051	57.358	0.965	76.213	480.788	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.08	SLU 48	Si
V_SLU	7.168	SLU 84	Si
PF_SLV	5.14	SLV 13	Si
V_SLV	1.063	SLV 13	Si
PFFP_SLV	20.908	SLV 5	Si
R_SLV	0.074	SLV 9	No

Maschio 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-700.8	657.6	-530.8	657.6	L1	L3	170	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 81	104	-14701	-118099	1.92	954814	8.085	Si
SLU 81	144	-14016	-162323	1.83	923400	5.689	Si
SLU 76	104	-14511	-115675	1.9	946218	8.18	Si
SLU 76	144	-13826	-159355	1.81	914448	5.738	Si
SLU 75	104	-14605	-116639	1.91	950452	8.149	Si
SLU 75	144	-13919	-160547	1.82	918856	5.723	Si
SLU 73	104	-14090	-113495	1.84	926871	8.167	Si
SLU 73	144	-13405	-155931	1.75	894314	5.735	Si
SLU 78	104	-15025	-118818	1.96	969208	8.157	Si
SLU 78	144	-14340	-163970	1.87	938400	5.723	Si
SLU 82	104	-14672	-117579	1.92	953494	8.109	Si
SLU 82	144	-13987	-162155	1.83	922025	5.686	Si
SLU 74	104	-14634	-117158	1.91	951777	8.124	Si
SLU 74	144	-13948	-160715	1.82	920237	5.726	Si
SLU 77	104	-15055	-119338	1.97	970500	8.132	Si
SLU 77	144	-14369	-164138	1.88	939747	5.725	Si
SLU 84	104	-15093	-119759	1.97	972174	8.118	Si
SLU 84	144	-14407	-165578	1.88	941491	5.686	Si
SLU 83	104	-15122	-120278	1.98	973460	8.093	Si
SLU 83	144	-14437	-165746	1.89	942833	5.688	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 4	104	-9740	-201677	1.27	741619	3.677	Si
SLD 4	144	-9279	-111382	1.21	710446	6.378	Si
SLV 1	104	-6040	-313256	0.79	480194	1.533	Si
SLV 1	144	-5402	-91117	0.71	432599	4.748	Si
SLV 2	104	-6040	-313256	0.79	480194	1.533	Si
SLV 2	144	-5402	-91117	0.71	432599	4.748	Si
SLV 6	104	-3557	-76766	0.46	290825	3.788	Si
SLV 6	144	-2598	-71358	0.34	214709	3.009	Si
SLV 5	104	-3557	-76766	0.46	290825	3.788	Si
SLV 5	144	-2598	-71358	0.34	214709	3.009	Si
SLD 2	104	-8279	-180765	1.08	641415	3.548	Si
SLD 2	144	-7706	-102110	1.01	601027	5.886	Si
SLD 3	104	-9740	-201677	1.27	741619	3.677	Si
SLD 3	144	-9279	-111382	1.21	710446	6.378	Si
SLV 4	104	-9477	-362306	1.24	723876	1.998	Si
SLV 4	144	-9102	-112904	1.19	698300	6.185	Si
SLD 1	104	-8279	-180765	1.08	641415	3.548	Si
SLD 1	144	-7706	-102110	1.01	601027	5.886	Si
SLV 3	104	-9477	-362306	1.24	723876	1.998	Si
SLV 3	144	-9102	-112904	1.19	698300	6.185	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	104	-14951	1123	-118201		1.95	170	0.82	6244			5.56	Si
SLU 80	144	-14266	1123	-162890		1.86	170	0.8	6152			5.48	Si
SLU 81	104	-14701	1111	-118099		1.92	170	0.81	6210			5.59	Si
SLU 81	144	-14016	1111	-162323		1.83	170	0.8	6119			5.51	Si
SLU 77	104	-15055	1125	-119338		1.97	170	0.82	6257			5.56	Si
SLU 77	144	-14369	1125	-164138		1.88	170	0.81	6166			5.48	Si
SLU 78	104	-15025	1134	-118818		1.96	170	0.82	6253			5.51	Si
SLU 78	144	-14340	1134	-163970		1.87	170	0.81	6162			5.43	Si
SLU 83	104	-15122	1142	-120278		1.98	170	0.82	6266			5.49	Si
SLU 83	144	-14437	1142	-165746		1.89	170	0.81	6175			5.41	Si
SLU 75	104	-14605	1103	-116639		1.91	170	0.81	6197			5.62	Si
SLU 75	144	-13919	1103	-160547		1.82	170	0.8	6106			5.54	Si
SLU 76	104	-14511	1097	-115675		1.9	170	0.81	6185			5.64	Si
SLU 76	144	-13826	1097	-159355		1.81	170	0.8	6093			5.55	Si
SLU 82	104	-14672	1120	-117579		1.92	170	0.81	6206			5.54	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	144	-13987	1120	-162155		1.83	170	0.8	6115			5.46	Si
SLU 84	104	-15093	1151	-119759		1.97	170	0.82	6262			5.44	Si
SLU 84	144	-14407	1151	-165578		1.88	170	0.81	6171			5.36	Si
SLU 79	104	-14981	1114	-118721		1.96	170	0.82	6247			5.61	Si
SLU 79	144	-14295	1114	-163058		1.87	170	0.8	6156			5.53	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	104	-9477	-6181	-362306		1.5	140.31	1.13	7157			1.16	Si
SLV 3	144	-9102	-6282	-112904		1.19	170	1.07	8195			1.3	Si
SLV 13	104	-10404	7610	198931		1.36	170	1.11	8456			1.11	Si
SLV 13	144	-9725	7711	-107284		1.27	170	1.09	8320			1.08	Si
SLV 10	104	-4866	5227	76891		0.64	170	0.96	7348			1.41	Si
SLV 10	144	-3895	4914	-76208		0.51	170	0.94	7154			1.46	Si
SLV 4	104	-9477	-6181	-362306		1.5	140.31	1.13	7157			1.16	Si
SLV 4	144	-9102	-6282	-112904		1.19	170	1.07	8195			1.3	Si
SLV 14	104	-10404	7610	198931		1.36	170	1.11	8456			1.11	Si
SLV 14	144	-9725	7711	-107284		1.27	170	1.09	8320			1.08	Si
SLV 1	104	-6040	-4569	-313256		1.35	99.4	1.1	4935			1.08	Si
SLV 1	144	-5402	-4897	-91117		0.71	170	0.97	7455			1.52	Si
SLV 16	104	-13842	5998	149882		1.81	170	1.2	9143			1.52	Si
SLV 16	144	-13425	6326	-129071		1.75	170	1.18	9060			1.43	Si
SLV 9	104	-4866	5227	76891		0.64	170	0.96	7348			1.41	Si
SLV 9	144	-3895	4914	-76208		0.51	170	0.94	7154			1.46	Si
SLV 15	104	-13842	5998	149882		1.81	170	1.2	9143			1.52	Si
SLV 15	144	-13425	6326	-129071		1.75	170	1.18	9060			1.43	Si
SLV 2	104	-6040	-4569	-313256		1.35	99.4	1.1	4935			1.08	Si
SLV 2	144	-5402	-4897	-91117		0.71	170	0.97	7455			1.52	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.25	0.49	-3776	10467	81533	7.79	Si
SLV 1	14	0.25	0.49	-3776	10467	81533	7.79	Si
SLV 5	14	0.25	0.52	-3992	10467	85981	8.21	Si
SLV 6	14	0.25	0.52	-3992	10467	85981	8.21	Si
SLV 3	14	0.25	0.85	-6523	10467	136535	13.04	Si
SLV 4	14	0.25	0.85	-6523	10467	136535	13.04	Si
SLV 9	14	0.25	0.91	-6924	10467	144248	13.78	Si
SLV 10	14	0.25	0.91	-6924	10467	144248	13.78	Si
SLV 8	14	0.25	1.72	-13149	10467	254239	24.29	Si
SLV 7	14	0.25	1.72	-13149	10467	254239	24.29	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-14125	-19962	-332	0.073	17.288	0.951	110.812	480.788	No
SLV 11	-14125	-19962	-332	0.073	17.288	0.951	110.812	480.788	No
SLV 7	-13498	-14537	-299	0.074	16.652	0.95	113.624	480.788	No
SLV 8	-13498	-14537	-299	0.074	16.652	0.95	113.624	480.788	No
SLV 16	-10679	-23273	-272	0.074	13.793	0.941	114.734	347.831	No
SLV 15	-10679	-23273	-272	0.074	13.793	0.941	114.734	347.831	No
SLV 14	-7098	-20687	-188	0.08	10.176	0.924	125.785	347.831	No
SLV 13	-7098	-20687	-188	0.08	10.176	0.924	125.785	347.831	No
SLV 3	-8588	-5190	-162	0.083	11.678	0.932	129.443	347.831	No
SLV 4	-8588	-5190	-162	0.083	11.678	0.932	129.443	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.686	SLU 82	Si
V_SLV	5.362	SLU 84	Si
PF_SLV	1.533	SLV 1	Si
V_SLV	1.079	SLV 13	Si
PFFP_SLV	7.79	SLV 1	Si
R_SLV	0.23	SLV 11	No

Maschio 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s, sx	a.s, dx
-1101.3	-478.4	-1101.3	-191.6	L1	L2	286.8	30	198	198	198			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 81	-96	-51727	367833	6.01	1943606	5.284	Si
SLU 81	102	-50615	133298	5.88	2016993	15.131	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 75	-96	-50822	340178	5.91	2003717	5.89	Si
SLU 75	102	-49684	105558	5.77	2074544	19.653	Si
SLU 84	-96	-52936	357633	6.15	1858112	5.196	Si
SLU 84	102	-51857	122067	6.03	1934734	15.85	Si
SLU 78	-96	-51993	320922	6.04	1925337	5.999	Si
SLU 78	102	-51033	91489	5.93	1990006	21.751	Si
SLU 74	-96	-50784	331122	5.9	2006166	6.059	Si
SLU 74	102	-49791	102720	5.79	2068080	20.133	Si
SLU 82	-96	-51765	376889	6.02	1941009	5.15	Si
SLU 82	102	-50507	136136	5.87	2023819	14.866	Si
SLU 83	-96	-52898	348577	6.15	1860890	5.339	Si
SLU 83	102	-51964	119229	6.04	1927313	16.165	Si
SLU 77	-96	-51955	311866	6.04	1927969	6.182	Si
SLU 77	102	-51140	88651	5.94	1982948	22.368	Si
SLU 73	-96	-49611	356600	5.77	2078905	5.83	Si
SLU 73	102	-48219	112617	5.6	2157910	19.162	Si
SLU 76	-96	-50781	337344	5.9	2006327	5.947	Si
SLU 76	102	-49568	98548	5.76	2081460	21.121	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 11	-96	-27351	442267	3.18	2901998	6.562	Si
SLD 11	102	-25947	221860	3.02	2802697	12.633	Si
SLV 16	-96	-18368	381732	2.13	2173934	5.695	Si
SLV 16	102	-15873	286411	1.84	1932632	6.748	Si
SLD 7	-96	-30496	441281	3.54	3104858	7.036	Si
SLD 7	102	-29432	188981	3.42	3039252	16.082	Si
SLV 8	-96	-24520	736130	2.85	2696331	3.663	Si
SLV 8	102	-23235	385519	2.7	2595743	6.733	Si
SLV 15	-96	-18368	381732	2.13	2173934	5.695	Si
SLV 15	102	-15873	286411	1.84	1932632	6.748	Si
SLV 11	-96	-17132	738363	1.99	2056565	2.785	Si
SLV 11	102	-15038	461798	1.75	1848102	4.002	Si
SLD 12	-96	-27351	442267	3.18	2901998	6.562	Si
SLD 12	102	-25947	221860	3.02	2802697	12.633	Si
SLD 8	-96	-30496	441281	3.54	3104858	7.036	Si
SLD 8	102	-29432	188981	3.42	3039252	16.082	Si
SLV 12	-96	-17132	738363	1.99	2056565	2.785	Si
SLV 12	102	-15038	461798	1.75	1848102	4.002	Si
SLV 7	-96	-24520	736130	2.85	2696331	3.663	Si
SLV 7	102	-23235	385519	2.7	2595743	6.733	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	-96	-52936	-6546	357633		6.15	286.82	1.08	9322			1.42	Si
SLU 84	102	-51857	-2635	122067		6.03	286.82	1.08	9322			3.54	Si
SLU 56	-96	-48544	-6320	271174		5.64	286.82	1.08	9322			1.47	Si
SLU 56	102	-47790	-2807	50661		5.55	286.82	1.08	9322			3.32	Si
SLU 58	-96	-48479	-6354	262303		5.63	286.82	1.08	9322			1.47	Si
SLU 58	102	-47746	-2859	41760		5.55	286.82	1.08	9322			3.26	Si
SLU 71	-96	-46803	-6279	241567		5.44	286.82	1.08	9322			1.48	Si
SLU 71	102	-45923	-2842	20458		5.34	286.82	1.08	9322			3.28	Si
SLU 79	-96	-51889	-6935	302995		6.03	286.82	1.08	9322			1.34	Si
SLU 79	102	-51096	-3128	79750		5.94	286.82	1.08	9322			2.98	Si
SLU 78	-96	-51993	-6727	320922		6.04	286.82	1.08	9322			1.39	Si
SLU 78	102	-51033	-2900	91489		5.93	286.82	1.08	9322			3.21	Si
SLU 83	-96	-52898	-6720	348577		6.15	286.82	1.08	9322			1.39	Si
SLU 83	102	-51964	-2810	119229		6.04	286.82	1.08	9322			3.32	Si
SLU 74	-96	-50784	-6404	331122		5.9	286.82	1.08	9322			1.46	Si
SLU 74	102	-49791	-2636	102720		5.79	286.82	1.08	9322			3.54	Si
SLU 80	-96	-51927	-6761	312051		6.03	286.82	1.08	9322			1.38	Si
SLU 80	102	-50989	-2952	82587		5.93	286.82	1.08	9322			3.16	Si
SLU 77	-96	-51955	-6901	311866		6.04	286.82	1.08	9322			1.35	Si
SLU 77	102	-51140	-3076	88651		5.94	286.82	1.08	9322			3.03	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	-96	-17132	7463	738363		1.99	286.82	1.23	10597			1.42	Si
SLV 12	102	-15038	9018	461798		1.75	286.82	1.18	10178			1.13	Si
SLV 8	-96	-24520	7529	736130		2.85	286.82	1.4	12075			1.6	Si
SLV 8	102	-23235	9040	385519		2.7	286.82	1.37	11818			1.31	Si
SLV 10	-96	-45289	-15781	-288025		5.26	286.82	1.63	13982			0.89	No, Vu<V
SLV 10	102	-44748	-12104	-293573		5.2	286.82	1.63	13982			1.16	Si
SLV 5	-96	-52677	-15715	-290258		6.12	286.82	1.63	13982			0.89	No, Vu<V
SLV 5	102	-52945	-12083	-369852		6.15	286.82	1.63	13982			1.16	Si
SLV 11	-96	-17132	7463	738363		1.99	286.82	1.23	10597			1.42	Si
SLV 11	102	-15038	9018	461798		1.75	286.82	1.18	10178			1.13	Si
SLD 9	-96	-39314	-9105	6824		4.57	286.82	1.63	13982			1.54	Si
SLD 9	102	-38551	-6045	-97036		4.48	286.82	1.63	13982			2.31	Si
SLV 9	-96	-45289	-15781	-288025		5.26	286.82	1.63	13982			0.89	No, Vu<V
SLV 9	102	-44748	-12104	-293573		5.2	286.82	1.63	13982			1.16	Si
SLD 10	-96	-39314	-9105	6824		4.57	286.82	1.63	13982			1.54	Si
SLD 10	102	-38551	-6045	-97036		4.48	286.82	1.63	13982			2.31	Si
SLV 6	-96	-52677	-15715	-290258		6.12	286.82	1.63	13982			0.89	No, Vu<V
SLV 6	102	-52945	-12083	-369852		6.15	286.82	1.63	13982			1.16	Si
SLV 7	-96	-24520	7529	736130		2.85	286.82	1.4	12075			1.6	Si
SLV 7	102	-23235	9040	385519		2.7	286.82	1.37	11818			1.31	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.24	1.82	-15662	6197	199935	32.27	Si
SLV 11	14	0.24	1.82	-15662	6197	199935	32.27	Si
SLV 16	14	0.24	1.95	-16809	6197	211830	34.19	Si
SLV 15	14	0.24	1.95	-16809	6197	211830	34.19	Si
SLV 7	14	0.24	2.7	-23211	6197	271298	43.78	Si
SLV 8	14	0.24	2.7	-23211	6197	271298	43.78	Si
SLV 13	14	0.24	2.95	-25341	6197	288499	46.56	Si
SLV 14	14	0.24	2.95	-25341	6197	288499	46.56	Si
SLV 3	14	0.24	4.88	-41971	6197	378240	61.04	Si
SLV 4	14	0.24	4.88	-41971	6197	378240	61.04	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 3 Wa = 0.05 Ta = 0.0218

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-52945	-52677	71	0.077	56.326	0.987	112.84	411.352	No
SLV 6	-52945	-52677	71	0.077	56.326	0.987	112.84	411.352	No
SLV 10	-44748	-45289	18	0.078	47.972	0.984	114.996	411.352	No
SLV 9	-44748	-45289	18	0.078	47.972	0.984	114.996	411.352	No
SLV 7	-23235	-24520	29	0.079	26.055	0.972	118.542	411.352	No
SLV 8	-23235	-24520	29	0.079	26.055	0.972	118.542	411.352	No
SLV 12	-15038	-17132	-23	0.081	17.711	0.96	123.216	411.352	No
SLV 11	-15038	-17132	-23	0.081	17.711	0.96	123.216	411.352	No
SLV 1	-52110	-51442	117	0.076	55.475	0.986	111.595	318.394	No
SLV 2	-52110	-51442	117	0.076	55.475	0.986	111.595	318.394	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.15	SLU 82	Si
V_SLU	1.344	SLU 79	Si
PF_SLV	2.785	SLV 11	Si
V_SLV	0.886	SLV 9	No
PFFP_SLV	32.266	SLV 11	Si
R_SLV	0.274	SLV 5	No

Maschio 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-478.4	-1101.3	-191.6	L2	L3	286.8	30	71	71	71			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 79	102	-54428	-441474	6.33	1744271	3.951	Si
SLU 79	173	-54610	-239077	6.35	1729798	7.235	Si
SLU 56	102	-50953	-434431	5.92	1995232	4.593	Si
SLU 56	173	-51033	-248940	5.93	1990004	7.994	Si
SLU 77	102	-54469	-429685	6.33	1741032	4.052	Si
SLU 77	173	-54659	-229494	6.35	1725918	7.521	Si
SLU 83	102	-55169	-408980	6.41	1684374	4.118	Si
SLU 83	173	-55416	-217930	6.44	1663955	7.635	Si
SLU 62	102	-51653	-413727	6	1948650	4.71	Si
SLU 62	173	-51790	-237376	6.02	1939278	8.17	Si
SLU 80	102	-54324	-431191	6.31	1752553	4.064	Si
SLU 80	173	-54531	-236453	6.34	1736105	7.342	Si
SLU 58	102	-50912	-446221	5.92	1997884	4.477	Si
SLU 58	173	-50984	-258523	5.93	1993165	7.71	Si
SLU 78	102	-54365	-419402	6.32	1749331	4.171	Si
SLU 78	173	-54580	-226870	6.34	1732241	7.635	Si
SLU 84	102	-55065	-398697	6.4	1692974	4.246	Si
SLU 84	173	-55337	-215307	6.43	1670523	7.759	Si
SLU 59	102	-50807	-435938	5.9	2004659	4.598	Si
SLU 59	173	-50906	-255899	5.92	1998302	7.809	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 6	102	-56499	-1226363	6.57	3748352	3.056	Si
SLV 6	173	-55563	-630736	6.46	3757194	5.957	Si
SLV 11	102	-16238	692858	1.89	1969008	2.842	Si
SLV 11	173	-17192	319076	2	2062297	6.463	Si
SLV 5	102	-56499	-1226363	6.57	3748352	3.056	Si
SLV 5	173	-55563	-630736	6.46	3757194	5.957	Si
SLV 9	102	-47692	-1065219	5.54	3736985	3.508	Si
SLV 9	173	-48339	-756155	5.62	3745016	4.953	Si
SLV 12	102	-16238	692858	1.89	1969008	2.842	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	173	-17192	319076	2	2062297	6.463	Si
SLV 8	102	-25045	531714	2.91	2736081	5.146	Si
SLV 8	173	-24416	444495	2.84	2688324	6.048	Si
SLV 2	102	-55765	-799039	6.48	3755490	4.7	Si
SLV 2	173	-53090	-108082	6.17	3769052	34.872	Si
SLV 7	102	-25045	531714	2.91	2736081	5.146	Si
SLV 7	173	-24416	444495	2.84	2688324	6.048	Si
SLV 10	102	-47692	-1065219	5.54	3736985	3.508	Si
SLV 10	173	-48339	-756155	5.62	3745016	4.953	Si
SLV 1	102	-55765	-799039	6.48	3755490	4.7	Si
SLV 1	173	-53090	-108082	6.17	3769052	34.872	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	102	-54428	-2527	-441474	6.33	286.82	1.08	9322				3.69	Si
SLU 79	173	-54610	-2683	-239077	6.35	286.82	1.08	9322				3.47	Si
SLU 56	102	-50953	-2251	-434431	5.92	286.82	1.08	9322				4.14	Si
SLU 56	173	-51033	-2405	-248940	5.93	286.82	1.08	9322				3.88	Si
SLU 69	102	-49336	-2251	-408776	5.73	286.82	1.08	9322				4.14	Si
SLU 69	173	-49344	-2425	-229654	5.73	286.82	1.08	9322				3.84	Si
SLU 35	102	-45506	-2252	-349417	5.29	286.82	1.08	9322				4.14	Si
SLU 35	173	-45755	-2373	-174397	5.32	286.82	1.08	9322				3.93	Si
SLU 37	102	-45465	-2302	-361207	5.28	286.82	1.08	9322				4.05	Si
SLU 37	173	-45706	-2423	-183980	5.31	286.82	1.08	9322				3.85	Si
SLU 80	102	-54324	-2358	-431191	6.31	286.82	1.08	9322				3.95	Si
SLU 80	173	-54531	-2517	-236453	6.34	286.82	1.08	9322				3.7	Si
SLU 58	102	-50912	-2301	-446221	5.92	286.82	1.08	9322				4.05	Si
SLU 58	173	-50984	-2455	-258523	5.93	286.82	1.08	9322				3.8	Si
SLU 71	102	-49295	-2302	-420566	5.73	286.82	1.08	9322				4.05	Si
SLU 71	173	-49296	-2475	-239238	5.73	286.82	1.08	9322				3.77	Si
SLU 78	102	-54365	-2308	-419402	6.32	286.82	1.08	9322				4.04	Si
SLU 78	173	-54580	-2467	-226870	6.34	286.82	1.08	9322				3.78	Si
SLU 77	102	-54469	-2476	-429685	6.33	286.82	1.08	9322				3.76	Si
SLU 77	173	-54659	-2633	-229494	6.35	286.82	1.08	9322				3.54	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	102	-16238	8777	692858		1.89	286.82	1.21	10418			1.19	Si
SLV 12	173	-17192	7944	319076		2	286.82	1.23	10609			1.34	Si
SLV 6	102	-56499	-11049	-1226363	6.57	286.82	1.63	13982				1.27	Si
SLV 6	173	-55563	-10448	-630736	6.46	286.82	1.63	13982				1.34	Si
SLV 10	102	-47692	-11345	-1065219	5.54	286.82	1.63	13982				1.23	Si
SLV 10	173	-48339	-12547	-756155	5.62	286.82	1.63	13982				1.11	Si
SLV 9	102	-47692	-11345	-1065219	5.54	286.82	1.63	13982				1.23	Si
SLV 9	173	-48339	-12547	-756155	5.62	286.82	1.63	13982				1.11	Si
SLV 8	102	-25045	9073	531714	2.91	286.82	1.42	12179				1.34	Si
SLV 8	173	-24416	10043	444495	2.84	286.82	1.4	12054				1.2	Si
SLV 13	102	-26408	-4648	-261890	3.07	286.82	1.45	12452				2.68	Si
SLV 13	173	-29009	-7823	-526147	3.37	286.82	1.51	12972				1.66	Si
SLV 7	102	-25045	9073	531714	2.91	286.82	1.42	12179				1.34	Si
SLV 7	173	-24416	10043	444495	2.84	286.82	1.4	12054				1.2	Si
SLV 5	102	-56499	-11049	-1226363	6.57	286.82	1.63	13982				1.27	Si
SLV 5	173	-55563	-10448	-630736	6.46	286.82	1.63	13982				1.34	Si
SLV 14	102	-26408	-4648	-261890	3.07	286.82	1.45	12452				2.68	Si
SLV 14	173	-29009	-7823	-526147	3.37	286.82	1.51	12972				1.66	Si
SLV 11	102	-16238	8777	692858		1.89	286.82	1.21	10418			1.19	Si
SLV 11	173	-17192	7944	319076		2	286.82	1.23	10609			1.34	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 137.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.27	2.03	-17436	885	218162	246.44	Si
SLV 12	14	0.27	2.03	-17436	885	218162	246.44	Si
SLV 15	14	0.27	2.29	-19666	885	239816	270.9	Si
SLV 16	14	0.27	2.29	-19666	885	239816	270.9	Si
SLV 8	14	0.27	2.9	-24918	885	285185	322.14	Si
SLV 7	14	0.27	2.9	-24918	885	285185	322.14	Si
SLV 13	14	0.27	3.38	-29061	885	315424	356.3	Si
SLV 14	14	0.27	3.38	-29061	885	315424	356.3	Si
SLV 3	14	0.27	5.18	-44608	885	385223	435.15	Si
SLV 4	14	0.27	5.18	-44608	885	385223	435.15	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 137.5 Wa = 0.05 Ta = 0.0028

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-55563	-56499	686	0.201	57.481	0.995	293.7	274.911	Si
SLV 5	-55563	-56499	686	0.201	57.481	0.995	293.7	274.911	Si
SLV 9	-48339	-47692	614	0.201	50.117	0.994	293.876	274.911	Si
SLV 10	-48339	-47692	614	0.201	50.117	0.994	293.876	274.911	Si
SLV 2	-53090	-55765	553	0.203	54.96	0.995	296.691	266.98	Si
SLV 1	-53090	-55765	553	0.203	54.96	0.995	296.691	266.98	Si
SLV 13	-29009	-26408	312	0.205	30.414	0.991	300.108	266.98	Si
SLV 14	-29009	-26408	312	0.205	30.414	0.991	300.108	266.98	Si
SLV 3	-43746	-46328	368	0.206	45.435	0.994	300.627	266.98	Si
SLV 4	-43746	-46328	368	0.206	45.435	0.994	300.627	266.98	Si



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.951	SLU 79	Si
V_SLU	3.474	SLU 79	Si
PF_SLV	2.842	SLV 11	Si
V_SLV	1.114	SLV 9	Si
PFFP_SLV	246.436	SLV 11	Si
R_SLV	1.068	SLV 5	Si

Maschio 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-191.6	-1101.3	-35.4	L1	Z medio 138 cm	156.2	30	233.5	198	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	μ	φ	fv,lim	E	G	FC	
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 73	-96	-28975	39414	6.18	544903	13.825	Si
SLU 73	102	-27341	2639	5.84	605579	229.503	Si
SLU 40	-96	-25705	37325	5.49	655388	17.559	Si
SLU 40	102	-24514	4077	5.23	684770	167.944	Si
SLU 84	-96	-30791	34216	6.57	464643	13.58	Si
SLU 84	102	-29212	3829	6.23	535211	139.774	Si
SLU 75	-96	-29504	33043	6.3	522945	15.826	Si
SLU 75	102	-27898	6002	5.95	586128	97.655	Si
SLU 74	-96	-29467	30466	6.29	524496	17.216	Si
SLU 74	102	-27866	7552	5.95	587285	77.765	Si
SLU 76	-96	-29351	32650	6.26	529412	16.215	Si
SLU 76	102	-27734	4021	5.92	592004	147.237	Si
SLU 61	-96	-28043	35556	5.99	580863	16.337	Si
SLU 61	102	-26425	-4621	5.64	634825	137.384	Si
SLU 83	-96	-30755	31639	6.56	466387	14.741	Si
SLU 83	102	-29180	5379	6.23	536540	99.744	Si
SLU 81	-96	-30379	38402	6.48	484036	12.604	Si
SLU 81	102	-28787	3997	6.14	552437	138.21	Si
SLU 82	-96	-30416	40979	6.49	482349	11.771	Si
SLU 82	102	-28819	2447	6.15	551160	225.237	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 10	-96	-17672	-156224	3.77	954025	6.107	Si
SLV 10	102	-16511	63604	3.52	917503	14.425	Si
SLV 5	-96	-20654	-162450	4.41	1031002	6.347	Si
SLV 5	102	-19349	52866	4.13	1000306	18.921	Si
SLD 11	-96	-19819	100717	4.23	1011892	10.047	Si
SLD 11	102	-18529	-17324	3.95	978638	56.492	Si
SLV 9	-96	-17672	-156224	3.77	954025	6.107	Si
SLV 9	102	-16511	63604	3.52	917503	14.425	Si
SLV 12	-96	-19481	206685	4.16	1003623	4.856	Si
SLV 12	102	-18196	-45175	3.88	969299	21.457	Si
SLV 8	-96	-22464	200459	4.79	1065879	5.317	Si
SLV 8	102	-21034	-55912	4.49	1039060	18.584	Si
SLD 12	-96	-19819	100717	4.23	1011892	10.047	Si
SLD 12	102	-18529	-17324	3.95	978638	56.492	Si
SLV 6	-96	-20654	-162450	4.41	1031002	6.347	Si
SLV 6	102	-19349	52866	4.13	1000306	18.921	Si
SLV 11	-96	-19481	206685	4.16	1003623	4.856	Si
SLV 11	102	-18196	-45175	3.88	969299	21.457	Si
SLV 7	-96	-22464	200459	4.79	1065879	5.317	Si
SLV 7	102	-21034	-55912	4.49	1039060	18.584	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	-96	-28006	1501	32979	5.98	156.18	1.08	5076				3.38	Si
SLU 60	102	-26393	1163	-3071	5.63	156.18	1.08	5076				4.36	Si
SLU 61	-96	-28043	1604	35556	5.99	156.18	1.08	5076				3.16	Si
SLU 61	102	-26425	1271	-4621	5.64	156.18	1.08	5076				4	Si
SLU 63	-96	-28418	1438	28792	6.07	156.18	1.08	5076				3.53	Si
SLU 63	102	-26817	1065	-3239	5.72	156.18	1.08	5076				4.77	Si
SLU 65	-96	-25557	1432	31751	5.45	156.18	1.08	5076				3.54	Si
SLU 65	102	-23842	1027	5497	5.09	156.18	1.08	5076				4.94	Si
SLU 81	-96	-30379	1488	38402	6.48	156.18	1.08	5076				3.41	Si
SLU 81	102	-28787	1164	3997	6.14	156.18	1.08	5076				4.36	Si
SLU 82	-96	-30416	1591	40979	6.49	156.18	1.08	5076				3.19	Si
SLU 82	102	-28819	1271	2447	6.15	156.18	1.08	5076				3.99	Si
SLU 55	-96	-26978	1438	27227	5.76	156.18	1.08	5076				3.53	Si
SLU 55	102	-25339	1042	-3047	5.41	156.18	1.08	5076				4.87	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	-96	-28975	1592	39414		6.18	156.18	1.08	5076			3.19	Si
SLU 73	102	-27341	1248	2639		5.84	156.18	1.08	5076			4.07	Si
SLU 44	-96	-23185	1445	26328		4.95	156.18	1.08	5076			3.51	Si
SLU 44	102	-21448	1026	-1571		4.58	156.18	1.08	5076			4.95	Si
SLU 52	-96	-26602	1604	33990		5.68	156.18	1.08	5076			3.16	Si
SLU 52	102	-24947	1247	-4429		5.32	156.18	1.08	5076			4.07	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	-96	-20654	-4530	-162450		4.41	156.18	1.63	7614			1.68	Si
SLV 5	102	-19349	-4398	52866		4.13	156.18	1.63	7614			1.73	Si
SLV 3	-96	-25309	2937	66177		5.4	156.18	1.63	7614			2.59	Si
SLV 3	102	-23755	4748	-30367		5.07	156.18	1.63	7614			1.6	Si
SLV 9	-96	-17672	-4671	-156224		3.77	156.18	1.59	7439			1.59	Si
SLV 9	102	-16511	-5774	63604		3.52	156.18	1.54	7207			1.25	Si
SLV 7	-96	-22464	6707	200459		4.79	156.18	1.63	7614			1.14	Si
SLV 7	102	-21034	7204	-55912		4.49	156.18	1.63	7614			1.06	Si
SLV 12	-96	-19481	6567	206685		4.16	156.18	1.63	7614			1.16	Si
SLV 12	102	-18196	5828	-45175		3.88	156.18	1.61	7544			1.29	Si
SLV 4	-96	-25309	2937	66177		5.4	156.18	1.63	7614			2.59	Si
SLV 4	102	-23755	4748	-30367		5.07	156.18	1.63	7614			1.6	Si
SLV 8	-96	-22464	6707	200459		4.79	156.18	1.63	7614			1.14	Si
SLV 8	102	-21034	7204	-55912		4.49	156.18	1.63	7614			1.06	Si
SLV 11	-96	-19481	6567	206685		4.16	156.18	1.63	7614			1.16	Si
SLV 11	102	-18196	5828	-45175		3.88	156.18	1.61	7544			1.29	Si
SLV 10	-96	-17672	-4671	-156224		3.77	156.18	1.59	7439			1.59	Si
SLV 10	102	-16511	-5774	63604		3.52	156.18	1.54	7207			1.25	Si
SLV 6	-96	-20654	-4530	-162450		4.41	156.18	1.63	7614			1.68	Si
SLV 6	102	-19349	-4398	52866		4.13	156.18	1.63	7614			1.73	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3 $W_a 0.05$ denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.24	3.12	-14641	4693	163454	34.83	Si
SLV 13	14	0.24	3.12	-14641	4693	163454	34.83	Si
SLV 16	14	0.24	3.24	-15162	4693	167201	35.63	Si
SLV 15	14	0.24	3.24	-15162	4693	167201	35.63	Si
SLV 10	14	0.24	3.74	-17540	4693	182490	38.89	Si
SLV 9	14	0.24	3.74	-17540	4693	182490	38.89	Si
SLV 12	14	0.24	4.11	-19276	4693	191789	40.87	Si
SLV 11	14	0.24	4.11	-19276	4693	191789	40.87	Si
SLV 6	14	0.24	4.38	-20545	4693	197581	42.1	Si
SLV 5	14	0.24	4.38	-20545	4693	197581	42.1	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 3 $W_a = 0.05$ $T_a = 0.0303$

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 5	-19349	-20654	73	0.064	21.242	0.977	94.812	519.599	No
SLV 6	-19349	-20654	73	0.064	21.242	0.977	94.812	519.599	No
SLV 7	-21034	-22464	25	0.066	22.958	0.979	97.966	519.599	No
SLV 8	-21034	-22464	25	0.066	22.958	0.979	97.966	519.599	No
SLV 12	-18196	-19481	-24	0.066	20.067	0.976	98.665	519.599	No
SLV 11	-18196	-19481	-24	0.066	20.067	0.976	98.665	519.599	No
SLV 9	-16511	-17672	24	0.066	18.351	0.974	99.182	519.599	No
SLV 10	-16511	-17672	24	0.066	18.351	0.974	99.182	519.599	No
SLV 2	-23250	-24767	113	0.062	25.216	0.981	92.151	358.244	No
SLV 1	-23250	-24767	113	0.062	25.216	0.981	92.151	358.244	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.771	SLU 82	Si
V_SLU	3.164	SLU 52	Si
PF_SLV	4.856	SLV 11	Si
V_SLV	1.057	SLV 7	Si
PFFP_SLV	34.832	SLV 13	Si
R_SLV	0.182	SLV 5	No

Maschio 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-35.4	-1101.3	104.6	L1	L3	140	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	-96	-30325	137719	7.22	241214	1.751	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	173	-25078	-62097	5.97	468710	7.548	Si
SLU 77	-96	-29168	117604	6.94	301050	2.56	Si
SLU 77	173	-24262	-59077	5.78	493966	8.361	Si
SLU 83	-96	-30351	128991	7.23	239818	1.859	Si
SLU 83	173	-25218	-62291	6	464104	7.451	Si
SLU 81	-96	-30239	134798	7.2	245856	1.824	Si
SLU 81	173	-25031	-61399	5.96	470226	7.659	Si
SLU 78	-96	-29254	120525	6.97	296785	2.462	Si
SLU 78	173	-24308	-59775	5.79	492596	8.241	Si
SLU 73	-96	-28818	131531	6.86	318102	2.418	Si
SLU 73	173	-23713	-58667	5.65	509413	8.683	Si
SLU 84	-96	-30437	131912	7.25	235136	1.783	Si
SLU 84	173	-25264	-62989	6.02	462552	7.343	Si
SLU 75	-96	-29142	126333	6.94	302322	2.393	Si
SLU 75	173	-24122	-58884	5.74	498024	8.458	Si
SLU 74	-96	-29056	123411	6.92	306547	2.484	Si
SLU 74	173	-24075	-58186	5.73	499358	8.582	Si
SLU 76	-96	-28929	125723	6.89	312714	2.487	Si
SLU 76	173	-23900	-59559	5.69	504298	8.467	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 4	-96	-26976	176660	6.42	895718	5.07	Si
SLV 4	173	-22524	-31616	5.36	884672	27.981	Si
SLV 11	-96	-25781	232564	6.14	898064	3.862	Si
SLV 11	173	-19568	-29534	4.66	847474	28.695	Si
SLV 12	-96	-25781	232564	6.14	898064	3.862	Si
SLV 12	173	-19568	-29534	4.66	847474	28.695	Si
SLV 8	-96	-28783	258476	6.85	884772	3.423	Si
SLV 8	173	-22543	-26690	5.37	884832	33.152	Si
SLD 7	-96	-23561	158914	5.61	892078	5.614	Si
SLD 7	173	-18795	-33898	4.48	833817	24.598	Si
SLV 7	-96	-28783	258476	6.85	884772	3.423	Si
SLV 7	173	-22543	-26690	5.37	884832	33.152	Si
SLV 3	-96	-26976	176660	6.42	895718	5.07	Si
SLV 3	173	-22524	-31616	5.36	884672	27.981	Si
SLD 12	-96	-22281	147977	5.3	882511	5.964	Si
SLD 12	173	-17570	-36141	4.18	808824	22.38	Si
SLD 11	-96	-22281	147977	5.3	882511	5.964	Si
SLD 11	173	-17570	-36141	4.18	808824	22.38	Si
SLD 8	-96	-23561	158914	5.61	892078	5.614	Si
SLD 8	173	-18795	-33898	4.48	833817	24.598	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 82	-96	-30325	3870	137719		7.22	140	1.08	4550			1.18	Si
SLU 82	173	-25078	-257	-62097		5.97	140	1.08	4550			17.68	Si
SLU 81	-96	-30239	3783	134798		7.2	140	1.08	4550			1.2	Si
SLU 81	173	-25031	-336	-61399		5.96	140	1.08	4550			13.53	Si
SLU 73	-96	-28818	3740	131531		6.86	140	1.08	4550			1.22	Si
SLU 73	173	-23713	-195	-58667		5.65	140	1.08	4550			23.3	Si
SLU 63	-96	-27730	3551	119174		6.6	140	1.08	4550			1.28	Si
SLU 63	173	-22830	-254	-63214		5.44	140	1.08	4550			17.94	Si
SLU 75	-96	-29142	3616	126333		6.94	140	1.08	4550			1.26	Si
SLU 75	173	-24122	-379	-58884		5.74	140	1.08	4550			12	Si
SLU 60	-96	-27532	3578	122060		6.56	140	1.08	4550			1.27	Si
SLU 60	173	-22596	-171	-61625		5.38	140	1.08	4550			26.54	Si
SLU 61	-96	-27618	3666	124982		6.58	140	1.08	4550			1.24	Si
SLU 61	173	-22643	-93	-62323		5.39	140	1.08	4550			49.15	Si
SLU 83	-96	-30351	3668	128991		7.23	140	1.08	4550			1.24	Si
SLU 83	173	-25218	-497	-62291		6	140	1.08	4550			9.15	Si
SLU 84	-96	-30437	3756	131912		7.25	140	1.08	4550			1.21	Si
SLU 84	173	-25264	-418	-62989		6.02	140	1.08	4550			10.87	Si
SLU 76	-96	-28929	3626	125723		6.89	140	1.08	4550			1.25	Si
SLU 76	173	-23900	-356	-59559		5.69	140	1.08	4550			12.77	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLD 11	-96	-22281	4572	147977		5.3	140	1.63	6825			1.49	Si
SLD 11	173	-17570	1399	-36141		4.18	140	1.63	6825			4.88	Si
SLD 12	-96	-22281	4572	147977		5.3	140	1.63	6825			1.49	Si
SLD 12	173	-17570	1399	-36141		4.18	140	1.63	6825			4.88	Si
SLD 7	-96	-23561	4636	158914		5.61	140	1.63	6825			1.47	Si
SLD 7	173	-18795	1567	-33898		4.48	140	1.63	6825			4.36	Si
SLV 12	-96	-25781	7341	232564		6.14	140	1.63	6825			0.93	No, Vu<V
SLV 12	173	-19568	3543	-29534		4.66	140	1.63	6825			1.93	Si
SLV 11	-96	-25781	7341	232564		6.14	140	1.63	6825			0.93	No, Vu<V
SLV 11	173	-19568	3543	-29534		4.66	140	1.63	6825			1.93	Si
SLD 8	-96	-23561	4636	158914		5.61	140	1.63	6825			1.47	Si
SLD 8	173	-18795	1567	-33898		4.48	140	1.63	6825			4.36	Si
SLV 8	-96	-28783	7490	258476		6.85	140	1.63	6825			0.91	No, Vu<V
SLV 8	173	-22543	3986	-26690		5.37	140	1.63	6825			1.71	Si
SLV 10	-96	-10610	-2475	-87569		2.53	140	1.34	5622			2.27	Si
SLV 10	173	-9600	-4395	-53087		2.29	140	1.29	5420			1.23	Si
SLV 9	-96	-10610	-2475	-87569		2.53	140	1.34	5622			2.27	Si
SLV 9	173	-9600	-4395	-53087		2.29	140	1.29	5420			1.23	Si
SLV 7	-96	-28783	7490	258476		6.85	140	1.63	6825			0.91	No, Vu<V
SLV 7	173	-22543	3986	-26690		5.37	140	1.63	6825			1.71	Si

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Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.25	2.65	-11123	5746	130685	22.74	Si
SLV 9	14	0.25	2.65	-11123	5746	130685	22.74	Si
SLV 13	14	0.25	2.94	-12364	5746	140780	24.5	Si
SLV 14	14	0.25	2.94	-12364	5746	140780	24.5	Si
SLV 5	14	0.25	3.26	-13712	5746	150722	26.23	Si
SLV 6	14	0.25	3.26	-13712	5746	150722	26.23	Si
SLV 16	14	0.25	3.81	-16016	5746	165267	28.76	Si
SLV 15	14	0.25	3.81	-16016	5746	165267	28.76	Si
SLV 1	14	0.25	5	-20993	5746	186080	32.38	Si
SLV 2	14	0.25	5	-20993	5746	186080	32.38	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-22543	-28783	295	0.046	24.545	0.98	67.679	700.213	No
SLV 8	-22543	-28783	295	0.046	24.545	0.98	67.679	700.213	No
SLV 11	-19568	-25781	186	0.049	21.515	0.977	73.581	700.213	No
SLV 12	-19568	-25781	186	0.049	21.515	0.977	73.581	700.213	No
SLV 10	-9600	-10610	-98	0.052	11.367	0.958	78.674	700.213	No
SLV 9	-9600	-10610	-98	0.052	11.367	0.958	78.674	700.213	No
SLV 5	-12574	-13612	11	0.059	14.393	0.967	88.859	700.213	No
SLV 6	-12574	-13612	11	0.059	14.393	0.967	88.859	700.213	No
SLV 4	-22524	-26976	323	0.044	24.526	0.98	65.904	421.191	No
SLV 3	-22524	-26976	323	0.044	24.526	0.98	65.904	421.191	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.751	SLU 82	Si
V_SLU	1.176	SLU 82	Si
PF_SLV	3.423	SLV 7	Si
V_SLV	0.911	SLV 7	No
PFFP_SLV	22.742	SLV 9	Si
R_SLV	0.097	SLV 7	No

Maschio 45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-972.8	220.1	-972.8	657.6	L1	L3	437.5	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 84	-96	-58455	1206071	4.45	5795761	4.805	Si
SLU 84	124	-61256	2677200	4.67	5722410	2.137	Si
SLU 78	-96	-55532	1401555	4.23	5838051	4.165	Si
SLU 78	124	-58209	2804321	4.43	5800658	2.068	Si
SLU 74	-96	-56549	1163580	4.31	5827303	5.008	Si
SLU 74	124	-59052	2578838	4.5	5782809	2.242	Si
SLU 79	-96	-54773	1442060	4.17	5843318	4.052	Si
SLU 79	124	-57363	2829319	4.37	5815646	2.055	Si
SLU 77	-96	-55521	1408981	4.23	5838144	4.144	Si
SLU 77	124	-58204	2812661	4.43	5800763	2.062	Si
SLU 83	-96	-58444	1213498	4.45	5795986	4.776	Si
SLU 83	124	-61251	2685541	4.67	5722582	2.131	Si
SLU 69	-96	-49355	1369691	3.76	5812436	4.244	Si
SLU 69	124	-51112	2602553	3.89	5835615	2.242	Si
SLU 71	-96	-48607	1402770	3.7	5798735	4.134	Si
SLU 71	124	-50272	2619210	3.83	5826104	2.224	Si
SLU 80	-96	-54784	1434634	4.17	5843258	4.073	Si
SLU 80	124	-57369	2820978	4.37	5815559	2.062	Si
SLU 72	-96	-48618	1395343	3.7	5798954	4.156	Si
SLU 72	124	-50277	2610869	3.83	5826174	2.232	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 12	-96	-36679	2041413	2.79	6188448	3.031	Si
SLD 12	124	-39583	2681997	3.02	6521660	2.432	Si
SLV 11	-96	-32362	3922993	2.47	5650683	1.44	Si
SLV 11	124	-37779	4114153	2.88	6317371	1.536	Si
SLV 12	-96	-32362	3922993	2.47	5650683	1.44	Si
SLV 12	124	-37779	4114153	2.88	6317371	1.536	Si
SLV 3	-96	-29877	1908884	2.28	5318066	2.786	Si
SLV 3	124	-32457	2235052	2.47	5663019	2.534	Si
SLD 7	-96	-34894	2101010	2.66	5972196	2.843	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 7	124	-37853	2644682	2.88	6325874	2.392	Si
SLV 7	-96	-28156	4065760	2.15	5077840	1.249	Si
SLV 7	124	-33684	4030850	2.57	5820796	1.444	Si
SLD 11	-96	-36679	2041413	2.79	6188448	3.031	Si
SLD 11	124	-39583	2681997	3.02	6521660	2.432	Si
SLD 8	-96	-34894	2101010	2.66	5972196	2.843	Si
SLD 8	124	-37853	2644682	2.88	6325874	2.392	Si
SLV 4	-96	-29877	1908884	2.28	5318066	2.786	Si
SLV 4	124	-32457	2235052	2.47	5663019	2.534	Si
SLV 8	-96	-28156	4065760	2.15	5077840	1.249	Si
SLV 8	124	-33684	4030850	2.57	5820796	1.444	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 9	-96	-34615	1289	1098503		2.64	437.5	0.91	11907			9.24	Si
SLU 9	124	-35526	1302	1955277		2.71	437.5	0.92	12028			9.24	Si
SLU 37	-96	-45344	1492	1316115		3.45	437.5	1.02	13337			8.94	Si
SLU 37	124	-48069	1446	2488423		3.66	437.5	1.04	13701			9.47	Si
SLU 38	-96	-45355	1484	1308689		3.46	437.5	1.02	13339			8.99	Si
SLU 38	124	-48074	1441	2480083		3.66	437.5	1.04	13702			9.51	Si
SLU 28	-96	-39937	1410	1236319		3.04	437.5	0.96	12617			8.95	Si
SLU 28	124	-41824	1403	2253317		3.19	437.5	0.98	12868			9.17	Si
SLU 72	-96	-48618	1524	1395343		3.7	437.5	1.05	13774			9.04	Si
SLU 72	124	-50277	1542	2610869		3.83	437.5	1.07	13995			9.07	Si
SLU 29	-96	-39178	1489	1276825		2.98	437.5	0.95	12515			8.4	Si
SLU 29	124	-40977	1470	2278315		3.12	437.5	0.97	12755			8.68	Si
SLU 8	-96	-34604	1297	1105930		2.64	437.5	0.91	11905			9.18	Si
SLU 8	124	-35521	1308	1963618		2.71	437.5	0.92	12028			9.19	Si
SLU 71	-96	-48607	1532	1402770		3.7	437.5	1.05	13773			8.99	Si
SLU 71	124	-50272	1548	2619210		3.83	437.5	1.07	13995			9.04	Si
SLU 27	-96	-39926	1418	1243746		3.04	437.5	0.96	12615			8.9	Si
SLU 27	124	-41818	1409	2261658		3.19	437.5	0.98	12867			9.13	Si
SLU 30	-96	-39189	1482	1269398		2.99	437.5	0.95	12517			8.45	Si
SLU 30	124	-40983	1464	2269974		3.12	437.5	0.97	12756			8.71	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	-96	-47093	-16779	-2572635		3.59	437.5	1.55	20356			1.21	Si
SLV 5	124	-43826	-13494	-822324		3.34	437.5	1.5	19703			1.46	Si
SLV 10	-96	-51299	-16920	-2715402		3.91	437.5	1.62	21197			1.25	Si
SLV 10	124	-47921	-14003	-739020		3.65	437.5	1.56	20522			1.47	Si
SLV 12	-96	-32362	17612	3922993		3.69	292.59	1.57	13787			0.78	No, Vu<V
SLV 12	124	-37779	14463	4114153		3.82	329.55	1.6	15795			1.09	Si
SLV 7	-96	-28156	17753	4065760		4.21	223.05	1.63	10874			0.61	No, Vu<V
SLV 7	124	-33684	14971	4030850		3.78	297.26	1.59	14168			0.95	No, Vu<V
SLV 9	-96	-51299	-16920	-2715402		3.91	437.5	1.62	21197			1.25	Si
SLV 9	124	-47921	-14003	-739020		3.65	437.5	1.56	20522			1.47	Si
SLD 7	-96	-34894	7776	2101010		2.66	437.5	1.37	17916			2.3	Si
SLD 7	124	-37853	6617	2644682		2.88	437.5	1.41	18508			2.8	Si
SLV 6	-96	-47093	-16779	-2572635		3.59	437.5	1.55	20356			1.21	Si
SLV 6	124	-43826	-13494	-822324		3.34	437.5	1.5	19703			1.46	Si
SLV 11	-96	-32362	17612	3922993		3.69	292.59	1.57	13787			0.78	No, Vu<V
SLV 11	124	-37779	14463	4114153		3.82	329.55	1.6	15795			1.09	Si
SLV 8	-96	-28156	17753	4065760		4.21	223.05	1.63	10874			0.61	No, Vu<V
SLV 8	124	-33684	14971	4030850		3.78	297.26	1.59	14168			0.95	No, Vu<V
SLD 8	-96	-34894	7776	2101010		2.66	437.5	1.37	17916			2.3	Si
SLD 8	124	-37853	6617	2644682		2.88	437.5	1.41	18508			2.8	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.25	2.37	-31113	17957	376152	20.95	Si
SLV 7	14	0.25	2.37	-31113	17957	376152	20.95	Si
SLV 3	14	0.25	2.38	-31278	17957	377663	21.03	Si
SLV 4	14	0.25	2.38	-31278	17957	377663	21.03	Si
SLV 12	14	0.25	2.67	-35051	17957	410856	22.88	Si
SLV 11	14	0.25	2.67	-35051	17957	410856	22.88	Si
SLV 2	14	0.25	2.69	-35358	17957	413432	23.02	Si
SLV 1	14	0.25	2.69	-35358	17957	413432	23.02	Si
SLV 15	14	0.25	3.38	-44406	17957	481653	26.82	Si
SLV 16	14	0.25	3.38	-44406	17957	481653	26.82	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 7	-35264	-28156	-420	0.049	40.875	0.963	74.581	700.213	No
SLV 8	-35264	-28156	-420	0.049	40.875	0.963	74.581	700.213	No
SLV 10	-49193	-51299	427	0.051	55.055	0.972	76.222	700.213	No
SLV 9	-49193	-51299	427	0.051	55.055	0.972	76.222	700.213	No
SLV 6	-44661	-47093	127	0.057	50.441	0.97	85.125	700.213	No
SLV 5	-44661	-47093	127	0.057	50.441	0.97	85.125	700.213	No
SLV 12	-39796	-32362	-120	0.057	45.487	0.967	85.81	700.213	No
SLV 11	-39796	-32362	-120	0.057	45.487	0.967	85.81	700.213	No
SLV 4	-33266	-29877	-579	0.045	38.842	0.962	67.624	421.191	No
SLV 3	-33266	-29877	-579	0.045	38.842	0.962	67.624	421.191	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.055	SLU 79	Si
V_SLU	8.403	SLU 29	Si
PF_SLV	1.249	SLV 7	Si
V_SLV	0.613	SLV 7	No
PFFP_SLV	20.947	SLV 7	Si
R_SLV	0.107	SLV 7	No

Maschio 46

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-772.3	-478.4	-1101.3	-478.4	L1	L3	329	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 38	-96	-28809	685261	1.95	3606983	5.264	Si
SLU 38	173	-15437	-79183	1.04	2214360	27.965	Si
SLU 78	-96	-35781	759680	2.42	4139631	5.449	Si
SLU 78	173	-19090	-167501	1.29	2643220	15.78	Si
SLU 37	-96	-29368	652063	1.98	3654577	5.605	Si
SLU 37	173	-15507	-77097	1.05	2222913	28.833	Si
SLU 76	-96	-34714	731133	2.34	4066698	5.562	Si
SLU 76	173	-18698	-200868	1.26	2598913	12.938	Si
SLU 35	-96	-29322	645724	1.98	3650674	5.654	Si
SLU 35	173	-15492	-82807	1.05	2221103	26.823	Si
SLU 80	-96	-35827	766019	2.42	4142720	5.408	Si
SLU 80	173	-19105	-161791	1.29	2644885	16.348	Si
SLU 84	-96	-35915	757740	2.43	4148554	5.475	Si
SLU 84	173	-19205	-177512	1.3	2656143	14.963	Si
SLU 42	-96	-28896	676982	1.95	3614494	5.339	Si
SLU 42	173	-15537	-94904	1.05	2226622	23.462	Si
SLU 36	-96	-28763	678922	1.94	3603010	5.307	Si
SLU 36	173	-15422	-84893	1.04	2212547	26.063	Si
SLU 34	-96	-27695	650375	1.87	3509645	5.396	Si
SLU 34	173	-15030	-118260	1.02	2164315	18.301	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 7	-96	-16160	479974	1.09	2420799	5.044	Si
SLD 7	173	-8211	-351671	0.55	1289445	3.667	Si
SLV 2	-96	-20717	1229408	1.4	3017658	2.455	Si
SLV 2	173	-6610	-571306	0.45	1047543	1.834	Si
SLV 8	-96	-2936	611651	0	0	0	No, e>1/2
SLV 8	173	-939	-529683	0	0	0	No, e>1/2
SLV 3	-96	-9027	1206985	0.61	1410886	1.169	Si
SLV 3	173	-824	-686473	0	0	0	No, e>1/2
SLD 3	-96	-18614	743330	1.26	2746948	3.695	Si
SLD 3	173	-8124	-415674	0.55	1276454	3.071	Si
SLD 8	-96	-16160	479974	1.09	2420799	5.044	Si
SLD 8	173	-8211	-351671	0.55	1289445	3.667	Si
SLV 4	-96	-9027	1206985	0.61	1410886	1.169	Si
SLV 4	173	-824	-686473	0	0	0	No, e>1/2
SLV 7	-96	-2936	611651	0	0	0	No, e>1/2
SLV 7	173	-939	-529683	0	0	0	No, e>1/2
SLD 4	-96	-18614	743330	1.26	2746948	3.695	Si
SLD 4	173	-8124	-415674	0.55	1276454	3.071	Si
SLV 1	-96	-20717	1229408	1.4	3017658	2.455	Si
SLV 1	173	-6610	-571306	0.45	1047543	1.834	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	-96	-35040	-4974	702661		2.37	329	0.87	12897			2.59	Si
SLU 75	173	-18730	-1639	-205188		1.27	329	0.72	10722			6.54	Si
SLU 63	-96	-34720	-4913	685356		2.35	329	0.87	12854			2.62	Si
SLU 63	173	-18512	-1611	-210942		1.25	329	0.72	10693			6.64	Si
SLU 79	-96	-36386	-5157	732821		2.46	329	0.88	13076			2.54	Si
SLU 79	173	-19175	-1674	-159705		1.3	329	0.73	10782			6.44	Si
SLU 78	-96	-35781	-5185	759680		2.42	329	0.88	12996			2.51	Si
SLU 78	173	-19090	-1709	-167501		1.29	329	0.73	10770			6.3	Si
SLU 76	-96	-34714	-5026	731133		2.34	329	0.87	12853			2.56	Si
SLU 76	173	-18698	-1675	-200868		1.26	329	0.72	10718			6.4	Si
SLU 83	-96	-36474	-5164	724541		2.46	329	0.88	13088			2.53	Si
SLU 83	173	-19275	-1659	-175426		1.3	329	0.73	10795			6.51	Si
SLU 84	-96	-35915	-5212	757740		2.43	329	0.88	13014			2.5	Si
SLU 84	173	-19205	-1702	-177512		1.3	329	0.73	10786			6.34	Si
SLU 77	-96	-36340	-5136	726482		2.45	329	0.88	13070			2.54	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	173	-19160	-1666	-165415		1.29	329	0.73	10780			6.47	Si
SLU 82	-96	-35174	-5001	700721		2.38	329	0.87	12915			2.58	Si
SLU 82	173	-18845	-1632	-215199		1.27	329	0.73	10738			6.58	Si
SLU 80	-96	-35827	-5205	766019		2.42	329	0.88	13002			2.5	Si
SLU 80	173	-19105	-1716	-161791		1.29	329	0.73	10772			6.28	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	-96	-2936	980	611651		0	0	0.83	0			0	No, Vu<V
SLV 8	173	-939	2599	-529683		0	0	0.83	0			0	No, Vu<V
SLV 3	-96	-9027	5329	1206985		2.17	92.39	1.27	5270			0.99	No, Vu<V
SLV 3	173	-824	7147	-686473		0	0	0.83	0			0	No, Vu<V
SLV 14	-96	-42278	-11991	-396803		2.86	329	1.4	20793			1.73	Si
SLV 14	173	-26222	-9341	260554		1.77	329	1.19	17582			1.88	Si
SLV 1	-96	-20717	4200	1229408		1.46	315.47	1.13	15974			3.8	Si
SLV 1	173	-6610	6341	-571306		0.63	234.19	0.96	10104			1.59	Si
SLV 4	-96	-9027	5329	1206985		2.17	92.39	1.27	5270			0.99	No, Vu<V
SLV 4	173	-824	7147	-686473		0	0	0.83	0			0	No, Vu<V
SLV 7	-96	-2936	980	611651		0	0	0.83	0			0	No, Vu<V
SLV 7	173	-939	2599	-529683		0	0	0.83	0			0	No, Vu<V
SLV 15	-96	-30588	-10861	-419226		2.07	329	1.25	18455			1.7	Si
SLV 15	173	-20437	-8535	145387		1.38	329	1.11	16425			1.92	Si
SLV 13	-96	-42278	-11991	-396803		2.86	329	1.4	20793			1.73	Si
SLV 13	173	-26222	-9341	260554		1.77	329	1.19	17582			1.88	Si
SLV 16	-96	-30588	-10861	-419226		2.07	329	1.25	18455			1.7	Si
SLV 16	173	-20437	-8535	145387		1.38	329	1.11	16425			1.92	Si
SLV 2	-96	-20717	4200	1229408		1.46	315.47	1.13	15974			3.8	Si
SLV 2	173	-6610	6341	-571306		0.63	234.19	0.96	10104			1.59	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.25	0.2	-2981	20256	65969	3.26	Si
SLV 8	14	0.25	0.2	-2981	20256	65969	3.26	Si
SLV 3	14	0.25	0.44	-6561	20256	142268	7.02	Si
SLV 4	14	0.25	0.44	-6561	20256	142268	7.02	Si
SLV 11	14	0.25	0.59	-8808	20256	188524	9.31	Si
SLV 12	14	0.25	0.59	-8808	20256	188524	9.31	Si
SLV 2	14	0.25	1.04	-15456	20256	318048	15.7	Si
SLV 1	14	0.25	1.04	-15456	20256	318048	15.7	Si
SLV 16	14	0.25	1.76	-25983	20256	500647	24.72	Si
SLV 15	14	0.25	1.76	-25983	20256	500647	24.72	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	-26107	-48370	-1736	0.035	32.21	0.95	54.007	480.788	No
SLV 9	-26107	-48370	-1736	0.035	32.21	0.95	54.007	480.788	No
SLV 5	-20223	-41901	-1316	0.041	26.244	0.94	63.315	480.788	No
SLV 6	-20223	-41901	-1316	0.041	26.244	0.94	63.315	480.788	No
SLV 13	-26222	-42278	-1747	0.035	32.327	0.95	53.681	347.831	No
SLV 14	-26222	-42278	-1747	0.035	32.327	0.95	53.681	347.831	No
SLV 16	-20437	-30588	-1338	0.04	26.46	0.94	62.472	347.831	No
SLV 15	-20437	-30588	-1338	0.04	26.46	0.94	62.472	347.831	No
SLV 12	-6823	-9404	-372	0.077	12.816	0.899	124.126	480.788	No
SLV 11	-6823	-9404	-372	0.077	12.816	0.899	124.126	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.264	SLU 38	Si
V_SLV	2.497	SLU 84	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	3.257	SLV 7	Si
R_SLV	0.112	SLV 9	No

Maschio 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-772.3	-328.4	-772.3	-478.4	L1	L3	150	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 77	-96	-20728	-167717	3.07	968604	5.775	Si
SLU 77	173	-12036	-206859	1.78	705124	3.409	Si

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Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 37	-96	-16856	-149507	2.5	876690	5.864	Si
SLU 37	173	-9984	-180029	1.48	612879	3.404	Si
SLU 35	-96	-16925	-150495	2.51	878688	5.839	Si
SLU 35	173	-10050	-182105	1.49	616010	3.383	Si
SLU 81	-96	-21006	-171022	3.11	973627	5.693	Si
SLU 81	173	-12212	-213464	1.81	712529	3.338	Si
SLU 41	-96	-17338	-158012	2.57	890379	5.635	Si
SLU 41	173	-10353	-191544	1.53	630294	3.291	Si
SLU 32	-96	-16789	-146283	2.49	874748	5.98	Si
SLU 32	173	-9924	-179272	1.47	609984	3.403	Si
SLU 83	-96	-21141	-175234	3.13	976004	5.57	Si
SLU 83	173	-12339	-216298	1.83	717767	3.318	Si
SLU 39	-96	-17203	-153800	2.55	886593	5.765	Si
SLU 39	173	-10227	-188710	1.51	624372	3.309	Si
SLU 79	-96	-20659	-166729	3.06	967322	5.802	Si
SLU 79	173	-11970	-204783	1.77	702348	3.43	Si
SLU 74	-96	-20592	-163505	3.05	966073	5.909	Si
SLU 74	173	-11910	-204026	1.76	699781	3.43	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 8	-96	-5216	-317114	0.77	366479	1.156	Si
SLV 8	173	6236	66571	0	0	0	No, Trazione
SLV 3	-96	-10623	-460214	1.57	694140	1.508	Si
SLV 3	173	-1301	-223360	0	0	0	No, $e>l/2$
SLD 4	-96	-13011	-253554	1.93	821928	3.242	Si
SLD 4	173	-5429	-173256	0.8	380407	2.196	Si
SLD 3	-96	-13011	-253554	1.93	821928	3.242	Si
SLD 3	173	-5429	-173256	0.8	380407	2.196	Si
SLV 2	-96	-16084	-389184	2.38	971125	2.495	Si
SLV 2	173	-9479	-371893	1.4	629249	1.692	Si
SLV 11	-96	-6043	-123426	0.9	420032	3.403	Si
SLV 11	173	4517	166552	0	0	0	No, Trazione
SLV 1	-96	-16084	-389184	2.38	971125	2.495	Si
SLV 1	173	-9479	-371893	1.4	629249	1.692	Si
SLV 12	-96	-6043	-123426	0.9	420032	3.403	Si
SLV 12	173	4517	166552	0	0	0	No, Trazione
SLV 7	-96	-5216	-317114	0.77	366479	1.156	Si
SLV 7	173	6236	66571	0	0	0	No, Trazione
SLV 4	-96	-10623	-460214	1.57	694140	1.508	Si
SLV 4	173	-1301	-223360	0	0	0	No, $e>l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	-96	-20659	167	-166729		3.06	150.01	0.96	6505			39.02	Si
SLU 79	173	-11970	1392	-204783		1.77	150.01	0.79	5346			3.84	Si
SLU 83	-96	-21141	196	-175234		3.13	150.01	0.97	6569			33.44	Si
SLU 83	173	-12339	1441	-216298		1.83	150.01	0.8	5395			3.75	Si
SLU 77	-96	-20728	171	-167717		3.07	150.01	0.96	6514			38.12	Si
SLU 77	173	-12036	1400	-206859		1.78	150.01	0.79	5355			3.83	Si
SLU 56	-96	-19578	137	-142516		2.9	150.01	0.94	6361			46.59	Si
SLU 56	173	-11122	1302	-179621		1.65	150.01	0.78	5233			4.02	Si
SLU 74	-96	-20592	178	-163505		3.05	150.01	0.96	6496			36.43	Si
SLU 74	173	-11910	1391	-204026		1.76	150.01	0.79	5338			3.84	Si
SLU 81	-96	-21006	204	-171022		3.11	150.01	0.97	6551			32.13	Si
SLU 81	173	-12212	1431	-213464		1.81	150.01	0.8	5378			3.76	Si
SLU 60	-96	-19856	170	-145821		2.94	150.01	0.95	6398			37.74	Si
SLU 60	173	-11298	1334	-186226		1.67	150.01	0.78	5257			3.94	Si
SLU 62	-96	-19991	162	-150033		2.96	150.01	0.95	6416			39.58	Si
SLU 62	173	-11424	1343	-189059		1.69	150.01	0.78	5273			3.93	Si
SLU 53	-96	-19442	144	-138304		2.88	150.01	0.94	6342			44.05	Si
SLU 53	173	-10995	1293	-176787		1.63	150.01	0.77	5216			4.03	Si
SLU 58	-96	-19509	132	-141528		2.89	150.01	0.94	6351			47.99	Si
SLU 58	173	-11056	1295	-177545		1.64	150.01	0.77	5224			4.03	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	-96	-6043	-2934	-123426		0.9	150.01	1.01	6834			2.33	Si
SLV 12	173	4517	-1618	166552		0	0	0.83	0			0	No, Vu<V
SLV 8	-96	-5216	-3078	-317114		2.72	42.62	1.38	2642			0.86	No, Vu<V
SLV 8	173	6236	-1405	66571		0	0	0.83	0			0	No, Vu<V
SLV 6	-96	-23421	3148	-80346		3.47	150.01	1.53	10309			3.27	Si
SLV 6	173	-21026	3558	-428536		3.11	150.01	1.46	9830			2.76	Si
SLV 2	-96	-16084	800	-389184		2.38	150.01	1.31	8842			11.05	Si
SLV 2	173	-9479	2069	-371893		1.96	107.31	1.23	5920			2.86	Si
SLV 3	-96	-10623	-1068	-460214		2.48	95.04	1.33	5689			5.33	Si
SLV 3	173	-1301	580	-223360		0	0	0.83	0			0	No, Vu<V
SLV 5	-96	-23421	3148	-80346		3.47	150.01	1.53	10309			3.27	Si
SLV 5	173	-21026	3558	-428536		3.11	150.01	1.46	9830			2.76	Si
SLV 11	-96	-6043	-2934	-123426		0.9	150.01	1.01	6834			2.33	Si
SLV 11	173	4517	-1618	166552		0	0	0.83	0			0	No, Vu<V
SLV 7	-96	-5216	-3078	-317114		2.72	42.62	1.38	2642			0.86	No, Vu<V
SLV 7	173	6236	-1405	66571		0	0	0.83	0			0	No, Vu<V
SLV 1	-96	-16084	800	-389184		2.38	150.01	1.31	8842			11.05	Si
SLV 1	173	-9479	2069	-371893		1.96	107.31	1.23	5920			2.86	Si
SLV 4	-96	-10623	-1068	-460214		2.48	95.04	1.33	5689			5.33	Si
SLV 4	173	-1301	580	-223360		0	0	0.83	0			0	No, Vu<V



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.25	0.6	-4045	9236	86558	9.37	Si
SLV 7	14	0.25	0.6	-4045	9236	86558	9.37	Si
SLV 12	14	0.25	0.85	-5768	9236	120700	13.07	Si
SLV 11	14	0.25	0.85	-5768	9236	120700	13.07	Si
SLV 4	14	0.25	1.22	-8233	9236	166760	18.06	Si
SLV 3	14	0.25	1.22	-8233	9236	166760	18.06	Si
SLV 1	14	0.25	2.01	-13546	9236	254723	27.58	Si
SLV 2	14	0.25	2.01	-13546	9236	254723	27.58	Si
SLV 15	14	0.25	2.07	-13975	9236	261157	28.28	Si
SLV 16	14	0.25	2.07	-13975	9236	261157	28.28	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	6236	-5216	28	0	0	0	0	480.788	No, Trazione
SLV 12	4517	-6043	28	0	0	0	0	480.788	No, Trazione
SLV 11	4517	-6043	28	0	0	0	0	480.788	No, Trazione
SLV 7	6236	-5216	28	0	0	0	0	480.788	No, Trazione
SLV 10	-22745	-24248	-177	0.082	25.713	0.97	122.898	480.788	No
SLV 9	-22745	-24248	-177	0.082	25.713	0.97	122.898	480.788	No
SLV 6	-21026	-23421	-177	0.082	23.963	0.968	122.951	480.788	No
SLV 5	-21026	-23421	-177	0.082	23.963	0.968	122.951	480.788	No
SLV 13	-15209	-18841	-105	0.086	18.045	0.958	129.773	347.831	No
SLV 14	-15209	-18841	-105	0.086	18.045	0.958	129.773	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.291	SLU 41	Si
V_SLU	3.745	SLU 83	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 3	No
PFFP_SLV	9.372	SLV 7	Si
R_SLV	0	SLV 12	No

Maschio 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-626.8	104.6	-626.8	-328.4	L1	L3	433	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 84	-96	-65602	-1350211	5.05	5397262	3.997	Si
SLU 84	173	-58104	922931	4.47	5671780	6.145	Si
SLU 82	-96	-64718	-1290000	4.98	5441609	4.218	Si
SLU 82	173	-57271	927000	4.41	5688067	6.136	Si
SLU 81	-96	-64486	-1457648	4.96	5452712	3.741	Si
SLU 81	173	-56242	797133	4.33	5704290	7.156	Si
SLU 79	-96	-63555	-1488807	4.89	5495054	3.691	Si
SLU 79	173	-55391	781410	4.26	5714424	7.313	Si
SLU 41	-96	-55461	-1357056	4.27	5713698	4.21	Si
SLU 41	173	-48769	616814	3.75	5692028	9.228	Si
SLU 77	-96	-63960	-1497156	4.92	5477051	3.658	Si
SLU 77	173	-55813	784183	4.3	5709762	7.281	Si
SLU 78	-96	-64192	-1329508	4.94	5466447	4.112	Si
SLU 78	173	-56843	914050	4.38	5695343	6.231	Si
SLU 80	-96	-63787	-1321159	4.91	5484835	4.152	Si
SLU 80	173	-56420	911277	4.34	5701786	6.257	Si
SLU 74	-96	-63076	-1436945	4.86	5515455	3.838	Si
SLU 74	173	-54981	788251	4.23	5718246	7.254	Si
SLU 83	-96	-65370	-1517860	5.03	5409205	3.564	Si
SLU 83	173	-57074	793064	4.39	5691512	7.177	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	-96	-37360	-2504801	2.88	6184445	2.469	Si
SLV 12	173	-27559	-363228	2.12	4930494	13.574	Si
SLV 11	-96	-37360	-2504801	2.88	6184445	2.469	Si
SLV 11	173	-27559	-363228	2.12	4930494	13.574	Si
SLD 8	-96	-42201	-1542003	3.25	6707185	4.35	Si
SLD 8	173	-34881	270281	2.69	5891998	21.799	Si
SLV 8	-96	-40869	-2423328	3.15	6569746	2.711	Si
SLV 8	173	-31535	-191544	2.43	5470735	28.561	Si
SLD 11	-96	-40738	-1579116	3.14	6555986	4.152	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 11	173	-33212	196663	2.56	5685722	28.911	Si
SLV 15	-96	-36122	-1508072	2.78	6040510	4.005	Si
SLV 15	173	-28329	49212	2.18	5038410	102.381	Si
SLV 7	-96	-40869	-2423328	3.15	6569746	2.711	Si
SLV 7	173	-31535	-191544	2.43	5470735	28.561	Si
SLD 7	-96	-42201	-1542003	3.25	6707185	4.35	Si
SLD 7	173	-34881	270281	2.69	5891998	21.799	Si
SLD 12	-96	-40738	-1579116	3.14	6555986	4.152	Si
SLD 12	173	-33212	196663	2.56	5685722	28.911	Si
SLV 16	-96	-36122	-1508072	2.78	6040510	4.005	Si
SLV 16	173	-28329	49212	2.18	5038410	102.381	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 31	-96	-52263	2409	-928167	4.02	432.99	1.08	1.08	14072			5.84	Si
SLU 31	173	-47137	3794	829743	3.63	432.99	1.04	1.04	13502			3.56	Si
SLU 2	-96	-40109	2434	-503684	3.09	432.99	0.97	0.97	12564			5.16	Si
SLU 2	173	-35729	3542	808265	2.75	432.99	0.92	0.92	11980			3.38	Si
SLU 52	-96	-56318	2475	-872770	4.34	432.99	1.08	1.08	14072			5.69	Si
SLU 52	173	-49904	4007	1002213	3.84	432.99	1.07	1.07	13870			3.46	Si
SLU 76	-96	-63057	2098	-1149182	4.85	432.99	1.08	1.08	14072			6.71	Si
SLU 76	173	-56274	3783	1001924	4.33	432.99	1.08	1.08	14072			3.72	Si
SLU 44	-96	-50018	2429	-664487	3.85	432.99	1.07	1.07	13886			5.72	Si
SLU 44	173	-44034	3817	984515	3.39	432.99	1.01	1.01	13088			3.43	Si
SLU 73	-96	-62173	2404	-1088970	4.79	432.99	1.08	1.08	14072			5.85	Si
SLU 73	173	-55442	4068	1005993	4.27	432.99	1.08	1.08	14072			3.46	Si
SLU 10	-96	-46409	2480	-711966	3.57	432.99	1.03	1.03	13404			5.41	Si
SLU 10	173	-41599	3733	825963	3.2	432.99	0.98	0.98	12763			3.42	Si
SLU 23	-96	-45964	2363	-719884	3.54	432.99	1.03	1.03	13345			5.65	Si
SLU 23	173	-41267	3604	812045	3.18	432.99	0.98	0.98	12719			3.53	Si
SLU 65	-96	-55873	2358	-880688	4.3	432.99	1.08	1.08	14072			5.97	Si
SLU 65	173	-49572	3878	988295	3.82	432.99	1.06	1.06	13826			3.57	Si
SLU 5	-96	-40993	2128	-563895	3.16	432.99	0.98	0.98	12682			5.96	Si
SLU 5	173	-36561	3256	804196	2.81	432.99	0.93	0.93	12091			3.71	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	-96	-45521	13554	614571	3.5	432.99	1.53	1.53	19929			1.47	Si
SLV 9	173	-43009	13554	1387457	3.31	432.99	1.5	1.5	19427			1.43	Si
SLV 8	-96	-40869	-13763	-2423328	3.15	432.99	1.46	1.46	18999			1.38	Si
SLV 8	173	-31535	-11441	-191544	2.43	432.99	1.32	1.32	17132			1.5	Si
SLV 6	-96	-49030	13928	696043	3.77	432.99	1.59	1.59	20631			1.48	Si
SLV 6	173	-46985	14819	1559141	3.62	432.99	1.56	1.56	20222			1.36	Si
SLV 7	-96	-40869	-13763	-2423328	3.15	432.99	1.46	1.46	18999			1.38	Si
SLV 7	173	-31535	-11441	-191544	2.43	432.99	1.32	1.32	17132			1.5	Si
SLD 6	-96	-45652	5812	-229642	3.51	432.99	1.54	1.54	19955			3.43	Si
SLD 6	173	-41332	6815	999250	3.18	432.99	1.47	1.47	19091			2.8	Si
SLV 5	-96	-49030	13928	696043	3.77	432.99	1.59	1.59	20631			1.48	Si
SLV 5	173	-46985	14819	1559141	3.62	432.99	1.56	1.56	20222			1.36	Si
SLV 11	-96	-37360	-14137	-2504801	2.88	432.99	1.41	1.41	18297			1.29	Si
SLV 11	173	-27559	-12706	-363228	2.12	432.99	1.26	1.26	16337			1.29	Si
SLV 12	-96	-37360	-14137	-2504801	2.88	432.99	1.41	1.41	18297			1.29	Si
SLV 12	173	-27559	-12706	-363228	2.12	432.99	1.26	1.26	16337			1.29	Si
SLD 5	-96	-45652	5812	-229642	3.51	432.99	1.54	1.54	19955			3.43	Si
SLD 5	173	-41332	6815	999250	3.18	432.99	1.47	1.47	19091			2.8	Si
SLV 10	-96	-45521	13554	614571	3.5	432.99	1.53	1.53	19929			1.47	Si
SLV 10	173	-43009	13554	1387457	3.31	432.99	1.5	1.5	19427			1.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.25	2.65	-34360	17772	403825	22.72	Si
SLV 15	14	0.25	2.65	-34360	17772	403825	22.72	Si
SLV 11	14	0.25	2.65	-34374	17772	403945	22.73	Si
SLV 12	14	0.25	2.65	-34374	17772	403945	22.73	Si
SLV 14	14	0.25	2.91	-37856	17772	432407	24.33	Si
SLV 13	14	0.25	2.91	-37856	17772	432407	24.33	Si
SLV 7	14	0.25	2.92	-37882	17772	432612	24.34	Si
SLV 8	14	0.25	2.92	-37882	17772	432612	24.34	Si
SLV 10	14	0.25	3.54	-46028	17772	490202	27.58	Si
SLV 9	14	0.25	3.54	-46028	17772	490202	27.58	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 5	-46985	-49030	-45	0.058	52.755	0.971	87.316	700.213	No
SLV 6	-46985	-49030	-45	0.058	52.755	0.971	87.316	700.213	No
SLV 10	-43009	-45521	-29	0.059	48.707	0.969	88.375	700.213	No
SLV 9	-43009	-45521	-29	0.059	48.707	0.969	88.375	700.213	No
SLV 8	-31535	-40869	3	0.061	37.03	0.96	91.9	700.213	No
SLV 7	-31535	-40869	3	0.061	37.03	0.96	91.9	700.213	No
SLV 12	-27559	-37360	19	0.061	32.988	0.956	92.498	700.213	No
SLV 11	-27559	-37360	19	0.061	32.988	0.956	92.498	700.213	No
SLV 2	-46215	-50268	-47	0.058	51.972	0.971	87.353	421.191	No
SLV 1	-46215	-50268	-47	0.058	51.972	0.971	87.353	421.191	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.564	SLU 83	Si
V_SLU	3.382	SLU 2	Si
PF_SLV	2.469	SLV 11	Si
V_SLV	1.286	SLV 11	Si
PFFP_SLV	22.722	SLV 15	Si
R_SLV	0.125	SLV 5	No

Maschio 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-328.4	-1055.3	-328.4	L1	L3	46	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 73	-96	-9299	-70000	4.49	95929	1.37	Si
SLU 73	109	-9877	-1512	4.77	94104	62.248	Si
SLU 75	-96	-9600	-69374	4.64	95091	1.371	Si
SLU 75	109	-10069	-2268	4.86	93296	41.144	Si
SLU 81	-96	-9798	-70265	4.73	94406	1.344	Si
SLU 81	109	-10287	-2626	4.97	92256	35.133	Si
SLU 77	-96	-9919	-67840	4.79	93935	1.385	Si
SLU 77	109	-10231	-3256	4.94	92536	28.419	Si
SLU 78	-96	-9854	-69766	4.76	94192	1.35	Si
SLU 78	109	-10270	-2617	4.96	92341	35.286	Si
SLU 83	-96	-10053	-70658	4.86	93369	1.321	Si
SLU 83	109	-10488	-2975	5.07	91181	30.646	Si
SLU 80	-96	-9850	-69500	4.76	94208	1.355	Si
SLU 80	109	-10253	-2637	4.95	92426	35.054	Si
SLU 76	-96	-9553	-70392	4.61	95239	1.353	Si
SLU 76	109	-10078	-1861	4.87	93254	50.106	Si
SLU 84	-96	-9988	-72584	4.83	93649	1.29	Si
SLU 84	109	-10528	-2336	5.09	90958	38.936	Si
SLU 82	-96	-9734	-72192	4.7	94641	1.311	Si
SLU 82	109	-10326	-1987	4.99	92055	46.335	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 4	-96	-5190	-125367	0	0	0	No, e>1/2
SLV 4	109	-9014	-5590	4.35	133433	23.872	Si
SLD 4	-96	-6036	-79920	2.92	105699	1.323	Si
SLD 4	109	-7767	-3532	3.75	123781	35.042	Si
SLV 2	-96	-6630	-129233	3.2	112516	0.871	No, M>Mu
SLV 2	109	-10139	-7107	4.9	139715	19.659	Si
SLD 3	-96	-6036	-79920	2.92	105699	1.323	Si
SLD 3	109	-7767	-3532	3.75	123781	35.042	Si
SLV 3	-96	-5190	-125367	0	0	0	No, e>1/2
SLV 3	109	-9014	-5590	4.35	133433	23.872	Si
SLD 1	-96	-6646	-81543	3.21	112697	1.382	Si
SLD 1	109	-8243	-4188	3.98	127803	30.517	Si
SLV 7	-96	-4042	-63945	1.95	78114	1.222	Si
SLV 7	109	-5786	-778	2.79	102630	131.895	Si
SLD 2	-96	-6646	-81543	3.21	112697	1.382	Si
SLD 2	109	-8243	-4188	3.98	127803	30.517	Si
SLV 8	-96	-4042	-63945	1.95	78114	1.222	Si
SLV 8	109	-5786	-778	2.79	102630	131.895	Si
SLV 1	-96	-6630	-129233	3.2	112516	0.871	No, M>Mu
SLV 1	109	-10139	-7107	4.9	139715	19.659	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	-96	-10053	-1565	-70658		4.86	46	1.08	2242			1.43	Si
SLU 83	109	-10488	204	-2975		5.07	46	1.08	2242			11.01	Si
SLU 81	-96	-9798	-1556	-70265		4.73	46	1.08	2242			1.44	Si
SLU 81	109	-10287	193	-2626		4.97	46	1.08	2242			11.62	Si
SLU 75	-96	-9600	-1532	-69374		4.64	46	1.08	2242			1.46	Si
SLU 75	109	-10069	215	-2268		4.86	46	1.08	2242			10.45	Si
SLU 82	-96	-9734	-1597	-72192		4.7	46	1.08	2242			1.4	Si
SLU 82	109	-10326	203	-1987		4.99	46	1.08	2242			11.06	Si
SLU 77	-96	-9919	-1500	-67840		4.79	46	1.08	2242			1.5	Si
SLU 77	109	-10231	216	-3256		4.94	46	1.08	2242			10.4	Si
SLU 78	-96	-9854	-1541	-69766		4.76	46	1.08	2242			1.46	Si
SLU 78	109	-10270	225	-2617		4.96	46	1.08	2242			9.96	Si
SLU 84	-96	-9988	-1606	-72584		4.83	46	1.08	2242			1.4	Si
SLU 84	109	-10528	213	-2336		5.09	46	1.08	2242			10.51	Si
SLU 73	-96	-9299	-1546	-70000		4.49	46	1.08	2242			1.45	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	109	-9877	209	-1512		4.77	46	1.08	2242			10.72	Si
SLU 76	-96	-9553	-1554	-70392		4.61	46	1.08	2242			1.44	Si
SLU 76	109	-10078	220	-1861		4.87	46	1.08	2242			10.2	Si
SLU 80	-96	-9850	-1535	-69500		4.76	46	1.08	2242			1.46	Si
SLU 80	109	-10253	224	-2637		4.95	46	1.08	2242			10.01	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	-96	-6630	-2029	-129233		14	10.52	1.63	769			0.38	No, Vu<V
SLV 2	109	-10139	289	-7107		4.9	46	1.63	3364			11.64	Si
SLV 7	-96	-4042	-1342	-63945		4.17	21.54	1.63	1575			1.17	Si
SLV 7	109	-5786	-298	-778		2.79	46	1.39	2882			9.69	Si
SLD 2	-96	-6646	-1448	-81543		4.59	32.19	1.63	2354			1.63	Si
SLD 2	109	-8243	210	-4188		3.98	46	1.63	3364			15.99	Si
SLV 4	-96	-5190	-2042	-125367		0	0	0.83	0			0	No, Vu<V
SLV 4	109	-9014	20	-5590		4.35	46	1.63	3364			168.17	Si
SLD 4	-96	-6036	-1454	-79920		4.58	29.28	1.63	2141			1.47	Si
SLD 4	109	-7767	96	-3532		3.75	46	1.58	3278			34.09	Si
SLV 1	-96	-6630	-2029	-129233		14	10.52	1.63	769			0.38	No, Vu<V
SLV 1	109	-10139	289	-7107		4.9	46	1.63	3364			11.64	Si
SLD 3	-96	-6036	-1454	-79920		4.58	29.28	1.63	2141			1.47	Si
SLD 3	109	-7767	96	-3532		3.75	46	1.58	3278			34.09	Si
SLV 3	-96	-5190	-2042	-125367		0	0	0.83	0			0	No, Vu<V
SLV 3	109	-9014	20	-5590		4.35	46	1.63	3364			168.17	Si
SLD 1	-96	-6646	-1448	-81543		4.59	32.19	1.63	2354			1.63	Si
SLD 1	109	-8243	210	-4188		3.98	46	1.63	3364			15.99	Si
SLV 8	-96	-4042	-1342	-63945		4.17	21.54	1.63	1575			1.17	Si
SLV 8	109	-5786	-298	-778		2.79	46	1.39	2882			9.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.25	2.65	-5489	2832	96702	34.14	Si
SLV 16	14	0.25	2.65	-5489	2832	96702	34.14	Si
SLV 12	14	0.25	2.74	-5667	2832	98941	34.94	Si
SLV 11	14	0.25	2.74	-5667	2832	98941	34.94	Si
SLV 14	14	0.25	3.5	-7247	2832	116338	41.08	Si
SLV 13	14	0.25	3.5	-7247	2832	116338	41.08	Si
SLV 8	14	0.25	3.66	-7578	2832	119417	42.17	Si
SLV 7	14	0.25	3.66	-7578	2832	119417	42.17	Si
SLV 9	14	0.25	5.57	-11527	2832	141157	49.84	Si
SLV 10	14	0.25	5.57	-11527	2832	141157	49.84	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-2021	-4498	160	0.037	2.854	0.926	57.536	480.788	No
SLV 12	-2021	-4498	160	0.037	2.854	0.926	57.536	480.788	No
SLV 8	-3377	-4042	205	0.042	4.226	0.947	64.039	480.788	No
SLV 7	-3377	-4042	205	0.042	4.226	0.947	64.039	480.788	No
SLV 6	-7526	-8841	139	0.071	8.446	0.972	106.947	480.788	No
SLV 5	-7526	-8841	139	0.071	8.446	0.972	106.947	480.788	No
SLV 9	-6170	-9296	95	0.076	7.066	0.966	113.747	480.788	No
SLV 10	-6170	-9296	95	0.076	7.066	0.966	113.747	480.788	No
SLV 4	-6411	-5190	233	0.056	7.311	0.967	84.076	347.831	No
SLV 3	-6411	-5190	233	0.056	7.311	0.967	84.076	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.29	SLU 84	Si
V_SLV	1.397	SLU 84	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	34.145	SLV 15	Si
R_SLV	0.12	SLV 11	No

Maschio 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-825.3	-328.4	-746.3	-328.4	L1	L3	79	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	104	-18294	142867	5.15	266110	1.863	Si
SLU 82	144	-16712	279135	4.7	279162	1	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 81	104	-17613	139007	4.95	272566	1.961	Si
SLU 81	144	-16011	266846	4.5	282763	1.06	Si
SLU 76	104	-18180	141779	5.11	267286	1.885	Si
SLU 76	144	-16664	278752	4.69	279452	1.003	Si
SLU 83	104	-17856	141700	5.02	270410	1.908	Si
SLU 83	144	-16237	270288	4.57	281752	1.042	Si
SLU 84	104	-18537	145560	5.21	263503	1.81	Si
SLU 84	144	-16938	282577	4.76	277719	0.983	No, M>Mu
SLU 77	104	-17350	138544	4.88	274722	1.983	Si
SLU 77	144	-15785	262903	4.44	283640	1.079	Si
SLU 80	104	-17968	141899	5.05	269358	1.898	Si
SLU 80	144	-16422	274002	4.62	280815	1.025	Si
SLU 78	104	-18031	142404	5.07	268755	1.887	Si
SLU 78	144	-16486	275191	4.64	280473	1.019	Si
SLU 75	104	-17788	139711	5	271027	1.94	Si
SLU 75	144	-16260	271749	4.57	281637	1.036	Si
SLU 73	104	-17937	139086	5.05	269656	1.939	Si
SLU 73	144	-16439	275310	4.62	280727	1.02	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 4	104	-9958	-5989	2.8	303178	50.622	Si
SLV 4	144	-10353	239979	2.91	311468	1.298	Si
SLD 4	104	-10976	51166	3.09	324007	6.332	Si
SLD 4	144	-10516	203970	2.96	314823	1.543	Si
SLD 2	104	-12251	74256	3.45	347428	4.679	Si
SLD 2	144	-11304	210298	3.18	330305	1.571	Si
SLD 1	104	-12251	74256	3.45	347428	4.679	Si
SLD 1	144	-11304	210298	3.18	330305	1.571	Si
SLV 2	104	-13100	51701	3.69	361400	6.99	Si
SLV 2	144	-12305	255794	3.46	348362	1.362	Si
SLV 1	104	-13100	51701	3.69	361400	6.99	Si
SLV 1	144	-12305	255794	3.46	348362	1.362	Si
SLV 8	104	-6395	-24785	1.8	215420	8.691	Si
SLV 8	144	-7565	172159	2.13	246787	1.433	Si
SLV 3	104	-9958	-5989	2.8	303178	50.622	Si
SLV 3	144	-10353	239979	2.91	311468	1.298	Si
SLV 7	104	-6395	-24785	1.8	215420	8.691	Si
SLV 7	144	-7565	172159	2.13	246787	1.433	Si
SLD 3	104	-10976	51166	3.09	324007	6.332	Si
SLD 3	144	-10516	203970	2.96	314823	1.543	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	104	-18031	-2283	142404		5.07	79	1.08	3851			1.69	Si
SLU 78	144	-16486	-1228	275191		5.35	68.42	1.08	3336			2.72	Si
SLU 82	104	-18294	-2342	142867		5.15	79	1.08	3851			1.64	Si
SLU 82	144	-16712	-1245	279135		5.43	68.39	1.08	3334			2.68	Si
SLU 68	104	-16286	-2248	126953		4.58	79	1.08	3851			1.71	Si
SLU 68	144	-14935	-1283	250712		4.87	68.14	1.08	3322			2.59	Si
SLU 76	104	-18180	-2423	141779		5.11	79	1.08	3851			1.59	Si
SLU 76	144	-16664	-1364	278752		5.42	68.32	1.08	3330			2.44	Si
SLU 65	104	-16043	-2250	124260		4.51	79	1.08	3851			1.71	Si
SLU 65	144	-14710	-1280	247271		4.8	68.07	1.08	3318			2.59	Si
SLU 75	104	-17788	-2285	139711		5	79	1.08	3851			1.69	Si
SLU 75	144	-16260	-1225	271749		5.29	68.36	1.08	3333			2.72	Si
SLU 80	104	-17968	-2262	141899		5.05	79	1.08	3851			1.7	Si
SLU 80	144	-16422	-1216	274002		5.33	68.45	1.08	3337			2.74	Si
SLU 52	104	-16419	-2247	126725		4.62	79	1.08	3851			1.71	Si
SLU 52	144	-15033	-1290	252081		4.9	68.19	1.08	3324			2.58	Si
SLU 84	104	-18537	-2340	145560		5.21	79	1.08	3851			1.65	Si
SLU 84	144	-16938	-1248	282577		5.5	68.45	1.08	3337			2.67	Si
SLU 73	104	-17937	-2426	139086		5.05	79	1.08	3851			1.59	Si
SLU 73	144	-16439	-1361	275310		5.35	68.26	1.08	3328			2.44	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	104	-16868	-5731	167516		4.74	79	1.63	5777			1.01	Si
SLV 6	144	-14074	-2327	224876		4.43	70.56	1.63	5160			2.22	Si
SLV 3	104	-9958	-4032	-5989		2.8	79	1.39	4954			1.23	Si
SLV 3	144	-10353	-2375	239979		4.7	48.96	1.63	3580			1.51	Si
SLV 9	104	-16955	-3593	209096		4.77	79	1.63	5777			1.61	Si
SLV 9	144	-13637	-1138	182560		3.87	78.34	1.61	5665			4.98	Si
SLV 5	104	-16868	-5731	167516		4.74	79	1.63	5777			1.01	Si
SLV 5	144	-14074	-2327	224876		4.43	70.56	1.63	5160			2.22	Si
SLV 11	104	-6483	2858	16794		1.82	79	1.2	4259			1.49	Si
SLV 11	144	-7129	920	129843		2.48	63.86	1.33	3820			4.15	Si
SLV 12	104	-6483	2858	16794		1.82	79	1.2	4259			1.49	Si
SLV 12	144	-7129	920	129843		2.48	63.86	1.33	3820			4.15	Si
SLV 1	104	-13100	-5968	51701		3.69	79	1.57	5583			0.94	No, Vu<V
SLV 1	144	-12305	-2993	255794		4.87	56.14	1.63	4105			1.37	Si
SLV 2	104	-13100	-5968	51701		3.69	79	1.57	5583			0.94	No, Vu<V
SLV 2	144	-12305	-2993	255794		4.87	56.14	1.63	4105			1.37	Si
SLV 10	104	-16955	-3593	209096		4.77	79	1.63	5777			1.61	Si
SLV 10	144	-13637	-1138	182560		3.87	78.34	1.61	5665			4.98	Si
SLV 4	104	-9958	-4032	-5989		2.8	79	1.39	4954			1.23	Si
SLV 4	144	-10353	-2375	239979		4.7	48.96	1.63	3580			1.51	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.25	1.94	-6903	4864	130628	26.86	Si
SLV 12	14	0.25	1.94	-6903	4864	130628	26.86	Si
SLV 16	14	0.25	2.1	-7483	4864	139359	28.65	Si
SLV 15	14	0.25	2.1	-7483	4864	139359	28.65	Si
SLV 8	14	0.25	2.33	-8274	4864	150703	30.98	Si
SLV 7	14	0.25	2.33	-8274	4864	150703	30.98	Si
SLV 14	14	0.25	2.63	-9351	4864	165110	33.95	Si
SLV 13	14	0.25	2.63	-9351	4864	165110	33.95	Si
SLV 4	14	0.25	3.39	-12054	4864	195953	40.29	Si
SLV 3	14	0.25	3.39	-12054	4864	195953	40.29	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-3064	-4758	545	0	4.493	0.921	0	480.788	No
SLV 7	-2176	-8905	348	0	3.607	0.908	0	480.788	No
SLV 8	-2176	-8905	348	0	3.607	0.908	0	480.788	No
SLV 12	-3064	-4758	545	0	4.493	0.921	0	480.788	No
SLV 16	-7791	-3013	636	0.018	9.281	0.957	28.056	347.831	No
SLV 15	-7791	-3013	636	0.018	9.281	0.957	28.056	347.831	No
SLV 14	-10956	-5663	517	0.046	12.5	0.967	69.024	347.831	No
SLV 13	-10956	-5663	517	0.046	12.5	0.967	69.024	347.831	No
SLV 9	-13612	-13592	150	0.078	15.205	0.973	116.888	480.788	No
SLV 10	-13612	-13592	150	0.078	15.205	0.973	116.888	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.983	SLU 84	No
V_SLU	1.588	SLU 73	Si
PF_SLV	1.298	SLV 3	Si
V_SLV	0.935	SLV 1	No
PFFP_SLV	26.857	SLV 11	Si
R_SLV	0	SLV 7	No

Maschio 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-646.3	-328.4	-323.3	-328.4	L1	L3	323	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 2	104	-24114	-974175	1.66	3101278	3.183	Si
SLU 2	144	-23121	-1231967	1.59	3004813	2.439	Si
SLU 55	104	-35441	-1271728	2.44	4010407	3.154	Si
SLU 55	144	-34149	-1585905	2.35	3924395	2.475	Si
SLU 47	104	-30799	-1179343	2.12	3680134	3.12	Si
SLU 47	144	-29507	-1476363	2.03	3577762	2.423	Si
SLU 68	104	-34719	-1260034	2.39	3962918	3.145	Si
SLU 68	144	-33427	-1573354	2.3	3874363	2.462	Si
SLU 5	104	-24487	-982008	1.68	3136737	3.194	Si
SLU 5	144	-23493	-1245906	1.62	3041282	2.441	Si
SLU 52	104	-35068	-1263895	2.41	3986077	3.154	Si
SLU 52	144	-33776	-1571967	2.32	3898753	2.48	Si
SLU 73	104	-38989	-1344586	2.68	4223198	3.141	Si
SLU 73	144	-37697	-1668957	2.59	4149690	2.486	Si
SLU 76	104	-39361	-1352419	2.71	4243544	3.138	Si
SLU 76	144	-38069	-1682896	2.62	4171349	2.479	Si
SLU 65	104	-34347	-1252200	2.36	3937856	3.145	Si
SLU 65	144	-33055	-1559415	2.27	3847988	2.468	Si
SLU 44	104	-30426	-1171510	2.09	3651088	3.117	Si
SLU 44	144	-29134	-1462425	2	3547403	2.426	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 1	104	-30306	-2063561	2.09	4059202	1.967	Si
SLV 1	144	-26426	-1383920	1.82	3632773	2.625	Si
SLV 6	104	-38819	-1903755	2.67	4898943	2.573	Si
SLV 6	144	-29975	-1613153	2.06	4023925	2.494	Si
SLV 10	104	-39423	-1288710	2.71	4953550	3.844	Si
SLV 10	144	-30930	-1452708	2.13	4125214	2.84	Si
SLD 2	104	-28924	-1335444	1.99	3910511	2.928	Si
SLD 2	144	-26771	-1129124	1.84	3671841	3.252	Si
SLV 4	104	-23613	-1585492	1.62	3306504	2.085	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 4	144	-24338	-1026990	1.67	3391998	3.303	Si
SLV 5	104	-38819	-1903755	2.67	4898943	2.573	Si
SLV 5	144	-29975	-1613153	2.06	4023925	2.494	Si
SLD 1	104	-28924	-1335444	1.99	3910511	2.928	Si
SLD 1	144	-26771	-1129124	1.84	3671841	3.252	Si
SLV 2	104	-30306	-2063561	2.09	4059202	1.967	Si
SLV 2	144	-26426	-1383920	1.82	3632773	2.625	Si
SLV 9	104	-39423	-1288710	2.71	4953550	3.844	Si
SLV 9	144	-30930	-1452708	2.13	4125214	2.84	Si
SLV 3	104	-23613	-1585492	1.62	3306504	2.085	Si
SLV 3	144	-24338	-1026990	1.67	3391998	3.303	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	104	-35068	7717	-1263895	2.41	323	0.88	12751				1.65	Si
SLU 52	144	-33776	7717	-1571967	2.32	323	0.87	12579				1.63	Si
SLU 44	104	-30426	7288	-1171510	2.09	323	0.83	12132				1.66	Si
SLU 44	144	-29134	7288	-1462425	2	323	0.82	11960				1.64	Si
SLU 47	104	-30799	7441	-1179343	2.12	323	0.84	12181				1.64	Si
SLU 47	144	-29507	7441	-1476363	2.03	323	0.83	12009				1.61	Si
SLU 73	104	-38989	8125	-1344586	2.68	323	0.91	13273				1.63	Si
SLU 73	144	-37697	8125	-1668957	2.59	323	0.9	13101				1.61	Si
SLU 26	104	-28407	7017	-1062699	1.95	323	0.82	11863				1.69	Si
SLU 26	144	-27413	7017	-1342896	1.89	323	0.81	11730				1.67	Si
SLU 68	104	-34719	7848	-1260034	2.39	323	0.87	12704				1.62	Si
SLU 68	144	-33427	7848	-1573354	2.3	323	0.86	12532				1.6	Si
SLU 55	104	-35441	7870	-1271728	2.44	323	0.88	12800				1.63	Si
SLU 55	144	-34149	7870	-1585905	2.35	323	0.87	12628				1.6	Si
SLU 34	104	-33049	7446	-1155084	2.27	323	0.86	12482				1.68	Si
SLU 34	144	-32055	7446	-1452438	2.21	323	0.85	12349				1.66	Si
SLU 76	104	-39361	8277	-1352419	2.71	323	0.92	13323				1.61	Si
SLU 76	144	-38069	8277	-1682896	2.62	323	0.9	13151				1.59	Si
SLU 65	104	-34347	7696	-1252200	2.36	323	0.87	12655				1.64	Si
SLU 65	144	-33055	7696	-1559415	2.27	323	0.86	12482				1.62	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	104	-25628	18530	464658	1.76	323	1.19	17238				0.93	No, Vu<V
SLV 16	144	-27520	16879	-492175	1.89	323	1.21	17617				1.04	Si
SLV 10	104	-39423	21822	-1288710	2.71	323	1.38	19997				0.92	No, Vu<V
SLV 10	144	-30930	29068	-1452708	2.13	323	1.26	18298				0.63	No, Vu<V
SLV 15	104	-25628	18530	464658	1.76	323	1.19	17238				0.93	No, Vu<V
SLV 15	144	-27520	16879	-492175	1.89	323	1.21	17617				1.04	Si
SLV 8	104	-16510	-14869	-310193	1.14	323	1.06	15415				1.04	Si
SLV 8	144	-23017	-22114	-423387	1.58	323	1.15	16716				0.76	No, Vu<V
SLV 14	104	-32320	26142	-13411	2.22	323	1.28	18577				0.71	No, Vu<V
SLV 14	144	-29608	28752	-849105	2.04	323	1.24	18034				0.63	No, Vu<V
SLV 13	104	-32320	26142	-13411	2.22	323	1.28	18577				0.71	No, Vu<V
SLV 13	144	-29608	28752	-849105	2.04	323	1.24	18034				0.63	No, Vu<V
SLV 9	104	-39423	21822	-1288710	2.71	323	1.38	19997				0.92	No, Vu<V
SLV 9	144	-30930	29068	-1452708	2.13	323	1.26	18298				0.63	No, Vu<V
SLV 4	104	-23613	-19189	-1585492	1.85	283.07	1.2	15338				0.8	No, Vu<V
SLV 4	144	-24338	-21799	-1026990	1.67	323	1.17	16980				0.78	No, Vu<V
SLV 7	104	-16510	-14869	-310193	1.14	323	1.06	15415				1.04	Si
SLV 7	144	-23017	-22114	-423387	1.58	323	1.15	16716				0.76	No, Vu<V
SLV 3	104	-23613	-19189	-1585492	1.85	283.07	1.2	15338				0.8	No, Vu<V
SLV 3	144	-24338	-21799	-1026990	1.67	323	1.17	16980				0.78	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.25	0.84	-12229	19886	256204	12.88	Si
SLV 8	14	0.25	0.84	-12229	19886	256204	12.88	Si
SLV 11	14	0.25	0.88	-12849	19886	268186	13.49	Si
SLV 12	14	0.25	0.88	-12849	19886	268186	13.49	Si
SLV 4	14	0.25	1.39	-20216	19886	403075	20.27	Si
SLV 3	14	0.25	1.39	-20216	19886	403075	20.27	Si
SLV 15	14	0.25	1.53	-22282	19886	438452	22.05	Si
SLV 16	14	0.25	1.53	-22282	19886	438452	22.05	Si
SLV 2	14	0.25	1.9	-27681	19886	525752	26.44	Si
SLV 1	14	0.25	1.9	-27681	19886	525752	26.44	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-19938	-14149	1401	0.036	25.85	0.94	56.36	480.788	No
SLV 8	-19938	-14149	1401	0.036	25.85	0.94	56.36	480.788	No
SLV 12	-20632	-14883	1357	0.04	26.553	0.941	61.199	480.788	No
SLV 11	-20632	-14883	1357	0.04	26.553	0.941	61.199	480.788	No
SLV 3	-20644	-21680	1244	0.044	26.565	0.941	68.433	347.831	No
SLV 4	-20644	-21680	1244	0.044	26.565	0.941	68.433	347.831	No
SLV 6	-24269	-38113	805	0.065	30.241	0.948	100.071	480.788	No
SLV 5	-24269	-38113	805	0.065	30.241	0.948	100.071	480.788	No
SLV 9	-24963	-38847	761	0.067	30.945	0.949	103.025	480.788	No
SLV 10	-24963	-38847	761	0.067	30.945	0.949	103.025	480.788	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.423	SLU 47	Si
V_SLU	1.589	SLU 76	Si
PF_SLV	1.967	SLV 1	Si
V_SLV	0.627	SLV 13	No
PFFP_SLV	12.883	SLV 7	Si
R_SLV	0.117	SLV 7	No

Maschio 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-223.3	-328.4	-12.3	-328.4	L1	L3	211	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 44	104	-18871	359879	1.99	1505158	4.182	Si
SLU 44	144	-16643	346176	1.75	1378016	3.981	Si
SLU 23	104	-17504	323623	1.84	1428761	4.415	Si
SLU 23	144	-15588	313865	1.64	1313113	4.184	Si
SLU 55	104	-21912	379624	2.31	1656804	4.364	Si
SLU 55	144	-19601	356201	2.06	1543863	4.334	Si
SLU 65	104	-21334	380589	2.25	1629923	4.283	Si
SLU 65	144	-19029	359184	2	1513637	4.214	Si
SLU 68	104	-21712	391490	2.29	1647616	4.209	Si
SLU 68	144	-19377	367749	2.04	1532108	4.166	Si
SLU 26	104	-17882	334525	1.88	1450406	4.336	Si
SLU 26	144	-15936	322430	1.68	1334848	4.14	Si
SLU 5	104	-15420	313815	1.62	1302451	4.15	Si
SLU 5	144	-13550	309422	1.43	1179095	3.811	Si
SLU 13	104	-18082	322658	1.9	1461681	4.53	Si
SLU 13	144	-16161	310882	1.7	1348712	4.338	Si
SLU 2	104	-15041	302914	1.58	1278264	4.22	Si
SLU 2	144	-13202	300857	1.39	1155098	3.839	Si
SLU 47	104	-19250	370781	2.03	1525393	4.114	Si
SLU 47	144	-16991	354741	1.79	1398750	3.943	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 14	104	-27850	838709	2.93	2232871	2.662	Si
SLV 14	144	-24504	507690	2.58	2039163	4.017	Si
SLV 4	104	-6241	-394717	0.66	622999	1.578	Si
SLV 4	144	-6742	-167565	0.71	669946	3.998	Si
SLV 7	104	-1529	-49550	0.16	159201	3.213	Si
SLV 7	144	-7373	-185755	0.78	728388	3.921	Si
SLV 3	104	-6241	-394717	0.66	622999	1.578	Si
SLV 3	144	-6742	-167565	0.71	669946	3.998	Si
SLV 15	104	-19757	781655	2.08	1729391	2.212	Si
SLV 15	144	-20821	339869	2.19	1802399	5.303	Si
SLV 11	104	-5584	303362	0.59	560750	1.848	Si
SLV 11	144	-11596	-33524	1.22	1101131	32.846	Si
SLV 13	104	-27850	838709	2.93	2232871	2.662	Si
SLV 13	144	-24504	507690	2.58	2039163	4.017	Si
SLV 16	104	-19757	781655	2.08	1729391	2.212	Si
SLV 16	144	-20821	339869	2.19	1802399	5.303	Si
SLV 8	104	-1529	-49550	0.16	159201	3.213	Si
SLV 8	144	-7373	-185755	0.78	728388	3.921	Si
SLV 12	104	-5584	303362	0.59	560750	1.848	Si
SLV 12	144	-11596	-33524	1.22	1101131	32.846	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 2	104	-15041	-3070	302914		1.58	211	0.77	7281			2.37	Si
SLU 2	144	-13202	-3104	300857		1.39	211	0.74	7035			2.27	Si
SLU 55	104	-21912	-3264	379624		2.31	211	0.86	8197			2.51	Si
SLU 55	144	-19601	-3300	356201		2.06	211	0.83	7889			2.39	Si
SLU 26	104	-17882	-3101	334525		1.88	211	0.81	7659			2.47	Si
SLU 26	144	-15936	-3135	322430		1.68	211	0.78	7400			2.36	Si
SLU 65	104	-21334	-3299	380589		2.25	211	0.86	8120			2.46	Si
SLU 65	144	-19029	-3335	359184		2	211	0.82	7812			2.34	Si
SLU 47	104	-19250	-3312	370781		2.03	211	0.83	7842			2.37	Si
SLU 47	144	-16991	-3347	354741		1.79	211	0.79	7540			2.25	Si
SLU 52	104	-21534	-3242	368722		2.27	211	0.86	8146			2.51	Si
SLU 52	144	-19254	-3278	347636		2.03	211	0.83	7842			2.39	Si
SLU 68	104	-21712	-3321	391490		2.29	211	0.86	8170			2.46	Si
SLU 68	144	-19377	-3357	367749		2.04	211	0.83	7859			2.34	Si
SLU 44	104	-18871	-3290	359879		1.99	211	0.82	7791			2.37	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 44	144	-16643	-3326	346176		1.75	211	0.79	7494			2.25	Si
SLU 23	104	-17504	-3079	323623		1.84	211	0.8	7609			2.47	Si
SLU 23	144	-15588	-3114	313865		1.64	211	0.77	7353			2.36	Si
SLU 5	104	-15420	-3092	313815		1.62	211	0.77	7331			2.37	Si
SLU 5	144	-13550	-3126	309422		1.43	211	0.75	7082			2.27	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	104	-5584	15301	303362		0.81	153.52	0.99	6874			0.45	No, Vu<V
SLV 12	144	-11596	16726	-33524		1.22	211	1.08	10232			0.61	No, Vu<V
SLV 1	104	-14334	-14199	-337663		1.51	211	1.14	10779			0.76	No, Vu<V
SLV 1	144	-10425	-16637	256		1.1	211	1.05	9998			0.6	No, Vu<V
SLV 11	104	-5584	15301	303362		0.81	153.52	0.99	6874			0.45	No, Vu<V
SLV 11	144	-11596	16726	-33524		1.22	211	1.08	10232			0.61	No, Vu<V
SLV 8	104	-1529	9595	-49550		0.16	211	0.87	8218			0.86	No, Vu<V
SLV 8	144	-7373	9699	-185755		0.78	211	0.99	9387			0.97	No, Vu<V
SLV 15	104	-19757	12732	781655		2.22	197.81	1.28	11369			0.89	No, Vu<V
SLV 15	144	-20821	15158	339869		2.19	211	1.27	12077			0.8	No, Vu<V
SLV 6	104	-28507	-16768	140631		3	211	1.43	13614			0.81	No, Vu<V
SLV 6	144	-19650	-18205	373650		2.07	211	1.25	11842			0.65	No, Vu<V
SLV 5	104	-28507	-16768	140631		3	211	1.43	13614			0.81	No, Vu<V
SLV 5	144	-19650	-18205	373650		2.07	211	1.25	11842			0.65	No, Vu<V
SLV 2	104	-14334	-14199	-337663		1.51	211	1.14	10779			0.76	No, Vu<V
SLV 2	144	-10425	-16637	256		1.1	211	1.05	9998			0.6	No, Vu<V
SLV 16	104	-19757	12732	781655		2.22	197.81	1.28	11369			0.89	No, Vu<V
SLV 16	144	-20821	15158	339869		2.19	211	1.27	12077			0.8	No, Vu<V
SLV 7	104	-1529	9595	-49550		0.16	211	0.87	8218			0.86	No, Vu<V
SLV 7	144	-7373	9699	-185755		0.78	211	0.99	9387			0.97	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.25	0.47	-4494	12991	97192	7.48	Si
SLV 7	14	0.25	0.47	-4494	12991	97192	7.48	Si
SLV 4	14	0.25	0.63	-5991	12991	127841	9.84	Si
SLV 3	14	0.25	0.63	-5991	12991	127841	9.84	Si
SLV 11	14	0.25	1.06	-10056	12991	206648	15.91	Si
SLV 12	14	0.25	1.06	-10056	12991	206648	15.91	Si
SLV 2	14	0.25	1.35	-12837	12991	256874	19.77	Si
SLV 1	14	0.25	1.35	-12837	12991	256874	19.77	Si
SLV 15	14	0.25	2.58	-24532	12991	435255	33.5	Si
SLV 16	14	0.25	2.58	-24532	12991	435255	33.5	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-14709	-13848	717	0.053	18.593	0.945	81.235	480.788	No
SLV 11	-14709	-13848	717	0.053	18.593	0.945	81.235	480.788	No
SLV 8	-11377	-5752	619	0.052	15.22	0.935	81.543	480.788	No
SLV 7	-11377	-5752	619	0.052	15.22	0.935	81.543	480.788	No
SLV 9	-15396	-38628	314	0.077	19.291	0.947	117.845	480.788	No
SLV 10	-15396	-38628	314	0.077	19.291	0.947	117.845	480.788	No
SLV 16	-18837	-31966	690	0.06	22.784	0.954	91.582	347.831	No
SLV 15	-18837	-31966	690	0.06	22.784	0.954	91.582	347.831	No
SLV 5	-12064	-30533	217	0.082	15.915	0.937	127.108	480.788	No
SLV 6	-12064	-30533	217	0.082	15.915	0.937	127.108	480.788	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.811	SLU 5	Si
V_SLV	2.253	SLU 47	Si
PF_SLV	1.578	SLV 3	Si
V_SLV	0.449	SLV 11	No
PFFP_SLV	7.482	SLV 7	Si
R_SLV	0.169	SLV 11	No

Maschio 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s, sx	a.s, dx
-515.8	207.1	-515.8	680.1	L1	L3	473	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 77	-96	-108319	2912241	7.63	1611252	0.553	No, M>Mu
SLU 77	114	-101514	2838656	7.15	2923532	1.03	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 79	-96	-107820	2900597	7.6	1713870	0.591	No, M>Mu
SLU 79	114	-101015	2830144	7.12	3012259	1.064	Si
SLU 74	-96	-105445	2771421	7.43	2188618	0.79	No, M>Mu
SLU 74	114	-98639	2712449	6.95	3420852	1.261	Si
SLU 80	-96	-107435	2897226	7.57	1792489	0.619	No, M>Mu
SLU 80	114	-100629	2840715	7.09	3080142	1.084	Si
SLU 75	-96	-105059	2768050	7.4	2263489	0.818	No, M>Mu
SLU 75	114	-98254	2723019	6.92	3484986	1.28	Si
SLU 81	-96	-106632	2713598	7.51	1954226	0.72	No, M>Mu
SLU 81	114	-99827	2658291	7.03	3219524	1.211	Si
SLU 82	-96	-106247	2710227	7.49	2030971	0.749	No, M>Mu
SLU 82	114	-99441	2668862	7.01	3285532	1.231	Si
SLU 84	-96	-109121	2851046	7.69	1444174	0.507	No, M>Mu
SLU 84	114	-102315	2795069	7.21	2778782	0.994	No, M>Mu
SLU 78	-96	-107934	2908870	7.61	1690658	0.581	No, M>Mu
SLU 78	114	-101128	2849226	7.13	2992201	1.05	Si
SLU 83	-96	-109506	2854417	7.72	1362895	0.477	No, M>Mu
SLU 83	114	-102701	2784499	7.24	2708240	0.973	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 8	-96	-78437	3591853	5.53	10158377	2.828	Si
SLD 8	114	-73446	2346248	5.18	10011999	4.267	Si
SLD 12	-96	-75984	3484844	5.35	10094927	2.897	Si
SLD 12	114	-72433	2249707	5.1	9973993	4.433	Si
SLV 12	-96	-82885	5725360	5.84	10231562	1.787	Si
SLV 12	114	-81580	2815527	5.75	10215685	3.628	Si
SLV 3	-96	-85123	3459694	6	10247974	2.962	Si
SLV 3	114	-74897	2544082	5.28	10061575	3.955	Si
SLV 8	-96	-88695	5972048	6.25	10245860	1.716	Si
SLV 8	114	-83994	3041799	5.92	10241402	3.367	Si
SLV 11	-96	-82885	5725360	5.84	10231562	1.787	Si
SLV 11	114	-81580	2815527	5.75	10215685	3.628	Si
SLV 4	-96	-85123	3459694	6	10247974	2.962	Si
SLV 4	114	-74897	2544082	5.28	10061575	3.955	Si
SLV 7	-96	-88695	5972048	6.25	10245860	1.716	Si
SLV 7	114	-83994	3041799	5.92	10241402	3.367	Si
SLD 7	-96	-78437	3591853	5.53	10158377	2.828	Si
SLD 7	114	-73446	2346248	5.18	10011999	4.267	Si
SLD 11	-96	-75984	3484844	5.35	10094927	2.897	Si
SLD 11	114	-72433	2249707	5.1	9973993	4.433	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 35	-96	-92548	509	2492318		6.52	473	1.08	15373			30.22	Si
SLU 35	114	-87313	509	2402960		6.15	473	1.08	15373			30.22	Si
SLU 37	-96	-92049	494	2480675		6.49	473	1.08	15373			31.13	Si
SLU 37	114	-86814	494	2394448		6.12	473	1.08	15373			31.13	Si
SLU 77	-96	-108319	459	2912241		7.63	473	1.08	15373			33.52	Si
SLU 77	114	-101514	459	2838656		7.15	473	1.08	15373			33.52	Si
SLU 42	-96	-93350	425	2431124		6.58	473	1.08	15373			36.18	Si
SLU 42	114	-88115	425	2359373		6.21	473	1.08	15373			36.18	Si
SLU 38	-96	-91664	427	2477304		6.46	473	1.08	15373			35.96	Si
SLU 38	114	-86429	427	2405019		6.09	473	1.08	15373			35.96	Si
SLU 36	-96	-92163	442	2488947		6.49	473	1.08	15373			34.75	Si
SLU 36	114	-86927	442	2413530		6.13	473	1.08	15373			34.75	Si
SLU 32	-96	-89674	439	2351499		6.32	473	1.08	15373			35	Si
SLU 32	114	-84439	439	2276753		5.95	473	1.08	15373			35	Si
SLU 41	-96	-93735	491	2434495		6.61	473	1.08	15373			31.29	Si
SLU 41	114	-88500	491	2348803		6.24	473	1.08	15373			31.29	Si
SLU 79	-96	-107820	444	2900597		7.6	473	1.08	15373			34.65	Si
SLU 79	114	-101015	444	2830144		7.12	473	1.08	15373			34.65	Si
SLU 83	-96	-109506	441	2854417		7.72	473	1.08	15373			34.85	Si
SLU 83	114	-102701	441	2784499		7.24	473	1.08	15373			34.85	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	-96	-65756	7531	2637401		4.63	473	1.63	23059			3.06	Si
SLV 16	114	-66851	5971	1789842		4.71	473	1.63	23059			3.86	Si
SLV 11	-96	-82885	17373	5725360		5.84	473	1.63	23059			1.33	Si
SLV 11	114	-81580	15817	2815527		5.75	473	1.63	23059			1.46	Si
SLV 9	-96	-53312	-15658	-2275087		3.76	473	1.58	22487			1.44	Si
SLV 9	114	-47543	-14823	639240		3.35	473	1.5	21334			1.44	Si
SLV 6	-96	-59122	-17131	-2028399		4.17	473	1.63	23059			1.35	Si
SLV 6	114	-49957	-15575	865512		3.52	473	1.54	21816			1.4	Si
SLV 10	-96	-53312	-15658	-2275087		3.76	473	1.58	22487			1.44	Si
SLV 10	114	-47543	-14823	639240		3.35	473	1.5	21334			1.44	Si
SLV 7	-96	-88695	15900	5972048		6.25	473	1.63	23059			1.45	Si
SLV 7	114	-83994	15065	3041799		5.92	473	1.63	23059			1.53	Si
SLV 8	-96	-88695	15900	5972048		6.25	473	1.63	23059			1.45	Si
SLV 8	114	-83994	15065	3041799		5.92	473	1.63	23059			1.53	Si
SLV 5	-96	-59122	-17131	-2028399		4.17	473	1.63	23059			1.35	Si
SLV 5	114	-49957	-15575	865512		3.52	473	1.54	21816			1.4	Si
SLV 15	-96	-65756	7531	2637401		4.63	473	1.63	23059			3.06	Si
SLV 15	114	-66851	5971	1789842		4.71	473	1.63	23059			3.86	Si
SLV 12	-96	-82885	17373	5725360		5.84	473	1.63	23059			1.33	Si
SLV 12	114	-81580	15817	2815527		5.75	473	1.63	23059			1.46	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.25	3.47	-49291	19414	529171	27.26	Si
SLV 10	14	0.25	3.47	-49291	19414	529171	27.26	Si
SLV 5	14	0.25	3.83	-54336	19414	559618	28.82	Si
SLV 6	14	0.25	3.83	-54336	19414	559618	28.82	Si
SLV 14	14	0.25	3.84	-54523	19414	560662	28.88	Si
SLV 13	14	0.25	3.84	-54523	19414	560662	28.88	Si
SLV 16	14	0.25	4.51	-64053	19414	605849	31.21	Si
SLV 15	14	0.25	4.51	-64053	19414	605849	31.21	Si
SLV 1	14	0.25	5.03	-71340	19414	629801	32.44	Si
SLV 2	14	0.25	5.03	-71340	19414	629801	32.44	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-77765	-88695	-189	0.056	84.562	0.98	82.721	700.213	No
SLV 8	-77765	-88695	-189	0.056	84.562	0.98	82.721	700.213	No
SLV 12	-77454	-82885	-190	0.056	84.245	0.98	82.722	700.213	No
SLV 11	-77454	-82885	-190	0.056	84.245	0.98	82.722	700.213	No
SLV 6	-46070	-59122	197	0.056	52.278	0.969	83.49	700.213	No
SLV 5	-46070	-59122	197	0.056	52.278	0.969	83.49	700.213	No
SLV 9	-45759	-53312	197	0.056	51.962	0.969	83.514	700.213	No
SLV 10	-45759	-53312	197	0.056	51.962	0.969	83.514	700.213	No
SLV 3	-67035	-85123	-54	0.058	73.63	0.977	85.827	421.191	No
SLV 4	-67035	-85123	-54	0.058	73.63	0.977	85.827	421.191	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.477	SLU 83	No
V_SLU	30.217	SLU 35	Si
PF_SLV	1.716	SLV 7	Si
V_SLV	1.327	SLV 11	Si
PFFP_SLV	27.257	SLV 9	Si
R_SLV	0.118	SLV 7	No

Maschio 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-500.8	587.6	-301.3	587.6	L1	L3	199.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	104	-21569	322555	2.4	1516916	4.703	Si
SLU 82	144	-20766	239902	2.31	1483194	6.183	Si
SLU 74	104	-21058	308107	2.35	1495662	4.854	Si
SLU 74	144	-20255	225822	2.26	1460821	6.469	Si
SLU 81	104	-21653	327008	2.41	1520371	4.649	Si
SLU 81	144	-20850	242647	2.32	1486834	6.128	Si
SLU 61	104	-19239	287542	2.14	1414221	4.918	Si
SLU 61	144	-18436	211029	2.05	1375397	6.518	Si
SLU 75	104	-20973	303654	2.34	1492069	4.914	Si
SLU 75	144	-20170	223076	2.25	1457043	6.532	Si
SLU 83	104	-22078	324826	2.46	1537384	4.733	Si
SLU 83	144	-21275	241362	2.37	1504776	6.235	Si
SLU 60	104	-19324	291995	2.15	1418215	4.857	Si
SLU 60	144	-18521	213775	2.06	1379576	6.453	Si
SLU 73	104	-20411	300435	2.27	1467737	4.885	Si
SLU 73	144	-19608	221630	2.18	1431480	6.459	Si
SLU 39	104	-18655	283591	2.08	1386151	4.888	Si
SLU 39	144	-18038	213577	2.01	1355458	6.346	Si
SLU 84	104	-21993	320373	2.45	1534027	4.788	Si
SLU 84	144	-21190	238617	2.36	1501233	6.291	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 15	104	-15001	757962	1.67	1291691	1.704	Si
SLV 15	144	-14623	157958	1.63	1264176	8.003	Si
SLV 12	104	-15692	811122	1.75	1341374	1.654	Si
SLV 12	144	-17666	138741	1.97	1478380	10.656	Si
SLV 16	104	-15001	757962	1.67	1291691	1.704	Si
SLV 16	144	-14623	157958	1.63	1264176	8.003	Si
SLV 13	104	-14108	468858	1.57	1226305	2.616	Si
SLV 13	144	-12069	166545	1.34	1071452	6.433	Si
SLV 6	104	-12418	-396098	1.38	1098503	2.773	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 6	144	-9210	159477	1.03	841535	5.277	Si
SLV 7	104	-15393	567583	1.71	1319966	2.326	Si
SLV 7	144	-17721	130855	1.97	1482100	11.326	Si
SLV 14	104	-14108	468858	1.57	1226305	2.616	Si
SLV 14	144	-12069	166545	1.34	1071452	6.433	Si
SLV 8	104	-15393	567583	1.71	1319966	2.326	Si
SLV 8	144	-17721	130855	1.97	1482100	11.326	Si
SLV 5	104	-12418	-396098	1.38	1098503	2.773	Si
SLV 5	144	-9210	159477	1.03	841535	5.277	Si
SLV 11	104	-15692	811122	1.75	1341374	1.654	Si
SLV 11	144	-17666	138741	1.97	1478380	10.656	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	104	-21482	2030	305925		2.39	199.5	0.87	7852			3.87	Si
SLU 77	144	-20679	2030	224536		2.3	199.5	0.86	7745			3.81	Si
SLU 73	104	-20411	1966	300435		2.27	199.5	0.86	7709			3.92	Si
SLU 73	144	-19608	1966	221630		2.18	199.5	0.85	7602			3.87	Si
SLU 64	104	-17983	1879	263172		2	199.5	0.82	7385			3.93	Si
SLU 64	144	-17180	1879	187842		1.91	199.5	0.81	7278			3.87	Si
SLU 60	104	-19324	1951	291995		2.15	199.5	0.84	7564			3.88	Si
SLU 60	144	-18521	1951	213775		2.06	199.5	0.83	7457			3.82	Si
SLU 81	104	-21653	2105	327008		2.41	199.5	0.88	7875			3.74	Si
SLU 81	144	-20850	2105	242647		2.32	199.5	0.87	7768			3.69	Si
SLU 82	104	-21569	2062	322555		2.4	199.5	0.88	7863			3.81	Si
SLU 82	144	-20766	2062	239902		2.31	199.5	0.86	7756			3.76	Si
SLU 84	104	-21993	2040	320373		2.45	199.5	0.88	7920			3.88	Si
SLU 84	144	-21190	2040	238617		2.36	199.5	0.87	7813			3.83	Si
SLU 75	104	-20973	2010	303654		2.34	199.5	0.87	7784			3.87	Si
SLU 75	144	-20170	2010	223076		2.25	199.5	0.86	7677			3.82	Si
SLU 74	104	-21058	2053	308107		2.35	199.5	0.87	7795			3.8	Si
SLU 74	144	-20255	2053	225822		2.26	199.5	0.86	7688			3.75	Si
SLU 83	104	-22078	2082	324826		2.46	199.5	0.88	7931			3.81	Si
SLU 83	144	-21275	2082	241362		2.37	199.5	0.87	7824			3.76	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	104	-15692	17288	811122		2.42	144.18	1.32	8545			0.49	No, Vu<V
SLV 12	144	-17666	23952	138741		1.97	199.5	1.23	11014			0.46	No, Vu<V
SLV 8	104	-15393	12370	567583		1.81	188.63	1.2	10152			0.82	No, Vu<V
SLV 8	144	-17721	18763	130855		1.97	199.5	1.23	11025			0.59	No, Vu<V
SLV 10	104	-12718	-9456	-152559		1.42	199.5	1.12	10025			1.06	Si
SLV 10	144	-9155	-15850	167363		1.02	199.5	1.04	9312			0.59	No, Vu<V
SLV 6	104	-12418	-14375	-396098		1.38	199.5	1.11	9965			0.69	No, Vu<V
SLV 6	144	-9210	-21038	159477		1.03	199.5	1.04	9323			0.44	No, Vu<V
SLV 15	104	-15001	13666	757962		2.26	147.66	1.28	8538			0.62	No, Vu<V
SLV 15	144	-14623	16075	157958		1.63	199.5	1.16	10406			0.65	No, Vu<V
SLV 7	104	-15393	12370	567583		1.81	188.63	1.2	10152			0.82	No, Vu<V
SLV 7	144	-17721	18763	130855		1.97	199.5	1.23	11025			0.59	No, Vu<V
SLV 16	104	-15001	13666	757962		2.26	147.66	1.28	8538			0.62	No, Vu<V
SLV 16	144	-14623	16075	157958		1.63	199.5	1.16	10406			0.65	No, Vu<V
SLV 9	104	-12718	-9456	-152559		1.42	199.5	1.12	10025			1.06	Si
SLV 9	144	-9155	-15850	167363		1.02	199.5	1.04	9312			0.59	No, Vu<V
SLV 11	104	-15692	17288	811122		2.42	144.18	1.32	8545			0.49	No, Vu<V
SLV 11	144	-17666	23952	138741		1.97	199.5	1.23	11014			0.46	No, Vu<V
SLV 5	104	-12418	-14375	-396098		1.38	199.5	1.11	9965			0.69	No, Vu<V
SLV 5	144	-9210	-21038	159477		1.03	199.5	1.04	9323			0.44	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.25	1	-8997	12283	185835	15.13	Si
SLV 16	14	0.25	1	-8997	12283	185835	15.13	Si
SLV 14	14	0.25	1.11	-9939	12283	203372	16.56	Si
SLV 13	14	0.25	1.11	-9939	12283	203372	16.56	Si
SLV 11	14	0.25	1.15	-10310	12283	210171	17.11	Si
SLV 12	14	0.25	1.15	-10310	12283	210171	17.11	Si
SLV 7	14	0.25	1.38	-12377	12283	247062	20.11	Si
SLV 8	14	0.25	1.38	-12377	12283	247062	20.11	Si
SLV 9	14	0.25	1.5	-13450	12283	265519	21.62	Si
SLV 10	14	0.25	1.5	-13450	12283	265519	21.62	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-9986	-11974	-242	0.079	13.611	0.932	122.764	480.788	No
SLV 8	-9986	-11974	-242	0.079	13.611	0.932	122.764	480.788	No
SLV 6	-12784	-20462	-238	0.08	16.441	0.942	123.293	480.788	No
SLV 5	-12784	-20462	-238	0.08	16.441	0.942	123.293	480.788	No
SLV 9	-13489	-15165	-196	0.083	17.156	0.944	127.435	480.788	No
SLV 10	-13489	-15165	-196	0.083	17.156	0.944	127.435	480.788	No
SLV 11	-10691	-6678	-200	0.082	14.323	0.934	127.926	480.788	No
SLV 12	-10691	-6678	-200	0.082	14.323	0.934	127.926	480.788	No
SLV 4	-10143	-21125	-290	0.075	13.77	0.932	116.711	347.831	No
SLV 3	-10143	-21125	-290	0.075	13.77	0.932	116.711	347.831	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.649	SLU 81	Si
V_SLU	3.691	SLU 81	Si
PF_SLV	1.654	SLV 11	Si
V_SLV	0.443	SLV 5	No
PFFP_SLV	15.13	SLV 15	Si
R_SLV	0.255	SLV 7	No

Maschio 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-201.3	587.6	-12.3	587.6	L1	L3	189	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 3	104	-13858	78276	1.63	1047646	13.384	Si
SLU 3	144	-13079	83177	1.54	1002624	12.054	Si
SLU 44	104	-16240	88754	1.91	1174930	13.238	Si
SLU 44	144	-15297	92651	1.8	1126391	12.157	Si
SLU 48	104	-17306	97732	2.03	1226886	12.554	Si
SLU 48	144	-16289	105437	1.92	1177377	11.167	Si
SLU 45	104	-17237	105070	2.03	1223635	11.646	Si
SLU 45	144	-16227	111326	1.91	1174260	10.548	Si
SLU 46	104	-16768	93224	1.97	1201072	12.884	Si
SLU 46	144	-15793	98647	1.86	1152215	11.68	Si
SLU 66	104	-19319	98412	2.27	1316573	13.378	Si
SLU 66	144	-18309	104152	2.15	1272947	12.222	Si
SLU 1	104	-13643	81704	1.6	1035351	12.672	Si
SLU 1	144	-12872	85633	1.51	990415	11.566	Si
SLU 43	104	-17021	108498	2	1213329	11.183	Si
SLU 43	144	-16020	113782	1.88	1163825	10.229	Si
SLU 50	104	-17159	93821	2.02	1219898	13.002	Si
SLU 50	144	-16144	102004	1.9	1170120	11.471	Si
SLU 64	104	-19104	101840	2.25	1307493	12.839	Si
SLU 64	144	-18102	106609	2.13	1263686	11.853	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 6	104	-1650	-158422	0	0	0	No, e>/2
SLV 6	144	2823	-177531	0	0	0	No, Trazione
SLV 10	104	-4575	118157	0.54	413271	3.498	Si
SLV 10	144	-517	-52880	0	0	0	No, e>/2
SLV 2	104	-6511	-413198	0.77	576768	1.396	Si
SLV 2	144	-4002	-186137	0.47	363620	1.954	Si
SLV 15	104	-23352	566932	2.75	1710876	3.018	Si
SLV 15	144	-24328	346640	2.86	1760818	5.08	Si
SLV 9	104	-4575	118157	0.54	413271	3.498	Si
SLV 9	144	-517	-52880	0	0	0	No, e>/2
SLV 14	104	-16260	508732	1.91	1296168	2.548	Si
SLV 14	144	-15138	229366	1.78	1222129	5.328	Si
SLV 16	104	-23352	566932	2.75	1710876	3.018	Si
SLV 16	144	-24328	346640	2.86	1760818	5.08	Si
SLV 5	104	-1650	-158422	0	0	0	No, e>/2
SLV 5	144	2823	-177531	0	0	0	No, Trazione
SLV 13	104	-16260	508732	1.91	1296168	2.548	Si
SLV 13	144	-15138	229366	1.78	1222129	5.328	Si
SLV 1	104	-6511	-413198	0.77	576768	1.396	Si
SLV 1	144	-4002	-186137	0.47	363620	1.954	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 66	104	-19319	-827	98412		2.27	189	0.86	7301			8.83	Si
SLU 66	144	-18309	-931	104152		2.15	189	0.84	7166			7.69	Si
SLU 45	104	-17237	-831	105070		2.03	189	0.83	7023			8.45	Si
SLU 45	144	-16227	-925	111326		1.91	189	0.81	6889			7.44	Si
SLU 50	104	-17159	-888	93821		2.02	189	0.82	7013			7.9	Si
SLU 50	144	-16144	-982	102004		1.9	189	0.81	6878			7	Si
SLU 69	104	-19388	-880	91074		2.28	189	0.86	7310			8.31	Si
SLU 69	144	-18371	-984	98263		2.16	189	0.84	7174			7.29	Si
SLU 58	104	-19588	-831	83548		2.3	189	0.86	7337			8.83	Si
SLU 58	144	-18587	-935	90342		2.19	189	0.85	7203			7.7	Si
SLU 71	104	-19241	-884	87163		2.26	189	0.86	7290			8.25	Si
SLU 71	144	-18227	-988	94830		2.14	189	0.84	7155			7.24	Si
SLU 56	104	-19735	-827	87459		2.32	189	0.86	7356			8.9	Si
SLU 56	144	-18732	-932	93775		2.2	189	0.85	7223			7.75	Si
SLU 43	104	-17021	-783	108498		2	189	0.82	6995			8.94	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 43	144	-16020	-876	113782		1.88	189	0.81	6861			7.83	Si
SLU 51	104	-16690	-782	81975		1.96	189	0.82	6950			8.89	Si
SLU 51	144	-15711	-876	89325		1.85	189	0.8	6820			7.79	Si
SLU 48	104	-17306	-883	97732		2.03	189	0.83	7032			7.96	Si
SLU 48	144	-16289	-978	105437		1.92	189	0.81	6897			7.05	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	104	-6511	-9046	-413198		1.55	93.13	1.14	4794			0.53	No, Vu<V
SLV 1	144	-4002	-9306	-186137		0.62	143.96	0.96	6199			0.67	No, Vu<V
SLV 5	104	-1650	-3052	-158422		0	0	0.83	0			0	No, Vu<V
SLV 5	144	2823	-2453	-177531		0	0	0.83	0			0	No, Vu<V
SLV 9	104	-4575	2040	118157		0.54	189	0.94	8002			3.92	Si
SLV 9	144	-517	2891	-52880		0	0	0.83	0			0	No, Vu<V
SLV 4	104	-13603	-9093	-354999		1.6	189	1.15	9808			1.08	Si
SLV 4	144	-13193	-9835	-68863		1.55	189	1.14	9726			0.99	No, Vu<V
SLV 2	104	-6511	-9046	-413198		1.55	93.13	1.14	4794			0.53	No, Vu<V
SLV 2	144	-4002	-9306	-186137		0.62	143.96	0.96	6199			0.67	No, Vu<V
SLV 13	104	-16260	7926	508732		1.91	189	1.22	10340			1.3	Si
SLV 13	144	-15138	8508	229366		1.78	189	1.19	10115			1.19	Si
SLV 10	104	-4575	2040	118157		0.54	189	0.94	8002			3.92	Si
SLV 10	144	-517	2891	-52880		0	0	0.83	0			0	No, Vu<V
SLV 14	104	-16260	7926	508732		1.91	189	1.22	10340			1.3	Si
SLV 14	144	-15138	8508	229366		1.78	189	1.19	10115			1.19	Si
SLV 6	104	-1650	-3052	-158422		0	0	0.83	0			0	No, Vu<V
SLV 6	144	2823	-2453	-177531		0	0	0.83	0			0	No, Vu<V
SLV 3	104	-13603	-9093	-354999		1.6	189	1.15	9808			1.08	Si
SLV 3	144	-13193	-9835	-68863		1.55	189	1.14	9726			0.99	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.25	0.44	-3729	11636	80902	6.95	Si
SLV 5	14	0.25	0.44	-3729	11636	80902	6.95	Si
SLV 1	14	0.25	0.66	-5582	11636	118854	10.21	Si
SLV 2	14	0.25	0.66	-5582	11636	118854	10.21	Si
SLV 10	14	0.25	0.95	-8099	11636	168031	14.44	Si
SLV 9	14	0.25	0.95	-8099	11636	168031	14.44	Si
SLV 3	14	0.25	1.36	-11540	11636	230819	19.84	Si
SLV 4	14	0.25	1.36	-11540	11636	230819	19.84	Si
SLV 14	14	0.25	2.37	-20148	11636	365441	31.41	Si
SLV 13	14	0.25	2.37	-20148	11636	365441	31.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-326	-3939	-504	0	4.278	0.944	0	480.788	No
SLV 6	-326	-3939	-504	0	4.278	0.944	0	480.788	No
SLV 10	-3018	-10660	-552	0.009	6.491	0.892	14.334	480.788	No
SLV 9	-3018	-10660	-552	0.009	6.491	0.892	14.334	480.788	No
SLV 12	-24450	-32413	-196	0.083	28.115	0.965	124.541	480.788	No
SLV 11	-24450	-32413	-196	0.083	28.115	0.965	124.541	480.788	No
SLV 8	-21759	-25693	-149	0.085	25.376	0.962	127.865	480.788	No
SLV 7	-21759	-25693	-149	0.085	25.376	0.962	127.865	480.788	No
SLV 14	-13659	-26114	-484	0.064	17.145	0.946	98.054	347.831	No
SLV 13	-13659	-26114	-484	0.064	17.145	0.946	98.054	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	10.229	SLU 43	Si
V_SLV	7.004	SLU 50	Si
PF_SLV	0	SLV 6	No
V_SLV	0	SLV 5	No
PFFP_SLV	6.953	SLV 5	Si
R_SLV	0	SLV 5	No

Maschio 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	127.1	-12.3	-328.4	L1	L3	455.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 65	-96	-97919	-161811	4.78	9222627	56.996	Si
SLU 65	124	-86627	797753	4.23	9493339	11.9	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 55	-96	-99430	-166434	4.85	9160012	55.037	Si
SLU 55	124	-87940	808379	4.29	9479737	11.727	Si
SLU 80	-96	-108579	-275248	5.3	8647821	31.418	Si
SLU 80	124	-96045	785361	4.69	9291624	11.831	Si
SLU 76	-96	-108158	-230465	5.28	8676391	37.647	Si
SLU 76	124	-96175	853888	4.69	9287136	10.876	Si
SLU 84	-96	-110722	-339674	5.4	8494894	25.009	Si
SLU 84	124	-97929	754227	4.78	9222207	12.227	Si
SLU 47	-96	-90762	-73278	4.43	9434568	128.75	Si
SLU 47	124	-79937	790878	3.9	9489643	11.999	Si
SLU 52	-96	-97857	-190935	4.77	9225033	48.315	Si
SLU 52	124	-86394	769745	4.21	9495260	12.336	Si
SLU 78	-96	-109342	-286466	5.33	8594806	30.003	Si
SLU 78	124	-96791	784751	4.72	9265295	11.807	Si
SLU 68	-96	-99491	-137309	4.85	9157343	66.691	Si
SLU 68	124	-88172	836387	4.3	9476835	11.331	Si
SLU 73	-96	-106586	-254966	5.2	8778852	34.431	Si
SLU 73	124	-94630	815254	4.62	9337375	11.453	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 6	-96	-75546	2698917	3.69	12015753	4.452	Si
SLV 6	124	-71962	1869256	3.51	11680273	6.249	Si
SLV 8	-96	-41204	-3233385	2.01	7840400	2.425	Si
SLV 8	124	-29295	-1305632	1.43	5891473	4.512	Si
SLV 11	-96	-71786	-3239422	3.5	11663146	3.6	Si
SLV 11	124	-55819	-1064104	2.72	9879498	9.284	Si
SLV 7	-96	-41204	-3233385	2.01	7840400	2.425	Si
SLV 7	124	-29295	-1305632	1.43	5891473	4.512	Si
SLV 3	-96	-17546	-1150036	0.86	3716079	3.231	Si
SLV 3	124	-13283	-476203	0.65	2864734	6.016	Si
SLV 5	-96	-75546	2698917	3.69	12015753	4.452	Si
SLV 5	124	-71962	1869256	3.51	11680273	6.249	Si
SLV 10	-96	-106127	2692879	5.18	13928485	5.172	Si
SLV 10	124	-98487	2110783	4.8	13610001	6.448	Si
SLV 12	-96	-71786	-3239422	3.5	11663146	3.6	Si
SLV 12	124	-55819	-1064104	2.72	9879498	9.284	Si
SLV 9	-96	-106127	2692879	5.18	13928485	5.172	Si
SLV 9	124	-98487	2110783	4.8	13610001	6.448	Si
SLV 4	-96	-17546	-1150036	0.86	3716079	3.231	Si
SLV 4	124	-13283	-476203	0.65	2864734	6.016	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 65	-96	-97919	5511	-161811	4.78	455.5	1.08	22206				4.03	Si
SLU 65	124	-86627	4575	797753	4.23	455.5	1.08	22206				4.85	Si
SLU 75	-96	-107770	5775	-310968	5.26	455.5	1.08	22206				3.84	Si
SLU 75	124	-95246	4843	746117	4.65	455.5	1.08	22206				4.59	Si
SLU 80	-96	-108579	5904	-275248	5.3	455.5	1.08	22206				3.76	Si
SLU 80	124	-96045	4976	785361	4.69	455.5	1.08	22206				4.46	Si
SLU 84	-96	-110722	5944	-339674	5.4	455.5	1.08	22206				3.74	Si
SLU 84	124	-97929	5010	754227	4.78	455.5	1.08	22206				4.43	Si
SLU 78	-96	-109342	5941	-286466	5.33	455.5	1.08	22206				3.74	Si
SLU 78	124	-96791	5007	784751	4.72	455.5	1.08	22206				4.44	Si
SLU 82	-96	-109149	5779	-364175	5.33	455.5	1.08	22206				3.84	Si
SLU 82	124	-96384	4846	715594	4.7	455.5	1.08	22206				4.58	Si
SLU 76	-96	-108158	6156	-230465	5.28	455.5	1.08	22206				3.61	Si
SLU 76	124	-96175	5198	853888	4.69	455.5	1.08	22206				4.27	Si
SLU 55	-96	-99430	5655	-166434	4.85	455.5	1.08	22206				3.93	Si
SLU 55	124	-87940	4728	808379	4.29	455.5	1.08	22206				4.7	Si
SLU 68	-96	-99491	5676	-137309	4.85	455.5	1.08	22206				3.91	Si
SLU 68	124	-88172	4739	836387	4.3	455.5	1.08	22206				4.69	Si
SLU 73	-96	-106586	5991	-254966	5.2	455.5	1.08	22206				3.71	Si
SLU 73	124	-94630	5035	815254	4.62	455.5	1.08	22206				4.41	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	-96	-75546	21131	2698917	3.69	455.5	1.57	32190				1.52	Si
SLV 5	124	-71962	16127	1869256	3.51	455.5	1.54	31474				1.95	Si
SLD 5	-96	-74420	11034	995388	3.63	455.5	1.56	31965				2.9	Si
SLD 5	124	-67254	8470	1018506	3.28	455.5	1.49	30532				3.6	Si
SLV 8	-96	-41204	-14958	-3233385	2.04	447.83	1.24	25035				1.67	Si
SLV 8	124	-29295	-11279	-1305632	1.43	455.5	1.12	22940				2.03	Si
SLV 12	-96	-71786	-14203	-3239422	3.5	455.5	1.53	31438				2.21	Si
SLV 12	124	-55819	-10515	-1064104	2.72	455.5	1.38	28245				2.69	Si
SLV 6	-96	-75546	21131	2698917	3.69	455.5	1.57	32190				1.52	Si
SLV 6	124	-71962	16127	1869256	3.51	455.5	1.54	31474				1.95	Si
SLV 9	-96	-106127	21886	2692879	5.18	455.5	1.63	33308				1.52	Si
SLV 9	124	-98487	16890	2110783	4.8	455.5	1.63	33308				1.97	Si
SLV 11	-96	-71786	-14203	-3239422	3.5	455.5	1.53	31438				2.21	Si
SLV 11	124	-55819	-10515	-1064104	2.72	455.5	1.38	28245				2.69	Si
SLD 6	-96	-74420	11034	995388	3.63	455.5	1.56	31965				2.9	Si
SLD 6	124	-67254	8470	1018506	3.28	455.5	1.49	30532				3.6	Si
SLV 7	-96	-41204	-14958	-3233385	2.04	447.83	1.24	25035				1.67	Si
SLV 7	124	-29295	-11279	-1305632	1.43	455.5	1.12	22940				2.03	Si
SLV 10	-96	-106127	21886	2692879	5.18	455.5	1.63	33308				1.52	Si
SLV 10	124	-98487	16890	2110783	4.8	455.5	1.63	33308				1.97	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.25	0.77	-15842	28044	333891	11.91	Si
SLV 3	14	0.25	0.77	-15842	28044	333891	11.91	Si
SLV 2	14	0.25	1.35	-27715	28044	554577	19.78	Si
SLV 1	14	0.25	1.35	-27715	28044	554577	19.78	Si
SLV 7	14	0.25	1.71	-35114	28044	679293	24.22	Si
SLV 8	14	0.25	1.71	-35114	28044	679293	24.22	Si
SLV 11	14	0.25	3.1	-63506	28044	1066570	38.03	Si
SLV 12	14	0.25	3.1	-63506	28044	1066570	38.03	Si
SLV 5	14	0.25	3.64	-74691	28044	1179368	42.05	Si
SLV 6	14	0.25	3.64	-74691	28044	1179368	42.05	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-96249	-106127	-306	0.085	105.765	0.977	125.995	480.788	No
SLV 10	-96249	-106127	-306	0.085	105.765	0.977	125.995	480.788	No
SLV 5	-70702	-75546	-225	0.086	79.745	0.97	129.046	480.788	No
SLV 6	-70702	-75546	-225	0.086	79.745	0.97	129.046	480.788	No
SLV 12	-53221	-71786	196	0.087	61.952	0.962	131.98	480.788	No
SLV 11	-53221	-71786	196	0.087	61.952	0.962	131.98	480.788	No
SLV 7	-27674	-41204	277	0.088	36.005	0.939	135.923	480.788	No
SLV 8	-27674	-41204	277	0.088	36.005	0.939	135.923	480.788	No
SLV 13	-110994	-129786	-225	0.085	120.787	0.98	126.483	347.831	No
SLV 14	-110994	-129786	-225	0.085	120.787	0.98	126.483	347.831	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.876	SLU 76	Si
V_SLU	3.607	SLU 76	Si
PF_SLV	2.425	SLV 7	Si
V_SLV	1.522	SLV 9	Si
PFFP_SLV	11.906	SLV 3	Si
R_SLV	0.262	SLV 9	No

Maschio 57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	610.1	-12.3	227.1	L1	L3	383	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 78	-96	-79730	68042	4.63	6597130	96.956	Si
SLU 78	124	-71252	654740	4.13	6719610	10.263	Si
SLU 82	-96	-81270	3635	4.72	6553848	1000	Si
SLU 82	124	-72750	603411	4.22	6712236	11.124	Si
SLU 76	-96	-78040	129393	4.53	6637208	51.295	Si
SLU 76	124	-69470	659094	4.03	6720415	10.196	Si
SLU 68	-96	-71849	157705	4.17	6717404	42.595	Si
SLU 68	124	-63365	608965	3.68	6657481	10.932	Si
SLU 80	-96	-79037	73507	4.59	6614504	89.984	Si
SLU 80	124	-70551	652678	4.09	6720961	10.298	Si
SLU 70	-96	-73540	96354	4.27	6705879	69.597	Si
SLU 70	124	-65146	604610	3.78	6686355	11.059	Si
SLU 75	-96	-79520	39173	4.61	6602535	168.549	Si
SLU 75	124	-71043	619364	4.12	6720153	10.85	Si
SLU 73	-96	-77829	100524	4.52	6641644	66.07	Si
SLU 73	124	-69261	623719	4.02	6719942	10.774	Si
SLU 84	-96	-81480	32505	4.73	6547439	201.432	Si
SLU 84	124	-72959	638787	4.23	6710719	10.505	Si
SLU 72	-96	-72847	101819	4.23	6711547	65.917	Si
SLU 72	124	-64445	602549	3.74	6676027	11.08	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 6	-96	-27331	2449135	1.59	4554483	1.86	Si
SLV 6	124	-17364	1008164	1.01	3050922	3.026	Si
SLV 10	-96	-48882	2254121	2.84	7187870	3.189	Si
SLV 10	124	-37726	1041080	2.19	5930192	5.696	Si
SLV 9	-96	-48882	2254121	2.84	7187870	3.189	Si
SLV 9	124	-37726	1041080	2.19	5930192	5.696	Si
SLV 12	-96	-86886	-2589178	5.04	9773568	3.775	Si
SLV 12	124	-84097	-285918	4.88	9673124	33.832	Si
SLV 2	-96	-15489	981496	0.9	2747986	2.8	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 2	124	-9837	505313	0.57	1795803	3.554	Si
SLV 7	-96	-65335	-2394165	3.79	8629739	3.604	Si
SLV 7	124	-63734	-318834	3.7	8511100	26.694	Si
SLV 8	-96	-65335	-2394165	3.79	8629739	3.604	Si
SLV 8	124	-63734	-318834	3.7	8511100	26.694	Si
SLV 1	-96	-15489	981496	0.9	2747986	2.8	Si
SLV 1	124	-9837	505313	0.57	1795803	3.554	Si
SLV 11	-96	-86886	-2589178	5.04	9773568	3.775	Si
SLV 11	124	-84097	-285918	4.88	9673124	33.832	Si
SLV 5	-96	-27331	2449135	1.59	4554483	1.86	Si
SLV 5	124	-17364	1008164	1.01	3050922	3.026	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 74	-96	-80701	-5663	-87960	4.68	382.99	1.08	18671				3.3	Si
SLU 74	124	-72350	-4780	556677	4.2	382.99	1.08	18671				3.91	Si
SLU 60	-96	-76619	-5246	-114605	4.45	382.99	1.08	18671				3.56	Si
SLU 60	124	-68271	-4430	476782	3.96	382.99	1.08	18671				4.21	Si
SLU 82	-96	-81270	-5347	3635	4.72	382.99	1.08	18671				3.49	Si
SLU 82	124	-72750	-4450	603411	4.22	382.99	1.08	18671				4.2	Si
SLU 83	-96	-82661	-5832	-94629	4.8	382.99	1.08	18671				3.2	Si
SLU 83	124	-74266	-4910	576100	4.31	382.99	1.08	18671				3.8	Si
SLU 78	-96	-79730	-5285	68042	4.63	382.99	1.08	18671				3.53	Si
SLU 78	124	-71252	-4411	654740	4.13	382.99	1.08	18671				4.23	Si
SLU 62	-96	-76829	-5299	-85735	4.46	382.99	1.08	18671				3.52	Si
SLU 62	124	-68480	-4476	512158	3.97	382.99	1.08	18671				4.17	Si
SLU 84	-96	-81480	-5400	32505	4.73	382.99	1.08	18671				3.46	Si
SLU 84	124	-72959	-4495	638787	4.23	382.99	1.08	18671				4.15	Si
SLU 81	-96	-82451	-5779	-123498	4.78	382.99	1.08	18671				3.23	Si
SLU 81	124	-74057	-4864	540724	4.3	382.99	1.08	18671				3.84	Si
SLU 77	-96	-80911	-5716	-59091	4.69	382.99	1.08	18671				3.27	Si
SLU 77	124	-72560	-4826	592052	4.21	382.99	1.08	18671				3.87	Si
SLU 79	-96	-80218	-5653	-53626	4.65	382.99	1.08	18671				3.3	Si
SLU 79	124	-71858	-4771	589991	4.17	382.99	1.08	18671				3.91	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 8	-96	-60554	-9544	-1062008	3.51	382.99	1.54	26473				2.77	Si
SLD 8	124	-56174	-7628	75912	3.26	382.99	1.49	25597				3.36	Si
SLV 8	-96	-65335	-17084	-2394165	3.79	382.99	1.59	27429				1.61	Si
SLV 8	124	-63734	-13490	-318834	3.7	382.99	1.57	27109				2.01	Si
SLV 12	-96	-86886	-17927	-2589178	5.04	382.99	1.63	28006				1.56	Si
SLV 12	124	-84097	-13791	-285918	4.88	382.99	1.63	28006				2.03	Si
SLV 5	-96	-27331	10152	2449135	1.99	305.66	1.23	16928				1.67	Si
SLV 5	124	-17364	7201	1008164	1.01	382.99	1.03	17835				2.48	Si
SLV 6	-96	-27331	10152	2449135	1.99	305.66	1.23	16928				1.67	Si
SLV 6	124	-17364	7201	1008164	1.01	382.99	1.03	17835				2.48	Si
SLV 9	-96	-48882	9308	2254121	2.84	382.99	1.4	24139				2.59	Si
SLV 9	124	-37726	6900	1041080	2.19	382.99	1.27	21907				3.17	Si
SLV 7	-96	-65335	-17084	-2394165	3.79	382.99	1.59	27429				1.61	Si
SLV 7	124	-63734	-13490	-318834	3.7	382.99	1.57	27109				2.01	Si
SLV 10	-96	-48882	9308	2254121	2.84	382.99	1.4	24139				2.59	Si
SLV 10	124	-37726	6900	1041080	2.19	382.99	1.27	21907				3.17	Si
SLD 7	-96	-60554	-9544	-1062008	3.51	382.99	1.54	26473				2.77	Si
SLD 7	124	-56174	-7628	75912	3.26	382.99	1.49	25597				3.36	Si
SLV 11	-96	-86886	-17927	-2589178	5.04	382.99	1.63	28006				1.56	Si
SLV 11	124	-84097	-13791	-285918	4.88	382.99	1.63	28006				2.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 38.5 Wa 0.08 denominatore $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.25	0.63	-10884	23580	232235	9.85	Si
SLV 1	14	0.25	0.63	-10884	23580	232235	9.85	Si
SLV 6	14	0.25	1.03	-17749	23580	365701	15.51	Si
SLV 5	14	0.25	1.03	-17749	23580	365701	15.51	Si
SLV 4	14	0.25	1.52	-26146	23580	515251	21.85	Si
SLV 3	14	0.25	1.52	-26146	23580	515251	21.85	Si
SLV 10	14	0.25	2.26	-38896	23580	713518	30.26	Si
SLV 9	14	0.25	2.26	-38896	23580	713518	30.26	Si
SLV 8	14	0.25	3.98	-68624	23580	1040880	44.14	Si
SLV 7	14	0.25	3.98	-68624	23580	1040880	44.14	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 38.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 11	-78519	-86886	364	0.083	86.475	0.977	124.196	480.788	No
SLV 12	-78519	-86886	364	0.083	86.475	0.977	124.196	480.788	No
SLV 7	-59613	-65335	206	0.086	67.219	0.97	128.635	480.788	No
SLV 8	-59613	-65335	206	0.086	67.219	0.97	128.635	480.788	No
SLV 10	-33920	-48882	89	0.09	41.08	0.953	137.899	480.788	No
SLV 9	-33920	-48882	89	0.09	41.08	0.953	137.899	480.788	No
SLV 5	-15014	-27331	-70	0.098	21.944	0.922	154.875	480.788	No
SLV 6	-15014	-27331	-70	0.098	21.944	0.922	154.875	480.788	No
SLV 15	-84967	-98727	453	0.082	93.044	0.978	122.544	347.831	No
SLV 16	-84967	-98727	453	0.082	93.044	0.978	122.544	347.831	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.196	SLU 76	Si
V_SLU	3.202	SLU 83	Si
PF_SLV	1.86	SLV 5	Si
V_SLV	1.562	SLV 11	Si
PFFP_SLV	9.849	SLV 1	Si
R_SLV	0.258	SLV 11	No

Maschio 58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	-335.9	-2467.8	595.1	L3	L4	931.1	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 68	173	-139213	-5638179	5.34	22323449	3.959	Si
SLU 68	546	-93352	-3187226	3.58	24354604	7.641	Si
SLU 76	173	-151175	-5944381	5.8	20277448	3.411	Si
SLU 76	546	-102839	-3429195	3.94	24690920	7.2	Si
SLU 78	173	-153273	-5257677	5.88	19853848	3.776	Si
SLU 78	546	-104974	-3142023	4.03	24712204	7.865	Si
SLU 75	173	-150914	-4952410	5.79	20328659	4.105	Si
SLU 75	546	-103026	-2961957	3.95	24693580	8.337	Si
SLU 65	173	-136854	-5332913	5.25	22652858	4.248	Si
SLU 65	546	-91404	-3007160	3.51	24236708	8.06	Si
SLU 82	173	-152548	-4777781	5.85	20002394	4.187	Si
SLU 82	546	-104156	-2875020	4	24706405	8.593	Si
SLU 80	173	-152139	-5257085	5.84	20085159	3.821	Si
SLU 80	546	-103986	-3131450	3.99	24704834	7.889	Si
SLU 73	173	-148816	-5639114	5.71	20730558	3.676	Si
SLU 73	546	-100891	-3249129	3.87	24654060	7.588	Si
SLU 84	173	-154907	-5083047	5.94	19510688	3.838	Si
SLU 84	546	-106104	-3055085	4.07	24715381	8.09	Si
SLU 55	173	-138720	-5486879	5.32	22394311	4.081	Si
SLU 55	546	-93058	-3090290	3.57	24337891	7.876	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 9	173	-82866	-15598701	3.18	28541499	1.83	Si
SLV 9	546	-56824	-8113020	2.18	21734537	2.679	Si
SLV 7	173	-123677	11237896	4.74	35221501	3.134	Si
SLV 7	546	-81836	5335052	3.14	28309927	5.306	Si
SLV 11	173	-84319	11888095	3.23	28863002	2.428	Si
SLV 11	546	-53783	5454747	2.06	20810446	3.815	Si
SLV 13	173	-37458	-5219758	1.44	15387294	2.948	Si
SLV 13	546	-23031	-3224658	0.88	9946641	3.085	Si
SLV 12	173	-84319	11888095	3.23	28863002	2.428	Si
SLV 12	546	-53783	5454747	2.06	20810446	3.815	Si
SLV 6	173	-122223	-16248900	4.69	35067200	2.158	Si
SLV 6	546	-84877	-8232714	3.26	28984676	3.521	Si
SLV 10	173	-82866	-15598701	3.18	28541499	1.83	Si
SLV 10	546	-56824	-8113020	2.18	21734537	2.679	Si
SLV 5	173	-122223	-16248900	4.69	35067200	2.158	Si
SLV 5	546	-84877	-8232714	3.26	28984676	3.521	Si
SLV 14	173	-37458	-5219758	1.44	15387294	2.948	Si
SLV 14	546	-23031	-3224658	0.88	9946641	3.085	Si
SLV 8	173	-123677	11237896	4.74	35221501	3.134	Si
SLV 8	546	-81836	5335052	3.14	28309927	5.306	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 23	173	-112236	-1637	-4901110		4.31	931.07	1.08	28242			17.25	Si
SLU 23	546	-75610	-1320	-2756450		2.9	931.07	0.94	24565			18.61	Si
SLU 5	173	-102140	-1798	-4748875		3.92	931.07	1.08	28102			15.63	Si
SLU 5	546	-67777	-1484	-2597611		2.6	931.07	0.9	23520			15.85	Si
SLU 55	173	-138720	-1731	-5486879		5.32	931.07	1.08	28242			16.32	Si
SLU 55	546	-93058	-1398	-3090290		3.57	931.07	1.03	26891			19.23	Si
SLU 31	173	-124197	-1619	-5207311		4.76	931.07	1.08	28242			17.45	Si
SLU 31	546	-85097	-1294	-2998419		3.26	931.07	0.99	25830			19.96	Si
SLU 47	173	-126758	-1749	-5180677		4.86	931.07	1.08	28242			16.15	Si
SLU 47	546	-83570	-1424	-2848321		3.21	931.07	0.98	25626			18	Si
SLU 34	173	-126556	-1835	-5512578		4.85	931.07	1.08	28242			15.39	Si
SLU 34	546	-87046	-1505	-3178485		3.34	931.07	1	26089			17.34	Si
SLU 68	173	-139213	-1805	-5638179		5.34	931.07	1.08	28242			15.65	Si
SLU 68	546	-93352	-1470	-3187226		3.58	931.07	1.03	26930			18.33	Si
SLU 26	173	-114594	-1854	-5206377		4.4	931.07	1.08	28242			15.24	Si

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Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 26	546	-77558	-1530	-2936516		2.97	931.07	0.95	24824			16.23	Si
SLU 76	173	-151175	-1787	-5944381		5.8	931.07	1.08	28242			15.81	Si
SLU 76	546	-102839	-1444	-3429195		3.94	931.07	1.08	28195			19.52	Si
SLU 13	173	-114101	-1779	-5055076		4.38	931.07	1.08	28242			15.87	Si
SLU 13	546	-77264	-1459	-2839580		2.96	931.07	0.95	24785			16.99	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	173	-37458	-8279	-5219758		1.44	931.07	1.12	29216			3.53	Si
SLV 13	546	-23031	-5815	-3224658		0.88	931.07	1.01	26331			4.53	Si
SLV 5	173	-122223	-24440	-16248900		4.69	931.07	1.63	42364			1.73	Si
SLV 5	546	-84877	-15960	-8232714		3.26	931.07	1.48	38700			2.42	Si
SLV 7	173	-123677	25170	11237896		4.74	931.07	1.63	42364			1.68	Si
SLV 7	546	-81836	16867	5335052		3.14	931.07	1.46	38092			2.26	Si
SLV 8	173	-123677	25170	11237896		4.74	931.07	1.63	42364			1.68	Si
SLV 8	546	-81836	16867	5335052		3.14	931.07	1.46	38092			2.26	Si
SLV 11	173	-84319	24615	11888095		3.23	931.07	1.48	38589			1.57	Si
SLV 11	546	-53783	16247	5454747		2.06	931.07	1.25	32482			2	Si
SLV 14	173	-37458	-8279	-5219758		1.44	931.07	1.12	29216			3.53	Si
SLV 14	546	-23031	-5815	-3224658		0.88	931.07	1.01	26331			4.53	Si
SLV 9	173	-82866	-24995	-15598701		3.56	831.88	1.54	35984			1.44	Si
SLV 9	546	-56824	-16580	-8113020		2.18	931.07	1.27	33090			2	Si
SLV 6	173	-122223	-24440	-16248900		4.69	931.07	1.63	42364			1.73	Si
SLV 6	546	-84877	-15960	-8232714		3.26	931.07	1.48	38700			2.42	Si
SLV 10	173	-82866	-24995	-15598701		3.56	831.88	1.54	35984			1.44	Si
SLV 10	546	-56824	-16580	-8113020		2.18	931.07	1.27	33090			2	Si
SLV 12	173	-84319	24615	11888095		3.23	931.07	1.48	38589			1.57	Si
SLV 12	546	-53783	16247	5454747		2.06	931.07	1.25	32482			2	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.32	1.07	-27805	88294	355297	4.02	Si
SLV 15	14	0.32	1.07	-27805	88294	355297	4.02	Si
SLV 14	14	0.32	1.08	-28163	88294	359426	4.07	Si
SLV 13	14	0.32	1.08	-28163	88294	359426	4.07	Si
SLV 12	14	0.32	2.54	-66313	88294	735115	8.33	Si
SLV 11	14	0.32	2.54	-66313	88294	735115	8.33	Si
SLV 10	14	0.32	2.59	-67506	88294	744798	8.44	Si
SLV 9	14	0.32	2.59	-67506	88294	744798	8.44	Si
SLV 7	14	0.32	3.82	-99677	88294	958812	10.86	Si
SLV 8	14	0.32	3.82	-99677	88294	958812	10.86	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-84877	-122223	-414	0.037	100.121	0.959	55.475	1436.128	No
SLV 6	-84877	-122223	-414	0.037	100.121	0.959	55.475	1436.128	No
SLV 7	-81836	-123677	-199	0.039	97.029	0.958	59.102	1436.128	No
SLV 8	-81836	-123677	-199	0.039	97.029	0.958	59.102	1436.128	No
SLV 12	-53783	-84319	248	0.039	68.542	0.943	59.825	1436.128	No
SLV 11	-53783	-84319	248	0.039	68.542	0.943	59.825	1436.128	No
SLV 15	-22119	-37894	693	0.026	36.666	0.908	41.189	942.501	No
SLV 16	-22119	-37894	693	0.026	36.666	0.908	41.189	942.501	No
SLV 10	-56824	-82866	32	0.042	71.625	0.945	64.648	1436.128	No
SLV 9	-56824	-82866	32	0.042	71.625	0.945	64.648	1436.128	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.411	SLU 76	Si
V_SLV	15.236	SLU 26	Si
PF_SLV	1.83	SLV 9	Si
V_SLV	1.44	SLV 9	Si
PFFP_SLV	4.024	SLV 15	Si
R_SLV	0.039	SLV 5	No

Maschio 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s, sx	a.s, dx
-2276.3	595.1	-2467.8	595.1	L3	L4	191.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 83	263	-17133	387190	3.2	996985	2.575	Si
SLU 83	453	-20730	-79269	3.87	1042844	13.156	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	263	-16566	372011	3.09	984580	2.647	Si
SLU 82	453	-20071	-77670	3.74	1038687	13.373	Si
SLU 84	263	-16673	376626	3.11	987028	2.621	Si
SLU 84	453	-20277	-86880	3.78	1040195	11.973	Si
SLU 74	263	-16656	376912	3.11	986659	2.618	Si
SLU 74	453	-20015	-71737	3.73	1038252	14.473	Si
SLU 77	263	-16763	381527	3.13	989064	2.592	Si
SLU 77	453	-20222	-80947	3.77	1039809	12.846	Si
SLU 81	263	-17026	382575	3.18	994753	2.6	Si
SLU 81	453	-20523	-70059	3.83	1041746	14.87	Si
SLU 79	263	-16607	378654	3.1	985534	2.603	Si
SLU 79	453	-20031	-81391	3.74	1038372	12.758	Si
SLU 80	263	-16147	368090	3.01	974517	2.648	Si
SLU 80	453	-19578	-89002	3.65	1034337	11.622	Si
SLU 78	263	-16303	370963	3.04	978362	2.637	Si
SLU 78	453	-19770	-88557	3.69	1036153	11.7	Si
SLU 75	263	-16196	366348	3.02	975741	2.663	Si
SLU 75	453	-19563	-79347	3.65	1034186	13.034	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 4	263	-17834	871360	3.33	1242766	1.426	Si
SLV 4	453	-27255	-345258	5.08	1524046	4.414	Si
SLV 1	263	-14283	632635	2.66	1069444	1.69	Si
SLV 1	453	-20976	-271836	3.91	1365414	5.023	Si
SLV 2	263	-14283	632635	2.66	1069444	1.69	Si
SLV 2	453	-20976	-271836	3.91	1365414	5.023	Si
SLV 9	263	-4328	-282155	0.81	386999	1.372	Si
SLV 9	453	-21	167660	0	0	0	No, e>1/2
SLV 7	263	-18846	807262	3.51	1285441	1.592	Si
SLV 7	453	-27242	-240391	5.08	1523838	6.339	Si
SLV 3	263	-17834	871360	3.33	1242766	1.426	Si
SLV 3	453	-27255	-345258	5.08	1524046	4.414	Si
SLV 8	263	-18846	807262	3.51	1285441	1.592	Si
SLV 8	453	-27242	-240391	5.08	1523838	6.339	Si
SLV 14	263	-5340	-346253	1	469648	1.356	Si
SLV 14	453	-8	272528	0	0	0	No, e>1/2
SLV 10	263	-4328	-282155	0.81	386999	1.372	Si
SLV 10	453	-21	167660	0	0	0	No, e>1/2
SLV 13	263	-5340	-346253	1	469648	1.356	Si
SLV 13	453	-8	272528	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	263	-16196	5363	366348		3.02	191.5	0.96	5138			0.96	No, Vu<V
SLU 75	453	-19563	5210	-79347		3.65	191.5	1.04	5587			1.07	Si
SLU 76	263	-15733	5323	356432		2.93	191.5	0.95	5077			0.95	No, Vu<V
SLU 76	453	-19070	5172	-84866		3.56	191.5	1.03	5522			1.07	Si
SLU 77	263	-16763	5500	381527		3.13	191.5	0.97	5214			0.95	No, Vu<V
SLU 77	453	-20222	5344	-80947		3.77	191.5	1.06	5675			1.06	Si
SLU 83	263	-17133	5593	387190		3.2	191.5	0.98	5263			0.94	No, Vu<V
SLU 83	453	-20730	5434	-79269		3.87	191.5	1.07	5743			1.06	Si
SLU 79	263	-16607	5469	378654		3.1	191.5	0.97	5193			0.95	No, Vu<V
SLU 79	453	-20031	5314	-81391		3.74	191.5	1.05	5650			1.06	Si
SLU 81	263	-17026	5469	382575		3.18	191.5	0.98	5249			0.96	No, Vu<V
SLU 81	453	-20523	5311	-70059		3.83	191.5	1.07	5715			1.08	Si
SLU 80	263	-16147	5455	368090		3.01	191.5	0.96	5132			0.94	No, Vu<V
SLU 80	453	-19578	5302	-89002		3.65	191.5	1.04	5589			1.05	Si
SLU 78	263	-16303	5487	370963		3.04	191.5	0.96	5153			0.94	No, Vu<V
SLU 78	453	-19770	5332	-88557		3.69	191.5	1.05	5615			1.05	Si
SLU 82	263	-16566	5455	372011		3.09	191.5	0.97	5188			0.95	No, Vu<V
SLU 82	453	-20071	5300	-77670		3.74	191.5	1.05	5655			1.07	Si
SLU 84	263	-16673	5579	376626		3.11	191.5	0.97	5202			0.93	No, Vu<V
SLU 84	453	-20277	5422	-86880		3.78	191.5	1.06	5683			1.05	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	263	-5340	-5138	-346253		2.06	92.73	1.24	3232			0.63	No, Vu<V
SLV 13	453	-8	-4233	272528		0	0	0.83	0			0	No, Vu<V
SLV 3	263	-17834	12358	871360		4.53	140.67	1.63	6400			0.52	No, Vu<V
SLV 3	453	-27255	11237	-345258		5.08	191.5	1.63	8713			0.78	No, Vu<V
SLV 7	263	-18846	12294	807262		4.24	158.75	1.63	7223			0.59	No, Vu<V
SLV 7	453	-27242	9318	-240391		5.08	191.5	1.63	8713			0.94	No, Vu<V
SLV 14	263	-5340	-5138	-346253		2.06	92.73	1.24	3232			0.63	No, Vu<V
SLV 14	453	-8	-4233	272528		0	0	0.83	0			0	No, Vu<V
SLV 10	263	-4328	-5074	-282155		1.69	91.65	1.17	3004			0.59	No, Vu<V
SLV 10	453	-21	-2313	167660		0	0	0.83	0			0	No, Vu<V
SLV 1	263	-14283	8363	632635		3.3	154.37	1.49	6459			0.77	No, Vu<V
SLV 1	453	-20976	8932	-271836		3.91	191.5	1.62	8663			0.97	No, Vu<V
SLV 8	263	-18846	12294	807262		4.24	158.75	1.63	7223			0.59	No, Vu<V
SLV 8	453	-27242	9318	-240391		5.08	191.5	1.63	8713			0.94	No, Vu<V
SLV 9	263	-4328	-5074	-282155		1.69	91.65	1.17	3004			0.59	No, Vu<V
SLV 9	453	-21	-2313	167660		0	0	0.83	0			0	No, Vu<V
SLV 2	263	-14283	8363	632635		3.3	154.37	1.49	6459			0.77	No, Vu<V
SLV 2	453	-20976	8932	-271836		3.91	191.5	1.62	8663			0.97	No, Vu<V
SLV 4	263	-17834	12358	871360		4.53	140.67	1.63	6400			0.52	No, Vu<V
SLV 4	453	-27255	11237	-345258		5.08	191.5	1.63	8713			0.78	No, Vu<V



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.32	0	1864	18160	0	0	No, Trazione
SLV 10	14	0.32	0	1864	18160	0	0	No, Trazione
SLV 14	14	0.32	0.31	-1638	18160	22356	1.23	Si
SLV 13	14	0.32	0.31	-1638	18160	22356	1.23	Si
SLV 5	14	0.32	0.51	-2723	18160	36543	2.01	Si
SLV 6	14	0.32	0.51	-2723	18160	36543	2.01	Si
SLV 16	14	0.32	1.72	-9226	18160	110977	6.11	Si
SLV 15	14	0.32	1.72	-9226	18160	110977	6.11	Si
SLV 2	14	0.32	3.16	-16928	18160	175759	9.68	Si
SLV 1	14	0.32	3.16	-16928	18160	175759	9.68	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	-2361	3603	80	0	0	0	0	1436.128	No, Trazione
SLV 6	-6077	203	84	0	0	0	0	1436.128	No, Trazione
SLV 9	-2361	3603	80	0	0	0	0	1436.128	No, Trazione
SLV 5	-6077	203	84	0	0	0	0	1436.128	No, Trazione
SLV 11	-16492	-20489	-87	0.036	19.611	0.958	55.349	1436.128	No
SLV 12	-16492	-20489	-87	0.036	19.611	0.958	55.349	1436.128	No
SLV 7	-20208	-23890	-83	0.037	23.39	0.964	55.543	1436.128	No
SLV 8	-20208	-23890	-83	0.037	23.39	0.964	55.543	1436.128	No
SLV 3	-19597	-19425	-20	0.04	22.769	0.963	60.036	942.501	No
SLV 4	-19597	-19425	-20	0.04	22.769	0.963	60.036	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.575	SLU 83	Si
V_SLU	0.932	SLU 84	No
PF_SLV	0	SLV 9	No
V_SLV	0	SLV 9	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 10	No

Maschio 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-2176.3	595.1	L3	L4	214.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 80	263	-25355	-675993	4.22	1310025	1.938	Si
SLU 80	453	-25293	-217898	4.21	1310257	6.013	Si
SLU 81	263	-25547	-687013	4.25	1309190	1.906	Si
SLU 81	453	-25467	-182628	4.24	1309556	7.171	Si
SLU 74	263	-25189	-675154	4.19	1310611	1.941	Si
SLU 74	453	-25088	-195632	4.18	1310911	6.701	Si
SLU 75	263	-25077	-673381	4.18	1310942	1.947	Si
SLU 75	453	-24940	-200737	4.15	1311271	6.532	Si
SLU 78	263	-25566	-681788	4.26	1309098	1.92	Si
SLU 78	453	-25500	-217890	4.25	1309409	6.009	Si
SLU 79	263	-25467	-677766	4.24	1309557	1.932	Si
SLU 79	453	-25442	-212794	4.24	1309666	6.155	Si
SLU 82	263	-25435	-685240	4.23	1309697	1.911	Si
SLU 82	453	-25318	-187732	4.22	1310164	6.979	Si
SLU 77	263	-25679	-683561	4.28	1308525	1.914	Si
SLU 77	453	-25649	-212786	4.27	1308683	6.15	Si
SLU 83	263	-26037	-695420	4.34	1306336	1.878	Si
SLU 83	453	-26028	-199782	4.33	1306397	6.539	Si
SLU 84	263	-25924	-693647	4.32	1307085	1.884	Si
SLU 84	453	-25879	-204886	4.31	1307371	6.381	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 14	263	-8383	-930016	0	0	0	No, e>l/2
SLV 14	453	-17426	157313	2.9	1425140	9.059	Si
SLD 10	263	-11146	-626752	1.86	1013844	1.618	Si
SLD 10	453	-13334	-133777	2.22	1170234	8.748	Si
SLV 13	263	-8383	-930016	0	0	0	No, e>l/2
SLV 13	453	-17426	157313	2.9	1425140	9.059	Si
SLD 9	263	-11146	-626752	1.86	1013844	1.618	Si
SLD 9	453	-13334	-133777	2.22	1170234	8.748	Si
SLV 10	263	-2684	-865524	0	0	0	No, e>l/2

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	453	-8377	-149588	1.39	795871	5.32	Si
SLV 5	263	-5576	-638435	0	0	0	No, e>1/2
SLV 5	453	-6309	-342151	1.05	618475	1.808	Si
SLV 16	263	-16159	-758206	2.69	1351426	1.782	Si
SLV 16	453	-23114	227809	3.85	1698196	7.454	Si
SLV 15	263	-16159	-758206	2.69	1351426	1.782	Si
SLV 15	453	-23114	227809	3.85	1698196	7.454	Si
SLV 9	263	-2684	-865524	0	0	0	No, e>1/2
SLV 9	453	-8377	-149588	1.39	795871	5.32	Si
SLV 6	263	-5576	-638435	0	0	0	No, e>1/2
SLV 6	453	-6309	-342151	1.05	618475	1.808	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	263	-25435	-4084	-685240		4.23	214.5	1.08	6507			1.59	Si
SLU 82	453	-25318	-4087	-187732		4.22	214.5	1.08	6507			1.59	Si
SLU 79	263	-25467	-3964	-677766		4.24	214.5	1.08	6507			1.64	Si
SLU 79	453	-25442	-3968	-212794		4.24	214.5	1.08	6507			1.64	Si
SLU 80	263	-25355	-3908	-675993		4.22	214.5	1.08	6507			1.67	Si
SLU 80	453	-25293	-3910	-217898		4.21	214.5	1.08	6507			1.66	Si
SLU 83	263	-26037	-4134	-695420		4.34	214.5	1.08	6507			1.57	Si
SLU 83	453	-26028	-4138	-199782		4.33	214.5	1.08	6507			1.57	Si
SLU 74	263	-25189	-3998	-675154		4.19	214.5	1.08	6507			1.63	Si
SLU 74	453	-25088	-4001	-195632		4.18	214.5	1.08	6507			1.63	Si
SLU 84	263	-25924	-4078	-693647		4.32	214.5	1.08	6507			1.6	Si
SLU 84	453	-25879	-4081	-204886		4.31	214.5	1.08	6507			1.59	Si
SLU 77	263	-25679	-3991	-683561		4.28	214.5	1.08	6507			1.63	Si
SLU 77	453	-25649	-3995	-212786		4.27	214.5	1.08	6507			1.63	Si
SLU 75	263	-25077	-3941	-673381		4.18	214.5	1.08	6507			1.65	Si
SLU 75	453	-24940	-3944	-200737		4.15	214.5	1.08	6507			1.65	Si
SLU 81	263	-25547	-4140	-687013		4.25	214.5	1.08	6507			1.57	Si
SLU 81	453	-25467	-4144	-182628		4.24	214.5	1.08	6507			1.57	Si
SLU 78	263	-25566	-3935	-681788		4.26	214.5	1.08	6507			1.65	Si
SLU 78	453	-25500	-3938	-217890		4.25	214.5	1.08	6507			1.65	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	263	-16159	-11532	-758206		3.19	180.98	1.47	7455			0.65	No, Vu<V
SLV 16	453	-23114	-11016	227809		3.85	214.5	1.6	9628			0.87	No, Vu<V
SLV 13	263	-8383	-10633	-930016		0	0	0.83	0			0	No, Vu<V
SLV 13	453	-17426	-11152	157313		2.9	214.5	1.41	8490			0.76	No, Vu<V
SLV 9	263	-2684	-3784	-865524		0	0	0.83	0			0	No, Vu<V
SLV 9	453	-8377	-5512	-149588		1.39	214.5	1.11	6680			1.21	Si
SLD 13	263	-13430	-6151	-660213		2.75	174.27	1.38	6752			1.1	Si
SLD 13	453	-17113	-6359	-5205		2.85	214.5	1.4	8428			1.33	Si
SLD 14	263	-13430	-6151	-660213		2.75	174.27	1.38	6752			1.1	Si
SLD 14	453	-17113	-6359	-5205		2.85	214.5	1.4	8428			1.33	Si
SLV 15	263	-16159	-11532	-758206		3.19	180.98	1.47	7455			0.65	No, Vu<V
SLV 15	453	-23114	-11016	227809		3.85	214.5	1.6	9628			0.87	No, Vu<V
SLV 10	263	-2684	-3784	-865524		0	0	0.83	0			0	No, Vu<V
SLV 10	453	-8377	-5512	-149588		1.39	214.5	1.11	6680			1.21	Si
SLV 6	263	-5576	1187	-638435		0	0	0.83	0			0	No, Vu<V
SLV 6	453	-6309	-543	-342151		1.42	159.05	1.12	4973			9.17	Si
SLV 14	263	-8383	-10633	-930016		0	0	0.83	0			0	No, Vu<V
SLV 14	453	-17426	-11152	157313		2.9	214.5	1.41	8490			0.76	No, Vu<V
SLV 5	263	-5576	1187	-638435		0	0	0.83	0			0	No, Vu<V
SLV 5	453	-6309	-543	-342151		1.42	159.05	1.12	4973			9.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.32	0.95	-5731	20341	73964	3.64	Si
SLV 6	14	0.32	0.95	-5731	20341	73964	3.64	Si
SLV 9	14	0.32	0.98	-5881	20341	75740	3.72	Si
SLV 10	14	0.32	0.98	-5881	20341	75740	3.72	Si
SLV 1	14	0.32	2.23	-13385	20341	153213	7.53	Si
SLV 2	14	0.32	2.23	-13385	20341	153213	7.53	Si
SLV 14	14	0.32	2.31	-13888	20341	157634	7.75	Si
SLV 13	14	0.32	2.31	-13888	20341	157634	7.75	Si
SLV 4	14	0.32	3.35	-20097	20341	204307	10.04	Si
SLV 3	14	0.32	3.35	-20097	20341	204307	10.04	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-7600	-2366	129	0.032	10.951	0.923	50.373	1436.128	No
SLV 6	-7600	-2366	129	0.032	10.951	0.923	50.373	1436.128	No
SLV 11	-21972	-32036	-132	0.035	25.526	0.963	53.102	1436.128	No
SLV 12	-21972	-32036	-132	0.035	25.526	0.963	53.102	1436.128	No
SLV 8	-20823	-33033	-101	0.036	24.357	0.961	55.096	1436.128	No
SLV 7	-20823	-33033	-101	0.036	24.357	0.961	55.096	1436.128	No
SLV 9	-8749	-1368	97	0.036	12.107	0.929	55.555	1436.128	No
SLV 10	-8749	-1368	97	0.036	12.107	0.929	55.555	1436.128	No
SLV 15	-18684	-20138	-88	0.037	22.181	0.958	56.007	942.501	No
SLV 16	-18684	-20138	-88	0.037	22.181	0.958	56.007	942.501	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.878	SLU 83	Si
V_SLU	1.57	SLU 81	Si
PF_SLV	0	SLV 5	No
V_SLV	0	SLV 5	No
PFFP_SLV	3.636	SLV 5	Si
R_SLV	0.035	SLV 5	No

Maschio 61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2254.3	-335.9	-2467.8	-335.9	L3	L4	213.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 34	263	-15465	756642	2.59	1126585	1.489	Si
SLU 34	453	-20563	74939	3.44	1268171	16.923	Si
SLU 73	263	-18262	841856	3.05	1218380	1.447	Si
SLU 73	453	-23722	79958	3.97	1298710	16.242	Si
SLU 65	263	-16496	787447	2.76	1164412	1.479	Si
SLU 65	453	-21237	96514	3.55	1278350	13.245	Si
SLU 76	263	-18711	859254	3.13	1229906	1.431	Si
SLU 76	453	-24307	81259	4.07	1299565	15.993	Si
SLU 5	263	-11823	641986	1.98	955670	1.489	Si
SLU 5	453	-15521	102355	2.6	1128769	11.028	Si
SLU 2	263	-11374	624588	1.9	930599	1.49	Si
SLU 2	453	-14936	101054	2.5	1105381	10.939	Si
SLU 52	263	-16387	781608	2.74	1160623	1.485	Si
SLU 52	453	-21164	90817	3.54	1277353	14.065	Si
SLU 68	263	-16944	804846	2.83	1179412	1.465	Si
SLU 68	453	-21822	97815	3.65	1285578	13.143	Si
SLU 55	263	-16835	799006	2.82	1175838	1.472	Si
SLU 55	453	-21749	92118	3.64	1284767	13.947	Si
SLU 47	263	-15069	744598	2.52	1110819	1.492	Si
SLU 47	453	-19264	108675	3.22	1242918	11.437	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 15	263	-7363	-395971	1.23	706791	1.785	Si
SLV 15	453	-1274	464228	0	0	0	No, e>/2
SLV 6	263	-19852	1197062	3.32	1543241	1.289	Si
SLV 6	453	-30206	-170879	5.05	1891057	11.067	Si
SLV 16	263	-7363	-395971	1.23	706791	1.785	Si
SLV 16	453	-1274	464228	0	0	0	No, e>/2
SLV 2	263	-20644	1283278	3.45	1580927	1.232	Si
SLV 2	453	-32408	-462581	5.42	1924620	4.161	Si
SLV 4	263	-18102	952605	3.03	1453487	1.526	Si
SLV 4	453	-26675	-441032	4.46	1807653	4.099	Si
SLV 13	263	-9906	-65298	1.66	914034	13.998	Si
SLV 13	453	-7007	442679	1.17	676233	1.528	Si
SLV 5	263	-19852	1197062	3.32	1543241	1.289	Si
SLV 5	453	-30206	-170879	5.05	1891057	11.067	Si
SLV 3	263	-18102	952605	3.03	1453487	1.526	Si
SLV 3	453	-26675	-441032	4.46	1807653	4.099	Si
SLV 14	263	-9906	-65298	1.66	914034	13.998	Si
SLV 14	453	-7007	442679	1.17	676233	1.528	Si
SLV 1	263	-20644	1283278	3.45	1580927	1.232	Si
SLV 1	453	-32408	-462581	5.42	1924620	4.161	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 55	263	-16835	8114	799006		3.38	177.87	1.01	5012			0.62	No, Vu<V
SLU 55	453	-21749	7903	92118		3.64	213.5	1.04	6221			0.79	No, Vu<V
SLU 65	263	-16496	7949	787447		3.33	177.04	1	4953			0.62	No, Vu<V
SLU 65	453	-21237	7741	96514		3.55	213.5	1.03	6153			0.79	No, Vu<V
SLU 13	263	-13589	6968	696394		2.91	166.51	0.94	4402			0.63	No, Vu<V
SLU 13	453	-18006	6785	85798		3.01	213.5	0.96	5722			0.84	No, Vu<V
SLU 76	263	-18711	8901	859254		3.66	182.48	1.04	5333			0.6	No, Vu<V
SLU 76	453	-24307	8673	81259		4.07	213.5	1.08	6476			0.75	No, Vu<V
SLU 31	263	-15016	7590	739243		3.11	172.56	0.97	4686			0.62	No, Vu<V
SLU 31	453	-19978	7395	73638		3.34	213.5	1	5985			0.81	No, Vu<V
SLU 68	263	-16944	8113	804846		3.4	177.75	1.01	5024			0.62	No, Vu<V
SLU 68	453	-21822	7901	97815		3.65	213.5	1.04	6231			0.79	No, Vu<V
SLU 34	263	-15465	7754	756642		3.18	173.47	0.98	4760			0.61	No, Vu<V
SLU 34	453	-20563	7556	74939		3.44	213.5	1.01	6063			0.8	No, Vu<V
SLU 52	263	-16387	7950	781608		3.3	177.16	1	4941			0.62	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	453	-21164	7743	90817		3.54	213.5	1.03	6143			0.79	No, Vu<V
SLU 73	263	-18262	8737	841856		3.58	181.96	1.03	5265			0.6	No, Vu<V
SLU 73	453	-23722	8513	79958		3.97	213.5	1.08	6476			0.76	No, Vu<V
SLU 26	263	-13699	6966	702234		2.94	166.46	0.95	4416			0.63	No, Vu<V
SLU 26	453	-18078	6783	91495		3.02	213.5	0.96	5732			0.84	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	263	-19852	12272	1197062		5.09	139.35	1.63	6341			0.52	No, Vu<V
SLV 6	453	-30206	11588	-170879		5.05	213.5	1.63	9714			0.84	No, Vu<V
SLV 15	263	-7363	-5863	-395971		1.65	158.92	1.16	5181			0.88	No, Vu<V
SLV 15	453	-1274	-5706	464228		0	0	0.83	0			0	No, Vu<V
SLV 5	263	-19852	12272	1197062		5.09	139.35	1.63	6341			0.52	No, Vu<V
SLV 5	453	-30206	11588	-170879		5.05	213.5	1.63	9714			0.84	No, Vu<V
SLV 16	263	-7363	-5863	-395971		1.65	158.92	1.16	5181			0.88	No, Vu<V
SLV 16	453	-1274	-5706	464228		0	0	0.83	0			0	No, Vu<V
SLD 1	263	-16790	9842	797876		3.37	177.68	1.51	7504			0.76	No, Vu<V
SLD 1	453	-23408	9611	-195441		3.92	213.5	1.62	9663			1.01	Si
SLD 2	263	-16790	9842	797876		3.37	177.68	1.51	7504			0.76	No, Vu<V
SLD 2	453	-23408	9611	-195441		3.92	213.5	1.62	9663			1.01	Si
SLV 3	263	-18102	13705	952605		3.98	162.38	1.63	7388			0.54	No, Vu<V
SLV 3	453	-26675	13613	-441032		4.46	213.5	1.63	9714			0.71	No, Vu<V
SLV 2	263	-20644	16204	1283278		5.51	133.77	1.63	6086			0.38	No, Vu<V
SLV 2	453	-32408	15799	-462581		5.42	213.5	1.63	9714			0.61	No, Vu<V
SLV 1	263	-20644	16204	1283278		5.51	133.77	1.63	6086			0.38	No, Vu<V
SLV 1	453	-32408	15799	-462581		5.42	213.5	1.63	9714			0.61	No, Vu<V
SLV 4	263	-18102	13705	952605		3.98	162.38	1.63	7388			0.54	No, Vu<V
SLV 4	453	-26675	13613	-441032		4.46	213.5	1.63	9714			0.71	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.32	0.35	-2119	20246	28804	1.42	Si
SLV 11	14	0.32	0.35	-2119	20246	28804	1.42	Si
SLV 16	14	0.32	0.58	-3446	20246	45974	2.27	Si
SLV 15	14	0.32	0.58	-3446	20246	45974	2.27	Si
SLV 8	14	0.32	1.28	-7650	20246	95882	4.74	Si
SLV 7	14	0.32	1.28	-7650	20246	95882	4.74	Si
SLV 14	14	0.32	1.69	-10115	20246	122003	6.03	Si
SLV 13	14	0.32	1.69	-10115	20246	122003	6.03	Si
SLV 4	14	0.32	3.66	-21883	20246	214579	10.6	Si
SLV 3	14	0.32	3.66	-21883	20246	214579	10.6	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	-19370	-21962	91	0.037	22.864	0.959	55.771	1436.128	No
SLV 9	-19370	-21962	91	0.037	22.864	0.959	55.771	1436.128	No
SLV 7	-8680	-3224	-91	0.036	12.023	0.929	56.435	1436.128	No
SLV 8	-8680	-3224	-91	0.036	12.023	0.929	56.435	1436.128	No
SLV 6	-23550	-25103	64	0.038	27.117	0.965	57.175	1436.128	No
SLV 5	-23550	-25103	64	0.038	27.117	0.965	57.175	1436.128	No
SLV 11	-4500	-83	-64	0.039	7.842	0.904	63.094	1436.128	No
SLV 12	-4500	-83	-64	0.039	7.842	0.904	63.094	1436.128	No
SLV 4	-18762	-14546	-68	0.038	22.245	0.958	57.496	942.501	No
SLV 3	-18762	-14546	-68	0.038	22.245	0.958	57.496	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.431	SLV 76	Si
V_SLV	0.599	SLV 76	No
PF_SLV	0	SLV 15	No
V_SLV	0	SLV 15	No
PFFP_SLV	1.423	SLV 11	Si
R_SLV	0.039	SLV 9	No

Maschio 62

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1936.8	-335.9	-2154.3	-335.9	L3	L4	217.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 47	373	-13015	-569380	2.14	1044048	1.834	Si
SLU 47	453	-11940	-299879	1.96	985956	3.288	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 5	373	-9913	-477832	1.63	862628	1.805	Si
SLU 5	453	-9083	-254638	1.49	806892	3.169	Si
SLU 73	373	-17040	-665043	2.8	1216581	1.829	Si
SLU 73	453	-15951	-349122	2.62	1176916	3.371	Si
SLU 52	373	-15073	-622326	2.48	1141128	1.834	Si
SLU 52	453	-13998	-323538	2.3	1092734	3.377	Si
SLU 76	373	-17184	-663994	2.82	1221448	1.84	Si
SLU 76	453	-16096	-354143	2.64	1182472	3.339	Si
SLU 65	373	-14838	-613145	2.44	1130990	1.845	Si
SLU 65	453	-13749	-320442	2.26	1080813	3.373	Si
SLU 68	373	-14982	-612096	2.46	1137251	1.858	Si
SLU 68	453	-13893	-325463	2.28	1087762	3.342	Si
SLU 55	373	-15217	-621277	2.5	1147239	1.847	Si
SLU 55	453	-14142	-328559	2.32	1099526	3.347	Si
SLU 2	373	-9769	-478881	1.6	853160	1.782	Si
SLU 2	453	-8938	-249618	1.47	796899	3.192	Si
SLU 44	373	-12871	-570428	2.11	1036543	1.817	Si
SLU 44	453	-11796	-294858	1.94	977771	3.316	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	373	-14076	-1054969	2.31	1241183	1.177	Si
SLV 10	453	-23887	203970	3.92	1763824	8.647	Si
SLV 9	373	-14076	-1054969	2.31	1241183	1.177	Si
SLV 9	453	-23887	203970	3.92	1763824	8.647	Si
SLV 8	373	-13483	292947	2.21	1200583	4.098	Si
SLV 8	453	-2002	-595059	0	0	0	No, $e > l/2$
SLV 6	373	-12457	-909957	2.05	1127905	1.24	Si
SLV 6	453	-22367	-230512	3.67	1701258	7.38	Si
SLV 7	373	-13483	292947	2.21	1200583	4.098	Si
SLV 7	453	-2002	-595059	0	0	0	No, $e > l/2$
SLV 1	373	-10927	-319759	1.79	1013835	3.171	Si
SLV 1	453	-13465	-865001	2.21	1199382	1.387	Si
SLV 4	373	-11235	41112	1.84	1037337	25.232	Si
SLV 4	453	-7356	-974365	0	0	0	No, $e > l/2$
SLV 2	373	-10927	-319759	1.79	1013835	3.171	Si
SLV 2	453	-13465	-865001	2.21	1199382	1.387	Si
SLV 3	373	-11235	41112	1.84	1037337	25.232	Si
SLV 3	453	-7356	-974365	0	0	0	No, $e > l/2$
SLV 5	373	-12457	-909957	2.05	1127905	1.24	Si
SLV 5	453	-22367	-230512	3.67	1701258	7.38	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 2	373	-9769	-2860	-478881		1.95	179.19	0.82	4090			1.43	Si
SLU 2	453	-8938	-2860	-249618		1.47	217.5	0.75	4575			1.6	Si
SLU 76	373	-17184	-3867	-663994		2.92	210.33	0.94	5563			1.44	Si
SLU 76	453	-16096	-3867	-354143		2.64	217.5	0.91	5529			1.43	Si
SLU 44	373	-12871	-3437	-570428		2.38	193.29	0.87	4723			1.37	Si
SLU 44	453	-11796	-3437	-294858		1.94	217.5	0.81	4956			1.44	Si
SLU 68	373	-14982	-3577	-612096		2.63	203.69	0.91	5166			1.44	Si
SLU 68	453	-13893	-3577	-325463		2.28	217.5	0.86	5236			1.46	Si
SLU 73	373	-17040	-3943	-665043		2.91	209.17	0.94	5526			1.4	Si
SLU 73	453	-15951	-3943	-349122		2.62	217.5	0.9	5510			1.4	Si
SLU 10	373	-11971	-3150	-530778		2.21	193.23	0.85	4602			1.46	Si
SLU 10	453	-11140	-3150	-278298		1.83	217.5	0.8	4869			1.55	Si
SLU 52	373	-15073	-3727	-622326		2.66	202.39	0.91	5158			1.38	Si
SLU 52	453	-13998	-3727	-323538		2.3	217.5	0.86	5250			1.41	Si
SLU 47	373	-13015	-3361	-569380		2.38	195.01	0.87	4769			1.42	Si
SLU 47	453	-11940	-3361	-299879		1.96	217.5	0.82	4975			1.48	Si
SLU 65	373	-14838	-3652	-613145		2.62	202.28	0.9	5125			1.4	Si
SLU 65	453	-13749	-3652	-320442		2.26	217.5	0.86	5217			1.43	Si
SLU 55	373	-15217	-3651	-621277		2.67	203.77	0.91	5199			1.42	Si
SLU 55	453	-14142	-3651	-328559		2.32	217.5	0.87	5269			1.44	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	373	-14076	-9395	-1054969		4.96	101.4	1.63	4614			0.49	No, $V_u < V$
SLV 10	453	-23887	-10795	203970		3.92	217.5	1.62	9852			0.91	No, $V_u < V$
SLV 14	373	-16323	-15613	-803134		3.26	178.65	1.49	7433			0.48	No, $V_u < V$
SLV 14	453	-18533	-15948	583276		3.04	217.5	1.44	8782			0.55	No, $V_u < V$
SLV 7	373	-13483	4768	292947		2.21	217.5	1.28	7772			1.63	Si
SLV 7	453	-2002	6169	-595059		0	0	0.83	0			0	No, $V_u < V$
SLV 4	373	-11235	10986	41112		1.84	217.5	1.2	7322			0.67	No, $V_u < V$
SLV 4	453	-7356	11322	-974365		0	0	0.83	0			0	No, $V_u < V$
SLV 9	373	-14076	-9395	-1054969		4.96	101.4	1.63	4614			0.49	No, $V_u < V$
SLV 9	453	-23887	-10795	203970		3.92	217.5	1.62	9852			0.91	No, $V_u < V$
SLV 13	373	-16323	-15613	-803134		3.26	178.65	1.49	7433			0.48	No, $V_u < V$
SLV 13	453	-18533	-15948	583276		3.04	217.5	1.44	8782			0.55	No, $V_u < V$
SLV 8	373	-13483	4768	292947		2.21	217.5	1.28	7772			1.63	Si
SLV 8	453	-2002	6169	-595059		0	0	0.83	0			0	No, $V_u < V$
SLV 3	373	-11235	10986	41112		1.84	217.5	1.2	7322			0.67	No, $V_u < V$
SLV 3	453	-7356	11322	-974365		0	0	0.83	0			0	No, $V_u < V$
SLV 15	373	-16631	-13574	-442263		2.73	217.5	1.38	8401			0.62	No, $V_u < V$
SLV 15	453	-12424	-13052	473912		2.09	211.82	1.25	7427			0.57	No, $V_u < V$
SLV 16	373	-16631	-13574	-442263		2.73	217.5	1.38	8401			0.62	No, $V_u < V$
SLV 16	453	-12424	-13052	473912		2.09	211.82	1.25	7427			0.57	No, $V_u < V$



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.32	1.56	-9507	20626	116094	5.63	Si
SLV 5	14	0.32	1.56	-9507	20626	116094	5.63	Si
SLV 9	14	0.32	1.62	-9885	20626	120006	5.82	Si
SLV 10	14	0.32	1.62	-9885	20626	120006	5.82	Si
SLV 1	14	0.32	1.7	-10378	20626	125026	6.06	Si
SLV 2	14	0.32	1.7	-10378	20626	125026	6.06	Si
SLV 3	14	0.32	1.89	-11502	20626	136137	6.6	Si
SLV 4	14	0.32	1.89	-11502	20626	136137	6.6	Si
SLV 14	14	0.32	1.91	-11637	20626	137444	6.66	Si
SLV 13	14	0.32	1.91	-11637	20626	137444	6.66	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-4763	-10968	-121	0.031	8.166	0.905	49.821	1436.128	No
SLV 8	-4763	-10968	-121	0.031	8.166	0.905	49.821	1436.128	No
SLV 11	-4824	-9809	-106	0.033	8.225	0.905	53.398	1436.128	No
SLV 12	-4824	-9809	-106	0.033	8.225	0.905	53.398	1436.128	No
SLV 9	-17257	-8698	119	0.035	20.775	0.955	53.815	1436.128	No
SLV 10	-17257	-8698	119	0.035	20.775	0.955	53.815	1436.128	No
SLV 5	-17196	-9858	104	0.036	20.714	0.955	54.999	1436.128	No
SLV 6	-17196	-9858	104	0.036	20.714	0.955	54.999	1436.128	No
SLV 13	-12976	-7734	58	0.039	16.429	0.944	59.715	942.501	No
SLV 14	-12976	-7734	58	0.039	16.429	0.944	59.715	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.782	SLU 2	Si
V_SLU	1.374	SLU 44	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	5.629	SLV 5	Si
R_SLV	0.035	SLV 7	No

Maschio 63

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1831.3	-335.9	-1886.8	-335.9	L3	L4	55.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 78	373	-11183	-10721	7.2	36173	3.374	Si
SLU 78	453	-11098	42883	7.14	37969	0.885	No, M>Mu
SLU 83	373	-11276	-7816	7.26	34172	4.372	Si
SLU 83	453	-11226	41515	7.22	35259	0.849	No, M>Mu
SLU 77	373	-11003	-6611	7.08	39941	6.041	Si
SLU 77	453	-10947	38491	7.04	41081	1.067	Si
SLU 80	373	-11091	-10410	7.14	38125	3.662	Si
SLU 80	453	-11009	41895	7.08	39809	0.95	No, M>Mu
SLU 75	373	-11072	-11995	7.13	38503	3.21	Si
SLU 75	453	-10973	45216	7.06	40548	0.897	No, M>Mu
SLU 81	373	-11165	-9090	7.18	36548	4.021	Si
SLU 81	453	-11101	43849	7.14	37908	0.865	No, M>Mu
SLU 82	373	-11346	-13200	7.3	32651	2.474	Si
SLU 82	453	-11252	48240	7.24	34693	0.719	No, M>Mu
SLU 76	373	-11100	-14424	7.14	37926	2.629	Si
SLU 76	453	-10985	47156	7.07	40304	0.855	No, M>Mu
SLU 84	373	-11457	-11925	7.37	30187	2.531	Si
SLU 84	453	-11377	45906	7.32	31961	0.696	No, M>Mu
SLU 73	373	-10989	-15699	7.07	40216	2.562	Si
SLU 73	453	-10860	49490	6.99	42821	0.865	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 9	373	-9774	-45566	6.29	131614	2.888	Si
SLV 9	453	-8980	120936	5.78	131343	1.086	Si
SLV 15	373	-4366	-98018	2.81	93305	0.952	No, M>Mu
SLV 15	453	-5295	154164	0	0	0	No, e>l/2
SLV 14	373	-6147	-104427	3.96	115354	1.105	Si
SLV 14	453	-6518	183790	0	0	0	No, e>l/2
SLV 16	373	-4366	-98018	2.81	93305	0.952	No, M>Mu
SLV 16	453	-5295	154164	0	0	0	No, e>l/2
SLV 10	373	-9774	-45566	6.29	131614	2.888	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	453	-8980	120936	5.78	131343	1.086	Si
SLV 13	373	-6147	-104427	3.96	115354	1.105	Si
SLV 13	453	-6518	183790	0	0	0	No, e>1/2
SLD 14	373	-6883	-47972	4.43	121765	2.538	Si
SLD 14	453	-6998	95064	4.5	122626	1.29	Si
SLD 13	373	-6883	-47972	4.43	121765	2.538	Si
SLD 13	453	-6998	95064	4.5	122626	1.29	Si
SLV 3	373	-8796	91520	5.66	131016	1.432	Si
SLV 3	453	-8253	-124173	5.31	129478	1.043	Si
SLV 4	373	-8796	91520	5.66	131016	1.432	Si
SLV 4	453	-8253	-124173	5.31	129478	1.043	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	373	-10021	-795	-15325	6.45	55.5	1.08	1684				2.12	Si
SLU 52	453	-9868	-774	46133	6.35	55.5	1.08	1684				2.17	Si
SLU 75	373	-11072	-749	-11995	7.13	55.5	1.08	1684				2.25	Si
SLU 75	453	-10973	-730	45216	7.06	55.5	1.08	1684				2.31	Si
SLU 73	373	-10989	-846	-15699	7.07	55.5	1.08	1684				1.99	Si
SLU 73	453	-10860	-824	49490	6.99	55.5	1.08	1684				2.04	Si
SLU 55	373	-10132	-752	-14051	6.52	55.5	1.08	1684				2.24	Si
SLU 55	453	-9993	-731	43799	6.43	55.5	1.08	1684				2.3	Si
SLU 65	373	-9876	-784	-15137	6.36	55.5	1.08	1684				2.15	Si
SLU 65	453	-9710	-763	45575	6.25	55.5	1.08	1684				2.21	Si
SLU 76	373	-11100	-803	-14424	7.14	55.5	1.08	1684				2.1	Si
SLU 76	453	-10985	-781	47156	7.07	55.5	1.08	1684				2.16	Si
SLU 84	373	-11457	-760	-11925	7.37	55.5	1.08	1684				2.21	Si
SLU 84	453	-11377	-741	45906	7.32	55.5	1.08	1684				2.27	Si
SLU 68	373	-9987	-741	-13862	6.43	55.5	1.08	1684				2.27	Si
SLU 68	453	-9835	-720	43242	6.33	55.5	1.08	1684				2.34	Si
SLU 61	373	-10378	-752	-12826	6.68	55.5	1.08	1684				2.24	Si
SLU 61	453	-10260	-734	44883	6.6	55.5	1.08	1684				2.29	Si
SLU 82	373	-11346	-803	-13200	7.3	55.5	1.08	1684				2.1	Si
SLU 82	453	-11252	-783	48240	7.24	55.5	1.08	1684				2.15	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	373	-4366	-3281	-98018	9.8	15.91	1.63	724				0.22	No, Vu<V
SLV 15	453	-5295	-3451	154164	0	0	0.83	0				0	No, Vu<V
SLV 4	373	-8796	2767	91520	6.04	52.03	1.63	2368				0.86	No, Vu<V
SLV 4	453	-8253	2692	-124173	7.73	38.11	1.63	1734				0.64	No, Vu<V
SLV 16	373	-4366	-3281	-98018	9.8	15.91	1.63	724				0.22	No, Vu<V
SLV 16	453	-5295	-3451	154164	0	0	0.83	0				0	No, Vu<V
SLV 13	373	-6147	-3720	-104427	6.8	32.28	1.63	1469				0.39	No, Vu<V
SLV 13	453	-6518	-3625	183790	0	0	0.83	0				0	No, Vu<V
SLV 3	373	-8796	2767	91520	6.04	52.03	1.63	2368				0.86	No, Vu<V
SLV 3	453	-8253	2692	-124173	7.73	38.11	1.63	1734				0.64	No, Vu<V
SLV 14	373	-6147	-3720	-104427	6.8	32.28	1.63	1469				0.39	No, Vu<V
SLV 14	453	-6518	-3625	183790	0	0	0.83	0				0	No, Vu<V
SLD 14	373	-6883	-1854	-47972	4.43	55.5	1.63	2525				1.36	Si
SLD 14	453	-6998	-1811	95064	5.88	42.5	1.63	1934				1.07	Si
SLV 1	373	-10576	2328	85111	6.81	55.5	1.63	2525				1.08	Si
SLV 1	453	-9476	2518	-94546	6.35	53.32	1.63	2426				0.96	No, Vu<V
SLD 13	373	-6883	-1854	-47972	4.43	55.5	1.63	2525				1.36	Si
SLD 13	453	-6998	-1811	95064	5.88	42.5	1.63	1934				1.07	Si
SLV 2	373	-10576	2328	85111	6.81	55.5	1.63	2525				1.08	Si
SLV 2	453	-9476	2518	-94546	6.35	53.32	1.63	2426				0.96	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.32	2.19	-3408	5263	39145	7.44	Si
SLV 12	14	0.32	2.19	-3408	5263	39145	7.44	Si
SLV 8	14	0.32	2.43	-3771	5263	42305	8.04	Si
SLV 7	14	0.32	2.43	-3771	5263	42305	8.04	Si
SLV 16	14	0.32	3.27	-5086	5263	52133	9.91	Si
SLV 15	14	0.32	3.27	-5086	5263	52133	9.91	Si
SLV 3	14	0.32	4.05	-6296	5263	58918	11.19	Si
SLV 4	14	0.32	4.05	-6296	5263	58918	11.19	Si
SLV 13	14	0.32	4.43	-6888	5263	61451	11.68	Si
SLV 14	14	0.32	4.43	-6888	5263	61451	11.68	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-4195	-11642	4	0.041	5.089	0.953	62.371	1436.128	No
SLV 5	-4195	-11642	4	0.041	5.089	0.953	62.371	1436.128	No
SLV 9	-3936	-12281	2	0.041	4.826	0.951	63.325	1436.128	No
SLV 10	-3936	-12281	2	0.041	4.826	0.951	63.325	1436.128	No
SLV 8	-2198	-4111	1	0.044	3.067	0.928	69.572	1436.128	No
SLV 7	-2198	-4111	1	0.044	3.067	0.928	69.572	1436.128	No
SLV 12	-1939	-4750	-1	0.045	2.805	0.923	71.226	1436.128	No
SLV 11	-1939	-4750	-1	0.045	2.805	0.923	71.226	1436.128	No
SLV 2	-3799	-8261	4	0.041	4.687	0.95	62.82	942.501	No
SLV 1	-3799	-8261	4	0.041	4.687	0.95	62.82	942.501	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.696	SLU 84	No
V_SLU	1.99	SLU 73	Si
PF_SLV	0	SLV 13	No
V_SLV	0	SLV 13	No
PFFP_SLV	7.438	SLV 11	Si
R_SLV	0.043	SLV 5	No

Maschio 64

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	104.6	-1961.8	581.1	L3	L4	476.5	14	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 77	173	-54018	1795414	8.1	76898	0.043	No, M>Mu
SLU 77	546	-39169	-121349	5.87	2605747	21.473	Si
SLU 82	173	-52955	1803112	7.94	322122	0.179	No, M>Mu
SLU 82	546	-37205	-169381	5.58	2795512	16.504	Si
SLU 75	173	-52534	1776789	7.87	416585	0.234	No, M>Mu
SLU 75	546	-37490	-139834	5.62	2770076	19.81	Si
SLU 84	173	-54225	1827211	8.13	27846	0.015	No, M>Mu
SLU 84	546	-38804	-149970	5.82	2643550	17.627	Si
SLU 78	173	-53804	1800888	8.07	127000	0.071	No, M>Mu
SLU 78	546	-39089	-120423	5.86	2614115	21.708	Si
SLU 80	173	-53368	1789026	8	228118	0.128	No, M>Mu
SLU 80	546	-38821	-108438	5.82	2641825	24.362	Si
SLU 79	173	-53581	1783553	8.03	178834	0.1	No, M>Mu
SLU 79	546	-38901	-109365	5.83	2633644	24.081	Si
SLU 83	173	-54439	1821737	8.16	0	0	No, Rottura per schiacciamento
SLU 83	546	-38884	-150896	5.83	2635381	17.465	Si
SLU 81	173	-53169	1797639	7.97	273611	0.152	No, M>Mu
SLU 81	546	-37285	-170307	5.59	2788463	16.373	Si
SLU 74	173	-52748	1771316	7.91	368863	0.208	No, M>Mu
SLU 74	546	-37570	-140760	5.63	2762828	19.628	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 16	173	-35692	1667206	5.35	4780338	2.867	Si
SLD 16	546	-24160	146742	3.62	4050145	27.6	Si
SLV 13	173	-30443	1998708	4.56	4544399	2.274	Si
SLV 13	546	-20728	494043	3.11	3682760	7.454	Si
SLV 14	173	-30443	1998708	4.56	4544399	2.274	Si
SLV 14	546	-20728	494043	3.11	3682760	7.454	Si
SLD 13	173	-33456	1558867	5.01	4699524	3.015	Si
SLD 13	546	-23034	162076	3.45	3937235	24.293	Si
SLV 16	173	-35737	2262579	5.36	4781670	2.113	Si
SLV 16	546	-23364	453414	3.5	3971054	8.758	Si
SLV 11	173	-43739	1940731	6.56	4829330	2.488	Si
SLV 11	546	-28342	16905	4.25	4404782	260.564	Si
SLV 15	173	-35737	2262579	5.36	4781670	2.113	Si
SLV 15	546	-23364	453414	3.5	3971054	8.758	Si
SLD 14	173	-33456	1558867	5.01	4699524	3.015	Si
SLD 14	546	-23034	162076	3.45	3937235	24.293	Si
SLD 15	173	-35692	1667206	5.35	4780338	2.867	Si
SLD 15	546	-24160	146742	3.62	4050145	27.6	Si
SLV 12	173	-43739	1940731	6.56	4829330	2.488	Si
SLV 12	546	-28342	16905	4.25	4404782	260.564	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	173	-53581	3132	1783553		8.03	476.52	1.08	7227			2.31	Si
SLU 79	546	-38901	622	-109365		5.83	476.52	1.08	7227			11.62	Si
SLU 82	173	-52955	3423	1803112		7.94	476.52	1.08	7227			2.11	Si
SLU 82	546	-37205	1115	-169381		5.58	476.52	1.08	7227			6.48	Si
SLU 78	173	-53804	3145	1800888		8.07	476.52	1.08	7227			2.3	Si
SLU 78	546	-39089	645	-120423		5.86	476.52	1.08	7227			11.2	Si
SLU 75	173	-52534	3219	1776789		7.87	476.52	1.08	7227			2.25	Si
SLU 75	546	-37490	847	-139834		5.62	476.52	1.08	7227			8.53	Si
SLU 81	173	-53169	3488	1797639		7.97	476.52	1.08	7227			2.07	Si
SLU 81	546	-37285	1172	-170307		5.59	476.52	1.08	7227			6.17	Si
SLU 77	173	-54018	3211	1795414		8.1	476.52	1.08	7227			2.25	Si
SLU 77	546	-39169	702	-121349		5.87	476.52	1.08	7227			10.29	Si
SLU 83	173	-54439	3415	1821737		8.16	476.52	1.08	7227			2.12	Si
SLU 83	546	-38884	970	-150896		5.83	476.52	1.08	7227			7.45	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	173	-50685	3169	1744478		7.6	476.52	1.08	7227			2.28	Si
SLU 73	546	-35569	931	-146643		5.33	476.52	1.08	7227			7.76	Si
SLU 84	173	-54225	3349	1827211		8.13	476.52	1.08	7227			2.16	Si
SLU 84	546	-38804	913	-149970		5.82	476.52	1.08	7227			7.92	Si
SLU 74	173	-52748	3284	1771316		7.91	476.52	1.08	7227			2.2	Si
SLU 74	546	-37570	904	-140760		5.63	476.52	1.08	7227			7.99	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	173	-45304	17835	1400989		6.79	476.52	1.63	10841			0.61	No, Vu<V
SLV 7	546	-29973	13174	-316618		4.49	476.52	1.63	10841			0.82	No, Vu<V
SLV 3	173	-40953	11894	463441		6.14	476.52	1.63	10841			0.91	No, Vu<V
SLV 3	546	-28801	8845	-658328		4.32	476.52	1.63	10841			1.23	Si
SLV 12	173	-43739	14536	1940731		6.56	476.52	1.63	10841			0.75	No, Vu<V
SLV 12	546	-28342	10219	16905		4.25	476.52	1.63	10841			1.06	Si
SLV 5	173	-27657	-10137	521418		4.15	476.52	1.63	10841			1.07	Si
SLV 5	546	-21187	-9047	-181190		3.18	476.52	1.47	9797			1.08	Si
SLV 4	173	-40953	11894	463441		6.14	476.52	1.63	10841			0.91	No, Vu<V
SLV 4	546	-28801	8845	-658328		4.32	476.52	1.63	10841			1.23	Si
SLV 11	173	-43739	14536	1940731		6.56	476.52	1.63	10841			0.75	No, Vu<V
SLV 11	546	-28342	10219	16905		4.25	476.52	1.63	10841			1.06	Si
SLV 9	173	-26092	-13436	1061159		3.91	476.52	1.62	10778			0.8	No, Vu<V
SLV 9	546	-19556	-12003	152333		2.93	476.52	1.42	9471			0.79	No, Vu<V
SLV 10	173	-26092	-13436	1061159		3.91	476.52	1.62	10778			0.8	No, Vu<V
SLV 10	546	-19556	-12003	152333		2.93	476.52	1.42	9471			0.79	No, Vu<V
SLV 8	173	-45304	17835	1400989		6.79	476.52	1.63	10841			0.61	No, Vu<V
SLV 8	546	-29973	13174	-316618		4.49	476.52	1.63	10841			0.82	No, Vu<V
SLV 6	173	-27657	-10137	521418		4.15	476.52	1.63	10841			1.07	Si
SLV 6	546	-21187	-9047	-181190		3.18	476.52	1.47	9797			1.08	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.32	3.62	-24133	24170	118916	4.92	Si
SLV 10	14	0.32	3.62	-24133	24170	118916	4.92	Si
SLV 6	14	0.32	3.79	-25307	24170	122150	5.05	Si
SLV 5	14	0.32	3.79	-25307	24170	122150	5.05	Si
SLV 14	14	0.32	4	-26718	24170	125724	5.2	Si
SLV 13	14	0.32	4	-26718	24170	125724	5.2	Si
SLV 15	14	0.32	4.51	-30108	24170	132911	5.5	Si
SLV 16	14	0.32	4.51	-30108	24170	132911	5.5	Si
SLV 2	14	0.32	4.59	-30632	24170	133845	5.54	Si
SLV 1	14	0.32	4.59	-30632	24170	133845	5.54	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	-28801	-40953	22	0.019	32.826	0.968	29.135	1436.128	No
SLV 4	-28801	-40953	22	0.019	32.826	0.968	29.135	1436.128	No
SLV 14	-20728	-30443	-24	0.02	24.612	0.958	29.681	1436.128	No
SLV 13	-20728	-30443	-24	0.02	24.612	0.958	29.681	1436.128	No
SLV 1	-26165	-35659	0	0.02	30.143	0.965	30.476	1436.128	No
SLV 2	-26165	-35659	0	0.02	30.143	0.965	30.476	1436.128	No
SLV 16	-23364	-35737	-1	0.02	27.293	0.962	30.785	1436.128	No
SLV 15	-23364	-35737	-1	0.02	27.293	0.962	30.785	1436.128	No
SLV 8	-29973	-45304	41	0.019	34.019	0.969	28.214	988.665	No
SLV 7	-29973	-45304	41	0.019	34.019	0.969	28.214	988.665	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 83	No
V_SLU	2.072	SLU 81	Si
PF_SLV	2.113	SLV 15	Si
V_SLV	0.608	SLV 7	No
PFFP_SLV	4.92	SLV 9	Si
R_SLV	0.02	SLV 3	No

Maschio 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-1961.8	666.1	L3	L4	71	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	173	-16382	-97831	8.24	0	0	No, Rottura per schiacciamento
SLU 82	546	-8053	12874	4.05	143717	11.163	Si
SLU 77	173	-16374	-97713	8.24	0	0	No, Rottura per schiacciamento
SLU 77	546	-8639	7874	4.35	143077	18.171	Si
SLU 83	173	-16654	-99396	8.38	0	0	No, Rottura per schiacciamento
SLU 83	546	-8496	10639	4.27	143373	13.476	Si
SLU 84	173	-16623	-99111	8.36	0	0	No, Rottura per schiacciamento
SLU 84	546	-8472	10735	4.26	143413	13.359	Si
SLU 80	173	-16201	-96477	8.15	0	0	No, Rottura per schiacciamento
SLU 80	546	-8586	7385	4.32	143198	19.39	Si
SLU 79	173	-16231	-96762	8.16	0	0	No, Rottura per schiacciamento
SLU 79	546	-8609	7289	4.33	143146	19.64	Si
SLU 74	173	-16133	-96432	8.11	2171	0.023	No, M>Mu
SLU 74	546	-8220	10013	4.13	143688	14.35	Si
SLU 81	173	-16412	-98116	8.26	0	0	No, Rottura per schiacciamento
SLU 81	546	-8077	12778	4.06	143720	11.248	Si
SLU 78	173	-16343	-97428	8.22	0	0	No, Rottura per schiacciamento
SLU 78	546	-8616	7970	4.33	143131	17.958	Si
SLU 75	173	-16102	-96147	8.1	3233	0.034	No, M>Mu
SLU 75	546	-8197	10109	4.12	143699	14.215	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 2	173	-10996	-97544	5.53	213650	2.19	Si
SLD 2	546	-3913	28857	1.97	116544	4.039	Si
SLV 5	173	-6623	-89168	3.33	171009	1.918	Si
SLV 5	546	-1552	35095	0.78	51583	1.47	Si
SLV 1	173	-10914	-140061	5.49	213364	1.523	Si
SLV 1	546	-1850	57849	0.93	60676	1.049	Si
SLD 1	173	-10996	-97544	5.53	213650	2.19	Si
SLD 1	546	-3913	28857	1.97	116544	4.039	Si
SLV 7	173	-16223	-87163	8.16	191285	2.195	Si
SLV 7	546	-7731	7283	3.89	187096	25.689	Si
SLV 4	173	-13794	-139460	6.94	211612	1.517	Si
SLV 4	546	-3704	49506	1.86	111431	2.251	Si
SLV 2	173	-10914	-140061	5.49	213364	1.523	Si
SLV 2	546	-1850	57849	0.93	60676	1.049	Si
SLV 6	173	-6623	-89168	3.33	171009	1.918	Si
SLV 6	546	-1552	35095	0.78	51583	1.47	Si
SLV 8	173	-16223	-87163	8.16	191285	2.195	Si
SLV 8	546	-7731	7283	3.89	187096	25.689	Si
SLV 3	173	-13794	-139460	6.94	211612	1.517	Si
SLV 3	546	-3704	49506	1.86	111431	2.251	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	173	-16201	-2605	-96477	8.15	71	1.08	2154	2154			0.83	No, Vu<V
SLU 80	546	-8586	-868	7385	4.32	71	1.08	2154	2154			2.48	Si
SLU 79	173	-16231	-2609	-96762	8.16	71	1.08	2154	2154			0.83	No, Vu<V
SLU 79	546	-8609	-861	7289	4.33	71	1.08	2154	2154			2.5	Si
SLU 84	173	-16623	-2699	-99111	8.36	71	1.08	2154	2154			0.8	No, Vu<V
SLU 84	546	-8472	-1044	10735	4.26	71	1.08	2154	2154			2.06	Si
SLU 78	173	-16343	-2634	-97428	8.22	71	1.08	2154	2154			0.82	No, Vu<V
SLU 78	546	-8616	-905	7970	4.33	71	1.08	2154	2154			2.38	Si
SLU 77	173	-16374	-2639	-97713	8.24	71	1.08	2154	2154			0.82	No, Vu<V
SLU 77	546	-8639	-898	7874	4.35	71	1.08	2154	2154			2.4	Si
SLU 82	173	-16382	-2683	-97831	8.24	71	1.08	2154	2154			0.8	No, Vu<V
SLU 82	546	-8053	-1142	12874	4.05	71	1.08	2154	2154			1.89	Si
SLU 74	173	-16133	-2622	-96432	8.11	71	1.08	2154	2154			0.82	No, Vu<V
SLU 74	546	-8220	-996	10013	4.13	71	1.08	2154	2154			2.16	Si
SLU 83	173	-16654	-2704	-99396	8.38	71	1.08	2154	2154			0.8	No, Vu<V
SLU 83	546	-8496	-1037	10639	4.27	71	1.08	2154	2154			2.08	Si
SLU 75	173	-16102	-2617	-96147	8.1	71	1.08	2154	2154			0.82	No, Vu<V
SLU 75	546	-8197	-1003	10109	4.12	71	1.08	2154	2154			2.15	Si
SLU 81	173	-16412	-2688	-98116	8.26	71	1.08	2154	2154			0.8	No, Vu<V
SLU 81	546	-8077	-1135	12778	4.06	71	1.08	2154	2154			1.9	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	173	-6623	-551	-89168	3.58	66.11	1.55	2867	2867			5.2	Si
SLV 5	546	-1552	-3346	35095	1.43	38.67	1.12	1213	1213			0.36	No, Vu<V
SLD 4	173	-12199	-3227	-97296	6.14	71	1.63	3231	3231			1	Si
SLD 4	546	-4694	-1801	25352	2.36	71	1.31	2595	2595			1.44	Si
SLV 6	173	-6623	-551	-89168	3.58	66.11	1.55	2867	2867			5.2	Si
SLV 6	546	-1552	-3346	35095	1.43	38.67	1.12	1213	1213			0.36	No, Vu<V
SLV 1	173	-10914	-3968	-140061	5.73	68	1.63	3094	3094			0.78	No, Vu<V
SLV 1	546	-1850	-4292	57849	5.2	12.7	1.63	578	578			0.13	No, Vu<V
SLV 8	173	-16223	-4728	-87163	8.16	71	1.63	3231	3231			0.68	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	546	-7731	98	7283		3.89	71	1.61	3203			32.67	Si
SLV 4	173	-13794	-5221	-139460		6.94	71	1.63	3231			0.62	No, Vu<V
SLV 4	546	-3704	-3258	49506		1.99	66.4	1.23	2290			0.7	No, Vu<V
SLV 7	173	-16223	-4728	-87163		8.16	71	1.63	3231			0.68	No, Vu<V
SLV 7	546	-7731	98	7283		3.89	71	1.61	3203			32.67	Si
SLD 3	173	-12199	-3227	-97296		6.14	71	1.63	3231			1	Si
SLD 3	546	-4694	-1801	25352		2.36	71	1.31	2595			1.44	Si
SLV 2	173	-10914	-3968	-140061		5.73	68	1.63	3094			0.78	No, Vu<V
SLV 2	546	-1850	-4292	57849		5.2	12.7	1.63	578			0.13	No, Vu<V
SLV 3	173	-13794	-5221	-139460		6.94	71	1.63	3231			0.62	No, Vu<V
SLV 3	546	-3704	-3258	49506		1.99	66.4	1.23	2290			0.7	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.32	2.02	-4009	6890	46860	6.8	Si
SLV 9	14	0.32	2.02	-4009	6890	46860	6.8	Si
SLV 6	14	0.32	2.26	-4497	6890	51306	7.45	Si
SLV 5	14	0.32	2.26	-4497	6890	51306	7.45	Si
SLV 14	14	0.32	3.11	-6177	6890	64485	9.36	Si
SLV 13	14	0.32	3.11	-6177	6890	64485	9.36	Si
SLV 1	14	0.32	3.93	-7806	6890	74163	10.76	Si
SLV 2	14	0.32	3.93	-7806	6890	74163	10.76	Si
SLV 15	14	0.32	4.29	-8524	6890	77457	11.24	Si
SLV 16	14	0.32	4.29	-8524	6890	77457	11.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-1552	-6623	-181	0	2.663	0.905	0	1436.128	No
SLV 5	-1552	-6623	-181	0	2.663	0.905	0	1436.128	No
SLV 10	-3150	-5825	-159	0.002	4.264	0.933	3.794	1436.128	No
SLV 9	-3150	-5825	-159	0.002	4.264	0.933	3.794	1436.128	No
SLV 1	-1850	-10914	-89	0.012	2.958	0.911	19.582	942.501	No
SLV 2	-1850	-10914	-89	0.012	2.958	0.911	19.582	942.501	No
SLV 7	-7731	-16223	156	0.022	8.915	0.965	32.997	1436.128	No
SLV 8	-7731	-16223	156	0.022	8.915	0.965	32.997	1436.128	No
SLV 11	-9329	-15425	178	0.022	10.542	0.97	33.272	1436.128	No
SLV 12	-9329	-15425	178	0.022	10.542	0.97	33.272	1436.128	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 77	No
V_SLU	0.796	SLU 83	No
PF_SLV	1.049	SLV 1	Si
V_SLV	0.135	SLV 1	No
PFFP_SLV	6.802	SLV 9	Si
R_SLV	0	SLV 5	No

Maschio 66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1638.3	-335.9	-1731.3	-335.9	L3	L4	93	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 81	263	-18938	179418	7.27	94399	0.526	No, M>Mu
SLU 81	453	-14857	134840	5.71	206962	1.535	Si
SLU 82	263	-19573	197089	7.52	70300	0.357	No, M>Mu
SLU 82	453	-14681	129117	5.64	210187	1.628	Si
SLU 80	263	-19378	208178	7.44	77879	0.374	No, M>Mu
SLU 80	453	-13940	116912	5.35	222218	1.901	Si
SLU 83	263	-19226	188472	7.38	83684	0.444	No, M>Mu
SLU 83	453	-14828	131728	5.69	207517	1.575	Si
SLU 73	263	-19225	201852	7.38	83713	0.415	No, M>Mu
SLU 73	453	-13882	119321	5.33	223059	1.869	Si
SLU 75	263	-19192	198521	7.37	84972	0.428	No, M>Mu
SLU 75	453	-14127	122160	5.43	219409	1.796	Si
SLU 77	263	-18845	189903	7.24	97775	0.515	No, M>Mu
SLU 77	453	-14274	124771	5.48	217095	1.74	Si
SLU 76	263	-19514	210906	7.49	72635	0.344	No, M>Mu
SLU 76	453	-13852	116209	5.32	223486	1.923	Si
SLU 78	263	-19480	207575	7.48	73935	0.356	No, M>Mu
SLU 78	453	-14097	119048	5.41	219869	1.847	Si
SLU 84	263	-19862	206143	7.63	58782	0.285	No, M>Mu
SLU 84	453	-14651	126005	5.63	210720	1.672	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Table with 8 columns: Comb., Quota, N, M, sigma_0, Mu, c.s., Verifica. Rows include SLV 8, SLV 7, SLV 12, SLV 11, SLV 2, SLV 10, SLV 1, SLV 4, SLV 9, SLV 3.

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Table with 14 columns: Comb., Quota, N, V par, M, sigma_0, sigma_N, I', fvd, Vt scorr., Vt fess.diag., Vt,lim, c.s., Verifica. Rows include SLU 79, SLU 80, SLU 83, SLU 78, SLU 57, SLU 75, SLU 84, SLU 77, SLU 59, SLU 56, SLU 76.

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Table with 14 columns: Comb., Quota, N, V par, M, sigma_0, sigma_N, I', fvd, Vt scorr., Vt fess.diag., Vt,lim, c.s., Verifica. Rows include SLV 15, SLV 1, SLV 12, SLV 4, SLV 7, SLV 16, SLV 2, SLV 11, SLV 8, SLV 3.

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Table with 11 columns: Comb., fd, Sa, sigma_0, N, M, Mc, Coeff.s., Verifica. Rows include SLV 11, SLV 12, SLV 16, SLV 15, SLV 7, SLV 8, SLV 13, SLV 14, SLV 5, SLV 6.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.05 Ta = 0.083

Table with 10 columns: Comb., N top, N base, V orto, alpha_0, M*, e*, a0*, aLim, Verifica. Row includes SLV 7.

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-3267	-3252	67	0.029	4.72	0.923	46.25	1436.128	No
SLV 11	-5120	-3416	65	0.032	6.591	0.941	49.547	1436.128	No
SLV 12	-5120	-3416	65	0.032	6.591	0.941	49.547	1436.128	No
SLV 5	-9324	-16560	-55	0.035	10.861	0.962	53.415	1436.128	No
SLV 6	-9324	-16560	-55	0.035	10.861	0.962	53.415	1436.128	No
SLV 9	-11176	-16724	-56	0.036	12.746	0.967	53.484	1436.128	No
SLV 10	-11176	-16724	-56	0.036	12.746	0.967	53.484	1436.128	No
SLV 16	-9400	-8265	22	0.039	10.939	0.963	58.329	942.501	No
SLV 15	-9400	-8265	22	0.039	10.939	0.963	58.329	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.285	SLU 84	No
V_SLU	1.118	SLU 80	Si
PF_SLV	0	SLV 8	No
V_SLV	0	SLV 7	No
PFFP_SLV	6.691	SLV 11	Si
R_SLV	0.032	SLV 7	No

Maschio 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1844.8	-335.9	-1844.8	104.6	L3	L4	440.6	14	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 76	173	-23870	-684012	3.87	2760083	4.035	Si
SLU 76	546	-25258	369456	4.1	2766872	7.489	Si
SLU 65	173	-21242	-683631	3.44	2700959	3.951	Si
SLU 65	546	-22023	278686	3.57	2724867	9.778	Si
SLU 68	173	-21510	-654447	3.49	2709778	4.141	Si
SLU 68	546	-22516	302113	3.65	2737195	9.06	Si
SLU 52	173	-21419	-701770	3.47	2706858	3.857	Si
SLU 52	546	-22178	272030	3.6	2728959	10.032	Si
SLU 55	173	-21688	-672586	3.52	2715259	4.037	Si
SLU 55	546	-22671	295457	3.68	2740619	9.276	Si
SLU 82	173	-24242	-654716	3.93	2763562	4.221	Si
SLU 82	546	-25642	383232	4.16	2765767	7.217	Si
SLU 47	173	-19328	-643022	3.13	2619811	4.074	Si
SLU 47	546	-19929	228113	3.23	2648721	11.611	Si
SLU 2	173	-15451	-561142	2.5	2356897	4.2	Si
SLU 2	546	-15805	172156	2.56	2386422	13.862	Si
SLU 73	173	-23601	-713195	3.83	2756820	3.865	Si
SLU 73	546	-24766	346030	4.02	2766398	7.995	Si
SLU 44	173	-19060	-672205	3.09	2605855	3.877	Si
SLU 44	546	-19436	204687	3.15	2625207	12.825	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLD 5	173	-17401	-713357	2.82	2948106	4.133	Si
SLD 5	546	-17721	251210	2.87	2985776	11.886	Si
SLV 5	173	-19614	-1166157	3.18	3196191	2.741	Si
SLV 5	546	-19322	278571	3.13	3165143	11.362	Si
SLV 10	173	-18782	-1347579	3.05	3106302	2.305	Si
SLV 10	546	-17092	293748	2.77	2911172	9.91	Si
SLD 6	173	-17401	-713357	2.82	2948106	4.133	Si
SLD 6	546	-17721	251210	2.87	2985776	11.886	Si
SLV 14	173	-15448	-955916	2.5	2705485	2.83	Si
SLV 14	546	-13351	274516	2.16	2420019	8.816	Si
SLD 9	173	-17056	-789644	2.77	2906891	3.681	Si
SLD 9	546	-16799	258121	2.72	2875656	11.141	Si
SLV 9	173	-18782	-1347579	3.05	3106302	2.305	Si
SLV 9	546	-17092	293748	2.77	2911172	9.91	Si
SLD 10	173	-17056	-789644	2.77	2906891	3.681	Si
SLD 10	546	-16799	258121	2.72	2875656	11.141	Si
SLV 6	173	-19614	-1166157	3.18	3196191	2.741	Si
SLV 6	546	-19322	278571	3.13	3165143	11.362	Si
SLV 13	173	-15448	-955916	2.5	2705485	2.83	Si
SLV 13	546	-13351	274516	2.16	2420019	8.816	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 31	173	-19992	-2174	-602132		3.24	440.57	0.99	6092			2.8	Si
SLU 31	546	-21135	-1295	313499		3.43	440.57	1.01	6245			4.82	Si
SLU 73	173	-23601	-2206	-713195		3.83	440.57	1.07	6573			2.98	Si
SLU 73	546	-24766	-1233	346030		4.02	440.57	1.08	6682			5.42	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	383	-1285	3574	-544012		0	0	0.83	0			0	No, Vu<V
SLV 1	173	-7166	4784	67749		1.48	173	1.13	5470			1.14	Si
SLV 1	383	-2219	2857	-652774		0	0	0.83	0			0	No, Vu<V
SLV 11	173	-3990	-4428	-517304		0	0	0.83	0			0	No, Vu<V
SLV 11	383	-11678	-3656	152387		2.41	173	1.32	6372			1.74	Si
SLV 7	173	-2931	503	-275254		0	0	0.83	0			0	No, Vu<V
SLV 7	383	-6378	67	-110464		1.32	173	1.1	5312			78.84	Si
SLV 12	173	-3990	-4428	-517304		0	0	0.83	0			0	No, Vu<V
SLV 12	383	-11678	-3656	152387		2.41	173	1.32	6372			1.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore $8 \gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.32	0.39	-1866	16406	25301	1.54	Si
SLV 4	14	0.32	0.39	-1866	16406	25301	1.54	Si
SLV 2	14	0.32	0.41	-1986	16406	26869	1.64	Si
SLV 1	14	0.32	0.41	-1986	16406	26869	1.64	Si
SLV 8	14	0.32	1.55	-7518	16406	91882	5.6	Si
SLV 7	14	0.32	1.55	-7518	16406	91882	5.6	Si
SLV 5	14	0.32	1.63	-7917	16406	96014	5.85	Si
SLV 6	14	0.32	1.63	-7917	16406	96014	5.85	Si
SLV 11	14	0.32	2.58	-12482	16406	137897	8.41	Si
SLV 12	14	0.32	2.58	-12482	16406	137897	8.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-7821	-3990	-160	0.027	10.537	0.933	42.093	1436.128	No
SLV 12	-7821	-3990	-160	0.027	10.537	0.933	42.093	1436.128	No
SLV 5	-14279	-11347	165	0.031	17.087	0.956	47.072	1436.128	No
SLV 6	-14279	-11347	165	0.031	17.087	0.956	47.072	1436.128	No
SLV 7	-8324	-2931	-132	0.03	11.045	0.936	47.196	1436.128	No
SLV 8	-8324	-2931	-132	0.03	11.045	0.936	47.196	1436.128	No
SLV 9	-13777	-12406	137	0.033	16.576	0.955	49.587	1436.128	No
SLV 10	-13777	-12406	137	0.033	16.576	0.955	49.587	1436.128	No
SLV 2	-12782	-7166	94	0.035	15.565	0.952	53.769	942.501	No
SLV 1	-12782	-7166	94	0.035	15.565	0.952	53.769	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.318	SLU 82	Si
V_SLU	0.704	SLU 82	No
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	1.542	SLV 3	Si
R_SLV	0.029	SLV 11	No

Maschio 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1505.8	220.1	-1505.8	666.1	L3	L4	446	14	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 61	173	-54164	2180502	8.67	0	0	No, Rottura per schiacciamento
SLU 61	546	-36373	-525674	5.83	2310690	4.396	Si
SLU 54	173	-52017	2244242	8.33	0	0	No, Rottura per schiacciamento
SLU 54	546	-34800	-454265	5.57	2450703	5.395	Si
SLU 60	173	-54169	2186997	8.68	0	0	No, Rottura per schiacciamento
SLU 60	546	-36364	-522663	5.82	2311484	4.423	Si
SLU 84	173	-58453	2680854	9.36	0	0	No, Rottura per schiacciamento
SLU 84	546	-39296	-456398	6.29	1992735	4.366	Si
SLU 52	173	-51851	2058710	8.3	0	0	No, Rottura per schiacciamento
SLU 52	546	-34696	-512593	5.56	2459236	4.798	Si
SLU 56	173	-51278	2446171	8.21	0	0	No, Rottura per schiacciamento
SLU 56	546	-34158	-366614	5.47	2501654	6.824	Si
SLU 83	173	-58458	2687350	9.36	0	0	No, Rottura per schiacciamento
SLU 83	546	-39288	-453387	6.29	1993741	4.397	Si



Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.32	4.42	-27618	22623	123342	5.45	Si
SLV 8	14	0.32	4.46	-27831	22623	123751	5.47	Si
SLV 7	14	0.32	4.46	-27831	22623	123751	5.47	Si
SLV 9	14	0.32	5.56	-34741	22623	132449	5.85	Si
SLV 10	14	0.32	5.56	-34741	22623	132449	5.85	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-20968	-31685	-141	0.014	24.63	0.96	21.756	1436.128	No
SLV 15	-20968	-31685	-141	0.014	24.63	0.96	21.756	1436.128	No
SLV 14	-23214	-35226	-142	0.015	26.915	0.963	22.22	1436.128	No
SLV 13	-23214	-35226	-142	0.015	26.915	0.963	22.22	1436.128	No
SLV 4	-30256	-44878	143	0.016	34.083	0.971	23.32	1436.128	No
SLV 3	-30256	-44878	143	0.016	34.083	0.971	23.32	1436.128	No
SLV 2	-32502	-48419	142	0.016	36.37	0.972	23.627	1436.128	No
SLV 1	-32502	-48419	142	0.016	36.37	0.972	23.627	1436.128	No
SLV 10	-29085	-43975	-43	0.019	32.891	0.97	27.933	988.665	No
SLV 9	-29085	-43975	-43	0.019	32.891	0.97	27.933	988.665	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 52	No
V_SLU	3.843	SLU 79	Si
PF_SLV	0.954	SLV 11	No
V_SLV	0.579	SLV 11	No
PFFP_SLV	5.159	SLV 15	Si
R_SLV	0.015	SLV 15	No

Maschio 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1375.3	-331.4	L3	Z medio 375 cm	154.5	28	202	202	202			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	α0	Mu	c.s.	Verifica
SLU 78	173	-31128	-62540	7.2	280508	4.485	Si
SLU 78	375	-23164	-156188	5.35	613165	3.926	Si
SLU 81	173	-31240	-58616	7.22	273874	4.672	Si
SLU 81	375	-23332	-176649	5.39	609005	3.448	Si
SLU 62	173	-30053	-64855	6.95	341632	5.268	Si
SLU 62	375	-22417	-160829	5.18	630089	3.918	Si
SLU 77	173	-31122	-64779	7.19	280886	4.336	Si
SLU 77	375	-23163	-156979	5.35	613171	3.906	Si
SLU 83	173	-31743	-63789	7.34	243247	3.813	Si
SLU 83	375	-23741	-176334	5.49	598411	3.394	Si
SLU 82	173	-31246	-56378	7.22	273493	4.851	Si
SLU 82	375	-23333	-175858	5.39	608998	3.463	Si
SLU 84	173	-31750	-61551	7.34	242852	3.946	Si
SLU 84	375	-23741	-175543	5.49	598404	3.409	Si
SLU 63	173	-30060	-62616	6.95	341284	5.45	Si
SLU 63	375	-22417	-160038	5.18	630084	3.937	Si
SLU 79	173	-31073	-66616	7.18	283760	4.26	Si
SLU 79	375	-23126	-155507	5.35	614090	3.949	Si
SLU 74	173	-30618	-59605	7.08	310141	5.203	Si
SLU 74	375	-22755	-157294	5.26	622731	3.959	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	α0	Mu	c.s.	Verifica
SLV 16	173	-12884	430744	2.98	752693	1.747	Si
SLV 16	375	-6715	161061	1.55	452856	2.812	Si
SLV 15	173	-12884	430744	2.98	752693	1.747	Si
SLV 15	375	-6715	161061	1.55	452856	2.812	Si
SLV 1	173	-29980	-512486	6.93	1002397	1.956	Si
SLV 1	375	-24715	26051	5.71	1016531	39.021	Si
SLV 11	173	-7835	279962	1.81	515554	1.842	Si
SLV 11	375	-6082	125182	1.41	415800	3.322	Si
SLV 2	173	-29980	-512486	6.93	1002397	1.956	Si
SLV 2	375	-24715	26051	5.71	1016531	39.021	Si
SLV 3	173	-22706	-394235	5.25	1000569	2.538	Si
SLV 3	375	-20144	33551	4.66	963090	28.706	Si
SLV 12	173	-7835	279962	1.81	515554	1.842	Si
SLV 12	375	-6082	125182	1.41	415800	3.322	Si
SLV 4	173	-22706	-394235	5.25	1000569	2.538	Si
SLV 4	375	-20144	33551	4.66	963090	28.706	Si



Stato limite	Coeff.s.	Comb.	Verifica
R. SLV	0.169	SLV 11	No

Maschio 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1375.3	-349.9	-1375.3	-331.4	Z medio 375 cm	L4	18.6	28	171	171	171			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 75	375	-3066	5422	5.9	7855	1.449	Si
SLU 75	546	-2068	17714	3.98	9824	0.555	No, M>Mu
SLU 78	375	-3124	5463	6.01	7609	1.393	Si
SLU 78	546	-2095	18126	4.03	9828	0.542	No, M>Mu
SLU 81	375	-2996	3953	5.76	8137	2.059	Si
SLU 81	546	-2108	18123	4.06	9829	0.542	No, M>Mu
SLU 74	375	-3068	5231	5.9	7849	1.501	Si
SLU 74	546	-2060	17860	3.96	9822	0.55	No, M>Mu
SLU 82	375	-2995	4144	5.76	8143	1.965	Si
SLU 82	546	-2116	17978	4.07	9829	0.542	No, M>Mu
SLU 84	375	-3052	4185	5.87	7915	1.891	Si
SLU 84	546	-2143	18390	4.12	9828	0.534	No, M>Mu
SLU 83	375	-3053	3993	5.87	7909	1.98	Si
SLU 83	546	-2135	18535	4.11	9828	0.53	No, M>Mu
SLU 80	375	-3111	5389	5.98	7663	1.422	Si
SLU 80	546	-2084	18083	4.01	9827	0.543	No, M>Mu
SLU 77	375	-3125	5271	6.01	7602	1.442	Si
SLU 77	546	-2087	18272	4.01	9827	0.538	No, M>Mu
SLU 79	375	-3113	5197	5.99	7657	1.473	Si
SLU 79	546	-2077	18228	3.99	9826	0.539	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 6	375	-2886	-4342	5.55	14621	3.368	Si
SLV 6	546	-1693	27901	0	0	0	No, e>1/2
SLD 3	375	-2146	5115	4.13	13194	2.58	Si
SLD 3	546	-1375	14114	0	0	0	No, e>1/2
SLV 5	375	-2886	-4342	5.55	14621	3.368	Si
SLV 5	546	-1693	27901	0	0	0	No, e>1/2
SLD 2	375	-2309	2909	4.44	13645	4.691	Si
SLD 2	546	-1445	17434	0	0	0	No, e>1/2
SLD 6	375	-2528	1163	4.86	14129	12.147	Si
SLD 6	546	-1539	18922	0	0	0	No, e>1/2
SLD 5	375	-2528	1163	4.86	14129	12.147	Si
SLD 5	546	-1539	18922	0	0	0	No, e>1/2
SLD 9	375	-2553	1872	4.91	14175	7.57	Si
SLD 9	546	-1550	16878	0	0	0	No, e>1/2
SLD 4	375	-2146	5115	4.13	13194	2.58	Si
SLD 4	546	-1375	14114	0	0	0	No, e>1/2
SLD 1	375	-2309	2909	4.44	13645	4.691	Si
SLD 1	546	-1445	17434	0	0	0	No, e>1/2
SLD 10	375	-2553	1872	4.91	14175	7.57	Si
SLD 10	546	-1550	16878	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 57	375	-2945	-32	5220		5.66	18.57	1.08	563			17.62	Si
SLU 57	546	-1954	116	17176		47.32	1.47	1.08	45			0.38	No, Vu<V
SLU 48	375	-2951	44	7742		5.68	18.57	1.08	563			12.94	Si
SLU 48	546	-1746	91	15642		63.61	0.98	1.08	30			0.33	No, Vu<V
SLU 56	375	-2946	-46	5028		5.67	18.57	1.08	563			12.12	Si
SLU 56	546	-1946	107	17321		60.38	1.15	1.08	35			0.33	No, Vu<V
SLU 59	375	-2932	-35	5145		5.64	18.57	1.08	563			15.97	Si
SLU 59	546	-1943	113	17132		49.65	1.4	1.08	42			0.37	No, Vu<V
SLU 77	375	-3125	-47	5271		6.01	18.57	1.08	563			11.88	Si
SLU 77	546	-2087	127	18272		46.88	1.59	1.08	48			0.38	No, Vu<V
SLU 50	375	-2938	40	7668		5.65	18.57	1.08	563			14.01	Si
SLU 50	546	-1736	88	15599		69.56	0.89	1.08	27			0.31	No, Vu<V
SLU 79	375	-3113	-51	5197		5.99	18.57	1.08	563			11.1	Si
SLU 79	546	-2077	124	18228		48.83	1.52	1.08	46			0.37	No, Vu<V
SLU 58	375	-2934	-50	4954		5.64	18.57	1.08	563			11.31	Si
SLU 58	546	-1936	104	17277		64.49	1.07	1.08	33			0.31	No, Vu<V
SLU 62	375	-2874	-78	3750		5.53	18.57	1.08	563			7.26	Si
SLU 62	546	-1994	117	17585		50.94	1.4	1.08	42			0.36	No, Vu<V
SLU 53	375	-2889	-36	4987		5.56	18.57	1.08	563			15.77	Si
SLU 53	546	-1919	113	16909		48.23	1.42	1.08	43			0.38	No, Vu<V



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLD 6	375	-2528	-340	1163		4.86	18.57	1.63	845			2.49	Si
SLD 6	546	-1539	-130	18922		0	0	0.83	0			0	No, Vu<V
SLD 1	375	-2309	-203	2909		4.44	18.57	1.63	845			4.16	Si
SLD 1	546	-1445	-37	17434		0	0	0.83	0			0	No, Vu<V
SLV 5	375	-2886	-835	-4342		5.55	18.57	1.63	845			1.01	Si
SLV 5	546	-1693	-436	27901		0	0	0.83	0			0	No, Vu<V
SLV 9	375	-2943	-652	-2654		5.66	18.57	1.63	845			1.3	Si
SLV 9	546	-1719	-338	23094		0	0	0.83	0			0	No, Vu<V
SLV 6	375	-2886	-835	-4342		5.55	18.57	1.63	845			1.01	Si
SLV 6	546	-1693	-436	27901		0	0	0.83	0			0	No, Vu<V
SLD 10	375	-2553	-263	1872		4.91	18.57	1.63	845			3.21	Si
SLD 10	546	-1550	-89	16878		0	0	0.83	0			0	No, Vu<V
SLV 3	375	-1980	-54	4988		3.81	18.57	1.6	829			15.29	Si
SLV 3	546	-1302	73	16440		0	0	0.83	0			0	No, Vu<V
SLV 2	375	-2368	-513	-227		4.55	18.57	1.63	845			1.65	Si
SLV 2	546	-1468	-215	24318		0	0	0.83	0			0	No, Vu<V
SLV 10	375	-2943	-652	-2654		5.66	18.57	1.63	845			1.3	Si
SLV 10	546	-1719	-338	23094		0	0	0.83	0			0	No, Vu<V
SLV 1	375	-2368	-513	-227		4.55	18.57	1.63	845			1.65	Si
SLV 1	546	-1468	-215	24318		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 460.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.34	0	-24	403	0	0	No, e>t/2
SLV 11	14	0.34	0	-24	403	0	0	No, e>t/2
SLV 8	14	0.34	0.33	-174	403	2368	5.88	Si
SLV 7	14	0.34	0.33	-174	403	2368	5.88	Si
SLV 15	14	0.34	0.36	-185	403	2517	6.25	Si
SLV 16	14	0.34	0.36	-185	403	2517	6.25	Si
SLV 13	14	0.34	0.91	-473	403	6125	15.2	Si
SLV 14	14	0.34	0.91	-473	403	6125	15.2	Si
SLV 4	14	0.34	1.32	-684	403	8543	21.19	Si
SLV 3	14	0.34	1.32	-684	403	8543	21.19	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 460.5 Wa = 0.05 Ta = 0.0174

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-1693	-2886	-12	0.079	1.849	0.979	116.868	458.837	No
SLV 6	-1693	-2886	-12	0.079	1.849	0.979	116.868	458.837	No
SLV 11	-1164	-1652	11	0.078	1.31	0.971	117.044	458.837	No
SLV 12	-1164	-1652	11	0.078	1.31	0.971	117.044	458.837	No
SLV 9	-1719	-2943	-9	0.081	1.875	0.979	119.8	458.837	No
SLV 10	-1719	-2943	-9	0.081	1.875	0.979	119.8	458.837	No
SLV 7	-1138	-1595	8	0.081	1.284	0.97	121.313	458.837	No
SLV 8	-1138	-1595	8	0.081	1.284	0.97	121.313	458.837	No
SLV 2	-1468	-2368	-9	0.08	1.62	0.976	119.238	375.827	No
SLV 1	-1468	-2368	-9	0.08	1.62	0.976	119.238	375.827	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.53	SLU 83	No
V_SLU	0.309	SLU 50	No
PF_SLV	0	SLD 1	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 11	No
R_SLV	0.255	SLV 5	No

Maschio 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s. _{sx}	a.s. _{dx}
-1375.3	-331.4	-1375.3	-35.4	Z medio 274 cm	L4	296	28	272	0	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fV0	μ	ϕ	fv _{lim}	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	375	-44322	644919	5.35	2253250	3.494	Si
SLU 82	546	-36462	5641	4.4	2481916	439.957	Si
SLU 75	375	-43085	602361	5.2	2307202	3.83	Si
SLU 75	546	-35327	-19728	4.26	2492555	126.348	Si
SLU 74	375	-43036	603409	5.19	2309177	3.827	Si
SLU 74	546	-35264	-17604	4.25	2492975	141.617	Si
SLU 84	375	-44847	653868	5.41	2228301	3.408	Si
SLU 84	546	-36862	1787	4.45	2476815	1000	Si

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Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.34	2.58	-21382	16258	236145	14.52	Si
SLV 3	14	0.34	2.58	-21382	16258	236145	14.52	Si
SLV 6	14	0.34	2.95	-24464	16258	259757	15.98	Si
SLV 5	14	0.34	2.95	-24464	16258	259757	15.98	Si
SLV 7	14	0.34	2.96	-24511	16258	260096	16	Si
SLV 8	14	0.34	2.96	-24511	16258	260096	16	Si
SLV 10	14	0.34	3.27	-27131	16258	278075	17.1	Si
SLV 9	14	0.34	3.27	-27131	16258	278075	17.1	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 460.5 $W_a = 0.05$ $T_a = 0.0441$

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-23207	-29525	167	0.049	26.802	0.964	73.839	955.989	No
SLV 6	-23207	-29525	167	0.049	26.802	0.964	73.839	955.989	No
SLV 9	-25112	-32435	151	0.05	28.741	0.967	74.829	955.989	No
SLV 10	-25112	-32435	151	0.05	28.741	0.967	74.829	955.989	No
SLV 12	-24844	-29349	-127	0.051	28.468	0.966	76.127	955.989	No
SLV 11	-24844	-29349	-127	0.051	28.468	0.966	76.127	955.989	No
SLV 7	-22939	-26439	-111	0.051	26.529	0.964	77.186	955.989	No
SLV 8	-22939	-26439	-111	0.051	26.529	0.964	77.186	955.989	No
SLV 1	-20889	-25051	88	0.052	24.444	0.961	78.875	547.344	No
SLV 2	-20889	-25051	88	0.052	24.444	0.961	78.875	547.344	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.406	SLV 83	Si
V_SLV	6.06	SLV 82	Si
PF_SLV	3.404	SLV 15	Si
V_SLV	0.94	SLV 11	No
PFFP_SLV	14.518	SLV 1	Si
R_SLV	0.077	SLV 5	No

Maschio 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-35.4	-1375.3	-22.8	L3	L4	12.6	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	α0	Mu	c.s.	Verifica
SLU 60	173	-4144	-3649	11.77	0	0	No, Rottura per schiacciamento
SLU 60	383	-2559	-16686	0	0	0	No, $e > l/2$
SLU 58	173	-3874	-4307	11.01	0	0	No, Rottura per schiacciamento
SLU 58	383	-2542	-15406	7.22	1809	0.117	No, M>Mu
SLU 54	173	-4009	-3777	11.39	0	0	No, Rottura per schiacciamento
SLU 54	383	-2485	-15897	0	0	0	No, $e > l/2$
SLU 61	173	-4204	-3449	11.94	0	0	No, Rottura per schiacciamento
SLU 61	383	-2545	-16874	0	0	0	No, $e > l/2$
SLU 57	173	-3982	-4116	11.32	0	0	No, Rottura per schiacciamento
SLU 57	383	-2550	-15776	7.25	1772	0.112	No, M>Mu
SLU 59	173	-3935	-4106	11.18	0	0	No, Rottura per schiacciamento
SLU 59	383	-2528	-15593	7.18	1879	0.121	No, M>Mu
SLU 53	173	-3949	-3978	11.22	0	0	No, Rottura per schiacciamento
SLU 53	383	-2500	-15710	7.1	2013	0.128	No, M>Mu
SLU 56	173	-3922	-4316	11.14	0	0	No, Rottura per schiacciamento
SLU 56	383	-2565	-15589	7.29	1700	0.109	No, M>Mu
SLU 1	173	-2722	-2916	7.73	866	0.297	No, M>Mu
SLU 1	383	-1665	-10511	0	0	0	No, $e > l/2$
SLU 55	173	-4002	-3634	11.37	0	0	No, Rottura per schiacciamento
SLU 55	383	-2453	-15839	0	0	0	No, $e > l/2$

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	α0	Mu	c.s.	Verifica
SLV 9	173	-194	-12939	0	0	0	No, $e > l/2$
SLV 9	383	-2828	-1227	8.04	6085	4.959	Si
SLV 8	173	-5729	6736	16.28	0	0	No, Rottura per schiacciamento
SLV 8	383	-855	-21911	0	0	0	No, $e > l/2$



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 4	-1523	-2738	160	0	1.735	0.968	0	942.501	No
SLV 9	10	-194	10	0	0	0	0	1436.128	No, Trazione
SLV 13	-1493	-3184	-111	0	1.705	0.967	0	942.501	No
SLV 3	-1523	-2738	160	0	1.735	0.968	0	942.501	No
SLV 1	-525	-870	177	0	0.722	0.93	0	942.501	No
SLV 6	300	501	97	0	0	0	0	1436.128	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 6	No
V_SLV	0	SLD 3	No
PFFP_SLV	7.494	SLV 7	Si
R_SLV	0	SLV 10	No

Maschio 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1375.3	67.2	-1375.3	104.6	L3	L4	37.4	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 76	173	-9117	-26004	8.7	0	0	No, Rottura per schiacciamento
SLU 76	383	-5811	9339	5.54	34732	3.719	Si
SLU 73	173	-8884	-24443	8.48	0	0	No, Rottura per schiacciamento
SLU 73	383	-5791	7855	5.53	34867	4.439	Si
SLU 84	173	-9616	-27607	9.17	0	0	No, Rottura per schiacciamento
SLU 84	383	-6124	10038	5.84	32401	3.228	Si
SLU 78	173	-9467	-28128	9.03	0	0	No, Rottura per schiacciamento
SLU 78	383	-5870	11299	5.6	34325	3.038	Si
SLU 74	173	-9283	-27294	8.86	0	0	No, Rottura per schiacciamento
SLU 74	383	-5789	10624	5.52	34877	3.283	Si
SLU 83	173	-9666	-28335	9.22	0	0	No, Rottura per schiacciamento
SLU 83	383	-6063	10847	5.79	32885	3.032	Si
SLU 63	173	-8602	-23986	8.21	0	0	No, Rottura per schiacciamento
SLU 63	383	-5572	7823	5.32	36222	4.63	Si
SLU 79	173	-9434	-28777	9	0	0	No, Rottura per schiacciamento
SLU 79	383	-5730	12172	5.47	35264	2.897	Si
SLU 62	173	-8652	-24713	8.25	0	0	No, Rottura per schiacciamento
SLU 62	383	-5511	8633	5.26	36560	4.235	Si
SLU 75	173	-9233	-26567	8.81	0	0	No, Rottura per schiacciamento
SLU 75	383	-5850	9814	5.58	34465	3.512	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 14	173	-9763	-49782	9.32	43418	0.872	No, M>Mu
SLV 14	383	-4137	13803	3.95	52415	3.797	Si
SLV 7	173	-3395	37254	3.24	46695	1.253	Si
SLV 7	383	-7102	-32437	6.78	59204	1.825	Si
SLV 1	173	-3639	-15440	3.47	48750	3.157	Si
SLV 1	383	-1381	23177	1.32	23057	0.995	No, M>Mu
SLV 2	173	-3639	-15440	3.47	48750	3.157	Si
SLV 2	383	-1381	23177	1.32	23057	0.995	No, M>Mu
SLV 6	173	-7068	-62306	6.74	59272	0.951	No, M>Mu
SLV 6	383	215	48075	0	0	0	No, Trazione
SLV 5	173	-7068	-62306	6.74	59272	0.951	No, M>Mu
SLV 5	383	215	48075	0	0	0	No, Trazione
SLV 9	173	-8905	-72608	8.5	50770	0.699	No, M>Mu
SLV 9	383	-612	45263	0	0	0	No, e>1/2
SLV 8	173	-3395	37254	3.24	46695	1.253	Si
SLV 8	383	-7102	-32437	6.78	59204	1.825	Si
SLV 10	173	-8905	-72608	8.5	50770	0.699	No, M>Mu
SLV 10	383	-612	45263	0	0	0	No, e>1/2
SLV 13	173	-9763	-49782	9.32	43418	0.872	No, M>Mu
SLV 13	383	-4137	13803	3.95	52415	3.797	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 83	173	-9666	-475	-28335		9.22	37.43	1.08	1135			2.39	Si
SLU 83	383	-6063	-450	10847		5.79	37.43	1.08	1135			2.52	Si
SLU 69	173	-8431	-453	-26246		8.04	37.43	1.08	1135			2.51	Si
SLU 69	383	-4985	-432	11737		4.76	37.43	1.08	1135			2.63	Si
SLU 77	173	-9517	-492	-28855		9.08	37.43	1.08	1135			2.31	Si
SLU 77	383	-5809	-468	12108		5.54	37.43	1.08	1135			2.43	Si
SLU 84	173	-9616	-458	-27607		9.17	37.43	1.08	1135			2.48	Si
SLU 84	383	-6124	-432	10038		5.84	37.43	1.08	1135			2.63	Si
SLU 78	173	-9467	-475	-28128		9.03	37.43	1.08	1135			2.39	Si
SLU 78	383	-5870	-451	11299		5.6	37.43	1.08	1135			2.52	Si
SLU 71	173	-8349	-452	-26168		7.97	37.43	1.08	1135			2.51	Si
SLU 71	383	-4905	-432	11801		4.68	37.43	1.08	1135			2.63	Si
SLU 79	173	-9434	-492	-28777		9	37.43	1.08	1135			2.31	Si
SLU 79	383	-5730	-468	12172		5.47	37.43	1.08	1135			2.43	Si
SLU 80	173	-9384	-475	-28050		8.95	37.43	1.08	1135			2.39	Si
SLU 80	383	-5790	-451	11363		5.52	37.43	1.08	1135			2.52	Si
SLU 74	173	-9283	-458	-27294		8.86	37.43	1.08	1135			2.48	Si
SLU 74	383	-5789	-434	10624		5.52	37.43	1.08	1135			2.61	Si
SLU 75	173	-9233	-441	-26567		8.81	37.43	1.08	1135			2.57	Si
SLU 75	383	-5850	-417	9814		5.58	37.43	1.08	1135			2.72	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 5	173	-7068	-1488	-62306		8.5	29.7	1.63	1351			0.91	No, Vu<V
SLV 5	383	215	-982	48075		0	0	0.83	0			0	No, Vu<V
SLV 9	173	-8905	-1362	-72608		10.04	31.68	1.63	1442			1.06	Si
SLV 9	383	-612	-1273	45263		0	0	0.83	0			0	No, Vu<V
SLD 6	173	-6545	-802	-36675		6.24	37.43	1.63	1703			2.12	Si
SLD 6	383	-2142	-574	24056		3.41	22.46	1.51	953			1.66	Si
SLD 9	173	-7322	-750	-41009		6.99	37.43	1.63	1703			2.27	Si
SLD 9	383	-2492	-698	22854		3.11	28.64	1.45	1167			1.67	Si
SLV 7	173	-3395	778	37254		5.22	23.23	1.63	1057			1.36	Si
SLV 7	383	-7102	721	-32437		6.78	37.43	1.63	1703			2.36	Si
SLD 5	173	-6545	-802	-36675		6.24	37.43	1.63	1703			2.12	Si
SLD 5	383	-2142	-574	24056		3.41	22.46	1.51	953			1.66	Si
SLV 10	173	-8905	-1362	-72608		10.04	31.68	1.63	1442			1.06	Si
SLV 10	383	-612	-1273	45263		0	0	0.83	0			0	No, Vu<V
SLD 10	173	-7322	-750	-41009		6.99	37.43	1.63	1703			2.27	Si
SLD 10	383	-2492	-698	22854		3.11	28.64	1.45	1167			1.67	Si
SLV 8	173	-3395	778	37254		5.22	23.23	1.63	1057			1.36	Si
SLV 8	383	-7102	721	-32437		6.78	37.43	1.63	1703			2.36	Si
SLV 6	173	-7068	-1488	-62306		8.5	29.7	1.63	1351			0.91	No, Vu<V
SLV 6	383	215	-982	48075		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.32	0	54	3632	0	0	No, Trazione
SLV 5	14	0.32	0	54	3632	0	0	No, Trazione
SLV 9	14	0.32	0.57	-597	3632	7970	2.19	Si
SLV 10	14	0.32	0.57	-597	3632	7970	2.19	Si
SLV 1	14	0.32	1.66	-1743	3632	21076	5.8	Si
SLV 2	14	0.32	1.66	-1743	3632	21076	5.8	Si
SLV 14	14	0.32	3.73	-3912	3632	38038	10.47	Si
SLV 13	14	0.32	3.73	-3912	3632	38038	10.47	Si
SLV 3	14	0.32	3.75	-3933	3632	38152	10.5	Si
SLV 4	14	0.32	3.75	-3933	3632	38152	10.5	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-1665	-5232	-21	0.034	2.252	0.933	52.371	1436.128	No
SLV 12	-1665	-5232	-21	0.034	2.252	0.933	52.371	1436.128	No
SLV 6	-4347	-7068	19	0.036	4.976	0.967	54.615	1436.128	No
SLV 5	-4347	-7068	19	0.036	4.976	0.967	54.615	1436.128	No
SLV 10	-4357	-8905	3	0.04	4.986	0.967	59.588	1436.128	No
SLV 9	-4357	-8905	3	0.04	4.986	0.967	59.588	1436.128	No
SLV 7	-1655	-3395	-6	0.041	2.242	0.933	64.447	1436.128	No
SLV 8	-1655	-3395	-6	0.041	2.242	0.933	64.447	1436.128	No
SLV 15	-2619	-8661	-31	0.032	3.219	0.95	48.378	942.501	No
SLV 16	-2619	-8661	-31	0.032	3.219	0.95	48.378	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 62	No
V_SLU	2.307	SLU 77	Si
PF_SLV	0	SLV 6	No
V_SLV	0	SLV 5	No
PFFP_SLV	0	SLV 6	No
R_SLV	0.036	SLV 11	No



Maschio 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2066.8	104.6	-2465.3	104.6	L3	L4	398.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fν0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 83	173	-83219	278795	7.46	1399587	5.02	Si
SLU 83	383	-77494	-1030739	6.95	2275927	2.208	Si
SLU 84	173	-83182	262549	7.45	1405832	5.355	Si
SLU 84	383	-77456	-1016110	6.94	2281226	2.245	Si
SLU 77	173	-81765	263092	7.33	1635802	6.218	Si
SLU 77	383	-76040	-1001289	6.81	2475637	2.472	Si
SLU 81	173	-81817	275267	7.33	1627593	5.913	Si
SLU 81	383	-76091	-991054	6.82	2468720	2.491	Si
SLU 78	173	-81727	246846	7.32	1641807	6.651	Si
SLU 78	383	-76002	-986660	6.81	2480694	2.514	Si
SLU 75	173	-80325	243318	7.2	1860636	7.647	Si
SLU 75	383	-74599	-946975	6.69	2664311	2.813	Si
SLU 82	173	-81779	259021	7.33	1633606	6.307	Si
SLU 82	383	-76054	-976425	6.82	2473787	2.534	Si
SLU 80	173	-81010	236830	7.26	1754780	7.409	Si
SLU 80	383	-75285	-976336	6.75	2575662	2.638	Si
SLU 79	173	-81048	253076	7.26	1748894	6.911	Si
SLU 79	383	-75322	-990966	6.75	2570723	2.594	Si
SLU 74	173	-80362	259564	7.2	1854863	7.146	Si
SLU 74	383	-74637	-961605	6.69	2659485	2.766	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 1	173	-73316	3672958	6.57	6752549	1.838	Si
SLV 1	383	-69662	-935747	6.24	6788016	7.254	Si
SLV 4	173	-74627	3600658	6.69	6730318	1.869	Si
SLV 4	383	-71332	-1001574	6.39	6776649	6.766	Si
SLV 15	173	-35329	-3387242	3.17	5215170	1.54	Si
SLV 15	383	-30235	-212923	2.71	4688304	22.019	Si
SLD 2	173	-62411	1645503	5.59	6742838	4.098	Si
SLD 2	383	-58333	-736858	5.23	6649895	9.025	Si
SLD 1	173	-62411	1645503	5.59	6742838	4.098	Si
SLD 1	383	-58333	-736858	5.23	6649895	9.025	Si
SLV 16	173	-35329	-3387242	3.17	5215170	1.54	Si
SLV 16	383	-30235	-212923	2.71	4688304	22.019	Si
SLV 13	173	-34018	-3314942	3.05	5086853	1.535	Si
SLV 13	383	-28565	-147096	2.56	4499087	30.586	Si
SLV 14	173	-34018	-3314942	3.05	5086853	1.535	Si
SLV 14	383	-28565	-147096	2.56	4499087	30.586	Si
SLV 2	173	-73316	3672958	6.57	6752549	1.838	Si
SLV 2	383	-69662	-935747	6.24	6788016	7.254	Si
SLV 3	173	-74627	3600658	6.69	6730318	1.869	Si
SLV 3	383	-71332	-1001574	6.39	6776649	6.766	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	173	-81010	5783	236830	7.26	398.5	398.5	1.08	12088			2.09	Si
SLU 80	383	-75285	5783	-976336	6.75	398.5	398.5	1.08	12088			2.09	Si
SLU 79	173	-81048	5930	253076	7.26	398.5	398.5	1.08	12088			2.04	Si
SLU 79	383	-75322	5930	-990966	6.75	398.5	398.5	1.08	12088			2.04	Si
SLU 81	173	-81817	6036	275267	7.33	398.5	398.5	1.08	12088			2	Si
SLU 81	383	-76091	6036	-991054	6.82	398.5	398.5	1.08	12088			2	Si
SLU 74	173	-80362	5821	259564	7.2	398.5	398.5	1.08	12088			2.08	Si
SLU 74	383	-74637	5821	-961605	6.69	398.5	398.5	1.08	12088			2.08	Si
SLU 83	173	-83219	6242	278795	7.46	398.5	398.5	1.08	12088			1.94	Si
SLU 83	383	-77494	6242	-1030739	6.95	398.5	398.5	1.08	12088			1.94	Si
SLU 78	173	-81727	5880	246846	7.32	398.5	398.5	1.08	12088			2.06	Si
SLU 78	383	-76002	5880	-986660	6.81	398.5	398.5	1.08	12088			2.06	Si
SLU 84	173	-83182	6095	262549	7.45	398.5	398.5	1.08	12088			1.98	Si
SLU 84	383	-77456	6095	-1016110	6.94	398.5	398.5	1.08	12088			1.98	Si
SLU 41	173	-71209	5789	267900	6.38	398.5	398.5	1.08	12088			2.09	Si
SLU 41	383	-66736	5789	-946964	5.98	398.5	398.5	1.08	12088			2.09	Si
SLU 77	173	-81765	6027	263092	7.33	398.5	398.5	1.08	12088			2.01	Si
SLU 77	383	-76040	6027	-1001289	6.81	398.5	398.5	1.08	12088			2.01	Si
SLU 82	173	-81779	5889	259021	7.33	398.5	398.5	1.08	12088			2.05	Si
SLU 82	383	-76054	5889	-976425	6.82	398.5	398.5	1.08	12088			2.05	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	173	-34018	-15722	-3314942	3.98	305.41	305.41	1.63	13896			0.88	No, Vu<V
SLV 14	383	-28565	-15841	-147096	2.56	398.5	398.5	1.35	15011			0.95	No, Vu<V
SLD 4	173	-62944	11588	1615708	5.64	398.5	398.5	1.63	18132			1.56	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 4	383	-59003	11642	-762849		5.29	398.5	1.63	18132			1.56	Si
SLV 3	173	-74627	22563	3600658		6.69	398.5	1.63	18132			0.8	No, Vu<V
SLV 3	383	-71332	22681	-1001574		6.39	398.5	1.63	18132			0.8	No, Vu<V
SLV 16	173	-35329	-15652	-3387242		4.07	310.12	1.63	14110			0.9	No, Vu<V
SLV 16	383	-30235	-15451	-212923		2.71	398.5	1.38	15345			0.99	No, Vu<V
SLV 15	173	-35329	-15652	-3387242		4.07	310.12	1.63	14110			0.9	No, Vu<V
SLV 15	383	-30235	-15451	-212923		2.71	398.5	1.38	15345			0.99	No, Vu<V
SLD 3	173	-62944	11588	1615708		5.64	398.5	1.63	18132			1.56	Si
SLD 3	383	-59003	11642	-762849		5.29	398.5	1.63	18132			1.56	Si
SLV 2	173	-73316	22493	3672958		6.57	398.5	1.63	18132			0.81	No, Vu<V
SLV 2	383	-69662	22292	-935747		6.24	398.5	1.63	18132			0.81	No, Vu<V
SLV 1	173	-73316	22493	3672958		6.57	398.5	1.63	18132			0.81	No, Vu<V
SLV 1	383	-69662	22292	-935747		6.24	398.5	1.63	18132			0.81	No, Vu<V
SLV 13	173	-34018	-15722	-3314942		3.98	305.41	1.63	13896			0.88	No, Vu<V
SLV 13	383	-28565	-15841	-147096		2.56	398.5	1.35	15011			0.95	No, Vu<V
SLV 4	173	-74627	22563	3600658		6.69	398.5	1.63	18132			0.8	No, Vu<V
SLV 4	383	-71332	22681	-1001574		6.39	398.5	1.63	18132			0.8	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore $8 \gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.32	2.67	-29778	38669	325840	8.43	Si
SLV 14	14	0.32	2.67	-29778	38669	325840	8.43	Si
SLV 16	14	0.32	2.81	-31329	38669	337817	8.74	Si
SLV 15	14	0.32	2.81	-31329	38669	337817	8.74	Si
SLV 10	14	0.32	3.78	-42156	38669	407694	10.54	Si
SLV 9	14	0.32	3.78	-42156	38669	407694	10.54	Si
SLV 12	14	0.32	4.24	-47324	38669	432562	11.19	Si
SLV 11	14	0.32	4.24	-47324	38669	432562	11.19	Si
SLV 6	14	0.32	4.87	-54315	38669	457472	11.83	Si
SLV 5	14	0.32	4.87	-54315	38669	457472	11.83	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-43108	-58033	218	0.036	49.75	0.965	54.068	1436.128	No
SLV 6	-43108	-58033	218	0.036	49.75	0.965	54.068	1436.128	No
SLV 11	-41889	-50612	-216	0.036	48.509	0.964	54.113	1436.128	No
SLV 12	-41889	-50612	-216	0.036	48.509	0.964	54.113	1436.128	No
SLV 10	-38214	-46243	193	0.036	44.771	0.961	54.891	1436.128	No
SLV 9	-38214	-46243	193	0.036	44.771	0.961	54.891	1436.128	No
SLV 7	-46782	-62402	-191	0.037	53.489	0.967	54.931	1436.128	No
SLV 8	-46782	-62402	-191	0.037	53.489	0.967	54.931	1436.128	No
SLV 1	-50103	-73316	104	0.038	56.87	0.969	57.321	942.501	No
SLV 2	-50103	-73316	104	0.038	56.87	0.969	57.321	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.208	SLU 83	Si
V_SLU	1.936	SLU 83	Si
PF_SLV	1.535	SLV 13	Si
V_SLV	0.799	SLV 3	No
PFFP_SLV	8.426	SLV 13	Si
R_SLV	0.038	SLV 5	No

Maschio 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1228.3	104.6	-1986.8	104.6	L3	L4	758.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fvo	μ	ϕ	fvl,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 79	173	-156141	3422439	7.35	5771076	1.686	Si
SLU 79	423	-134158	716461	6.32	11423728	15.945	Si
SLU 82	173	-156667	3040361	7.38	5609883	1.845	Si
SLU 82	423	-135065	566893	6.36	11232361	19.814	Si
SLU 77	173	-157637	3420300	7.42	5309461	1.552	Si
SLU 77	423	-135588	699943	6.38	11120447	15.888	Si
SLU 80	173	-155616	3311972	7.33	5930913	1.791	Si
SLU 80	423	-133989	696093	6.31	11458981	16.462	Si
SLU 83	173	-160497	3349406	7.56	4399456	1.314	Si
SLU 83	423	-138381	645265	6.52	10502221	16.276	Si
SLU 84	173	-159972	3238940	7.53	4569328	1.411	Si
SLU 84	423	-138212	624897	6.51	10540603	16.868	Si
SLU 78	173	-157111	3309833	7.4	5472744	1.653	Si
SLU 78	423	-135419	679574	6.38	11156759	16.417	Si

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Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.32	4.52	-96100	73602	847163	11.51	Si
SLV 13	14	0.32	4.52	-96100	73602	847163	11.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	σ_0	M*	e*	a0*	aLim	Verifica
SLV 9	-71799	-90819	616	0.033	84.263	0.961	50.108	1436.128	No
SLV 10	-71799	-90819	616	0.033	84.263	0.961	50.108	1436.128	No
SLV 5	-72463	-87607	595	0.033	84.939	0.961	50.544	1436.128	No
SLV 6	-72463	-87607	595	0.033	84.939	0.961	50.544	1436.128	No
SLV 7	-93044	-114647	-625	0.034	105.882	0.968	50.999	1436.128	No
SLV 8	-93044	-114647	-625	0.034	105.882	0.968	50.999	1436.128	No
SLV 12	-92380	-117860	-604	0.034	105.206	0.968	51.287	1436.128	No
SLV 11	-92380	-117860	-604	0.034	105.206	0.968	51.287	1436.128	No
SLV 4	-86616	-101435	-222	0.038	99.339	0.966	57.198	942.501	No
SLV 3	-86616	-101435	-222	0.038	99.339	0.966	57.198	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.314	SLU 83	Si
V_SLU	3.061	SLU 82	Si
PF_SLV	2.52	SLV 1	Si
V_SLV	0.774	SLV 3	No
PFFP_SLV	10.375	SLV 5	Si
R_SLV	0.035	SLV 9	No

Maschio 78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-496.8	104.6	-1116.3	104.6	L3	L4	619.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvkD	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 61	173	-92797	-36351	5.35	9866384	271.421	Si
SLU 61	423	-85222	785789	4.91	10476149	13.332	Si
SLU 84	173	-106226	-188008	6.12	8166961	43.439	Si
SLU 84	423	-99174	812084	5.72	9158023	11.277	Si
SLU 75	173	-101833	-198987	5.87	8809939	44.274	Si
SLU 75	423	-94495	750147	5.45	9695188	12.924	Si
SLU 74	173	-102394	-269494	5.9	8732617	32.404	Si
SLU 74	423	-94635	738201	5.46	9680494	13.114	Si
SLU 76	173	-100426	-165458	5.79	8998004	54.383	Si
SLU 76	423	-93361	736701	5.38	9810954	13.317	Si
SLU 82	173	-104515	-100592	6.03	8427470	83.779	Si
SLU 82	423	-97360	841833	5.61	9377648	11.14	Si
SLU 81	173	-105076	-171099	6.06	8343557	48.764	Si
SLU 81	423	-97500	829887	5.62	9361194	11.28	Si
SLU 73	173	-98714	-78042	5.69	9214992	118.078	Si
SLU 73	423	-91547	766450	5.28	9984351	13.027	Si
SLU 83	173	-106787	-258515	6.16	8078843	31.251	Si
SLU 83	423	-99314	800138	5.73	9140455	11.424	Si
SLU 78	173	-103544	-286403	5.97	8569553	29.921	Si
SLU 78	423	-96309	720398	5.55	9498347	13.185	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 8	173	-81868	2161058	4.72	15563407	7.202	Si
SLV 8	423	-72022	601268	4.15	14727979	24.495	Si
SLV 7	173	-81868	2161058	4.72	15563407	7.202	Si
SLV 7	423	-72022	601268	4.15	14727979	24.495	Si
SLV 16	173	-66978	-2043544	3.86	14190256	6.944	Si
SLV 16	423	-61332	2556007	3.54	13500195	5.282	Si
SLV 13	173	-59480	-3012935	3.43	13253558	4.399	Si
SLV 13	423	-55554	2137778	3.2	12697388	5.94	Si
SLV 9	173	-54041	-2488851	3.12	12471194	5.011	Si
SLV 9	423	-50938	334558	2.94	11985973	35.826	Si
SLV 3	173	-76429	2685141	4.41	15136955	5.637	Si
SLV 3	423	-67406	-1201952	3.89	14238757	11.846	Si
SLV 15	173	-66978	-2043544	3.86	14190256	6.944	Si
SLV 15	423	-61332	2556007	3.54	13500195	5.282	Si
SLV 4	173	-76429	2685141	4.41	15136955	5.637	Si
SLV 4	423	-67406	-1201952	3.89	14238757	11.846	Si
SLV 10	173	-54041	-2488851	3.12	12471194	5.011	Si
SLV 10	423	-50938	334558	2.94	11985973	35.826	Si
SLV 14	173	-59480	-3012935	3.43	13253558	4.399	Si
SLV 14	423	-55554	2137778	3.2	12697388	5.94	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 73	173	-98714	-5603	-78042		5.69	619.5	1.08	18791			3.35	Si
SLU 73	423	-91547	-5843	766450		5.28	619.5	1.08	18791			3.22	Si
SLU 81	173	-105076	-5795	-171099		6.06	619.5	1.08	18791			3.24	Si
SLU 81	423	-97500	-5894	829887		5.62	619.5	1.08	18791			3.19	Si
SLU 63	173	-94508	-5483	-123767		5.45	619.5	1.08	18791			3.43	Si
SLU 63	423	-87036	-5629	756040		5.02	619.5	1.08	18791			3.34	Si
SLU 76	173	-100426	-5625	-165458		5.79	619.5	1.08	18791			3.34	Si
SLU 76	423	-93361	-5782	736701		5.38	619.5	1.08	18791			3.25	Si
SLU 82	173	-104515	-5924	-100592		6.03	619.5	1.08	18791			3.17	Si
SLU 82	423	-97360	-6102	841833		5.61	619.5	1.08	18791			3.08	Si
SLU 83	173	-106787	-5817	-258515		6.16	619.5	1.08	18791			3.23	Si
SLU 83	423	-99314	-5832	800138		5.73	619.5	1.08	18791			3.22	Si
SLU 75	173	-101833	-5684	-198987		5.87	619.5	1.08	18791			3.31	Si
SLU 75	423	-94495	-5777	750147		5.45	619.5	1.08	18791			3.25	Si
SLU 84	173	-106226	-5946	-188008		6.12	619.5	1.08	18791			3.16	Si
SLU 84	423	-99174	-6040	812084		5.72	619.5	1.08	18791			3.11	Si
SLU 61	173	-92797	-5461	-36351		5.35	619.5	1.08	18791			3.44	Si
SLU 61	423	-85222	-5690	785789		4.91	619.5	1.08	18791			3.3	Si
SLU 78	173	-103544	-5706	-286403		5.97	619.5	1.08	18791			3.29	Si
SLU 78	423	-96309	-5716	720398		5.55	619.5	1.08	18791			3.29	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 2	173	-68932	28866	1715750		3.97	619.5	1.63	28187			0.98	No, Vu<V
SLV 2	423	-61627	25195	-1620181		3.55	619.5	1.54	26780			1.06	Si
SLV 16	173	-66978	-36034	-2043544		3.86	619.5	1.61	27851			0.77	No, Vu<V
SLV 16	423	-61332	-32576	2556007		3.54	619.5	1.54	26721			0.82	No, Vu<V
SLV 1	173	-68932	28866	1715750		3.97	619.5	1.63	28187			0.98	No, Vu<V
SLV 1	423	-61627	25195	-1620181		3.55	619.5	1.54	26780			1.06	Si
SLV 3	173	-76429	25958	2685141		4.41	619.5	1.63	28187			1.09	Si
SLV 3	423	-67406	21981	-1201952		3.89	619.5	1.61	27936			1.27	Si
SLV 14	173	-59480	-33126	-3012935		3.43	619.5	1.52	26351			0.8	No, Vu<V
SLV 14	423	-55554	-29362	2137778		3.2	619.5	1.47	25566			0.87	No, Vu<V
SLV 13	173	-59480	-33126	-3012935		3.43	619.5	1.52	26351			0.8	No, Vu<V
SLV 13	423	-55554	-29362	2137778		3.2	619.5	1.47	25566			0.87	No, Vu<V
SLV 4	173	-76429	25958	2685141		4.41	619.5	1.63	28187			1.09	Si
SLV 4	423	-67406	21981	-1201952		3.89	619.5	1.61	27936			1.27	Si
SLV 11	173	-79033	-17730	742452		4.56	619.5	1.63	28187			1.59	Si
SLV 11	423	-70200	-17231	1728655		4.05	619.5	1.63	28187			1.64	Si
SLV 12	173	-79033	-17730	742452		4.56	619.5	1.63	28187			1.59	Si
SLV 12	423	-70200	-17231	1728655		4.05	619.5	1.63	28187			1.64	Si
SLV 15	173	-66978	-36034	-2043544		3.86	619.5	1.61	27851			0.77	No, Vu<V
SLV 15	423	-61332	-32576	2556007		3.54	619.5	1.54	26721			0.82	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.32	2.97	-51441	60114	545383	9.07	Si
SLV 9	14	0.32	2.97	-51441	60114	545383	9.07	Si
SLV 13	14	0.32	3.13	-54304	60114	565464	9.41	Si
SLV 14	14	0.32	3.13	-54304	60114	565464	9.41	Si
SLV 6	14	0.32	3.19	-55375	60114	572701	9.53	Si
SLV 5	14	0.32	3.19	-55375	60114	572701	9.53	Si
SLV 16	14	0.32	3.5	-60691	60114	606370	10.09	Si
SLV 15	14	0.32	3.5	-60691	60114	606370	10.09	Si
SLV 2	14	0.32	3.89	-67417	60114	643615	10.71	Si
SLV 1	14	0.32	3.89	-67417	60114	643615	10.71	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-49131	-54041	506	0.032	59.153	0.955	49.174	1436.128	No
SLV 10	-49131	-54041	506	0.032	59.153	0.955	49.174	1436.128	No
SLV 6	-50510	-56877	511	0.032	60.554	0.956	49.191	1436.128	No
SLV 5	-50510	-56877	511	0.032	60.554	0.956	49.191	1436.128	No
SLV 11	-63308	-79033	-513	0.033	73.569	0.963	50.227	1436.128	No
SLV 12	-63308	-79033	-513	0.033	73.569	0.963	50.227	1436.128	No
SLV 7	-64687	-81868	-508	0.033	74.972	0.964	50.422	1436.128	No
SLV 8	-64687	-81868	-508	0.033	74.972	0.964	50.422	1436.128	No
SLV 15	-56738	-66978	-162	0.038	66.885	0.96	58.223	942.501	No
SLV 16	-56738	-66978	-162	0.038	66.885	0.96	58.223	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	11.14	SLU 82	Si
V_SLV	3.08	SLU 82	Si
PF_SLV	4.399	SLV 13	Si
V_SLV	0.773	SLV 15	No
PFFP_SLV	9.072	SLV 9	Si
R_SLV	0.034	SLV 9	No



Maschio 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	104.6	-416.8	104.6	L3	L4	404.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 82	173	-71114	388552	6.28	3296551	8.484	Si
SLU 82	383	-69454	1106488	6.13	3472322	3.138	Si
SLU 77	173	-70543	349919	6.23	3358323	9.597	Si
SLU 77	383	-68880	1148174	6.08	3530277	3.075	Si
SLU 80	173	-70177	340389	6.2	3397200	9.98	Si
SLU 80	383	-68374	1102860	6.04	3580160	3.246	Si
SLU 84	173	-72063	382643	6.36	3190584	8.338	Si
SLU 84	383	-70547	1146807	6.23	3357882	2.928	Si
SLU 75	173	-69850	345485	6.17	3431447	9.932	Si
SLU 75	383	-67946	1072404	6	3621507	3.377	Si
SLU 81	173	-70857	398896	6.26	3324488	8.334	Si
SLU 81	383	-69294	1141937	6.12	3488595	3.055	Si
SLU 78	173	-70799	339575	6.25	3330739	9.809	Si
SLU 78	383	-69040	1112724	6.1	3514294	3.158	Si
SLU 79	173	-69921	350733	6.17	3424085	9.763	Si
SLU 79	383	-68215	1138309	6.02	3595677	3.159	Si
SLU 83	173	-71807	392986	6.34	3219588	8.193	Si
SLU 83	383	-70388	1182257	6.21	3374920	2.855	Si
SLU 74	173	-69594	355829	6.14	3457964	9.718	Si
SLU 74	383	-67787	1107854	5.99	3636725	3.283	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 14	173	-53410	-2250669	4.72	6633189	2.947	Si
SLV 14	383	-58568	436565	5.17	6832283	15.65	Si
SLV 16	173	-53458	-2109986	4.72	6635394	3.145	Si
SLV 16	383	-59011	610200	5.21	6845764	11.219	Si
SLD 4	173	-45169	1276660	3.99	6153723	4.82	Si
SLD 4	383	-39852	778052	3.52	5739053	7.376	Si
SLV 2	173	-41825	2553206	3.69	5902547	2.312	Si
SLV 2	383	-31910	743423	2.82	4965645	6.679	Si
SLV 3	173	-41873	2693889	3.7	5906374	2.193	Si
SLV 3	383	-32353	917058	2.86	5013663	5.467	Si
SLV 1	173	-41825	2553206	3.69	5902547	2.312	Si
SLV 1	383	-31910	743423	2.82	4965645	6.679	Si
SLV 13	173	-53410	-2250669	4.72	6633189	2.947	Si
SLV 13	383	-58568	436565	5.17	6832283	15.65	Si
SLV 15	173	-53458	-2109986	4.72	6635394	3.145	Si
SLV 15	383	-59011	610200	5.21	6845764	11.219	Si
SLD 3	173	-45169	1276660	3.99	6153723	4.82	Si
SLD 3	383	-39852	778052	3.52	5739053	7.376	Si
SLV 4	173	-41873	2693889	3.7	5906374	2.193	Si
SLV 4	383	-32353	917058	2.86	5013663	5.467	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	173	-70857	-7571	398896		6.26	404.5	1.08	12270			1.62	Si
SLU 81	383	-69294	-7593	1141937		6.12	404.5	1.08	12270			1.62	Si
SLU 83	173	-71807	-7929	392986		6.34	404.5	1.08	12270			1.55	Si
SLU 83	383	-70388	-7952	1182257		6.21	404.5	1.08	12270			1.54	Si
SLU 77	173	-70543	-7737	349919		6.23	404.5	1.08	12270			1.59	Si
SLU 77	383	-68880	-7760	1148174		6.08	404.5	1.08	12270			1.58	Si
SLU 79	173	-69921	-7645	350733		6.17	404.5	1.08	12270			1.6	Si
SLU 79	383	-68215	-7668	1138309		6.02	404.5	1.08	12270			1.6	Si
SLU 82	173	-71114	-7355	388552		6.28	404.5	1.08	12270			1.67	Si
SLU 82	383	-69454	-7388	1106488		6.13	404.5	1.08	12270			1.66	Si
SLU 80	173	-70177	-7430	340389		6.2	404.5	1.08	12270			1.65	Si
SLU 80	383	-68374	-7462	1102860		6.04	404.5	1.08	12270			1.64	Si
SLU 41	173	-60976	-7361	365505		5.38	404.5	1.08	12270			1.67	Si
SLU 41	383	-60610	-7380	1077400		5.35	404.5	1.08	12270			1.66	Si
SLU 84	173	-72063	-7714	382643		6.36	404.5	1.08	12270			1.59	Si
SLU 84	383	-70547	-7747	1146807		6.23	404.5	1.08	12270			1.58	Si
SLU 78	173	-70799	-7522	339575		6.25	404.5	1.08	12270			1.63	Si
SLU 78	383	-69040	-7555	1112724		6.1	404.5	1.08	12270			1.62	Si
SLU 74	173	-69594	-7379	355829		6.14	404.5	1.08	12270			1.66	Si
SLU 74	383	-67787	-7401	1107854		5.99	404.5	1.08	12270			1.66	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	173	-53458	-22225	-2109986		4.72	404.5	1.63	18405			0.83	No, Vu < V
SLV 16	383	-59011	-22128	610200		5.21	404.5	1.63	18405			0.83	No, Vu < V
SLV 4	173	-41873	13435	2693889		3.7	404.5	1.57	17813			1.33	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scor.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	383	-32353	13198	917058	2.86	404.5	1.4	15909			1.21	Si	
SLV 13	173	-53410	-22034	-2250669	4.72	404.5	1.63	18405			0.84	No, Vu<V	
SLV 13	383	-58568	-21828	436565	5.17	404.5	1.63	18405			0.84	No, Vu<V	
SLV 14	173	-53410	-22034	-2250669	4.72	404.5	1.63	18405			0.84	No, Vu<V	
SLV 14	383	-58568	-21828	436565	5.17	404.5	1.63	18405			0.84	No, Vu<V	
SLD 15	173	-50128	-11949	-774647	4.43	404.5	1.63	18405			1.54	Si	
SLD 15	383	-51245	-11916	646521	4.52	404.5	1.63	18405			1.54	Si	
SLV 1	173	-41825	13626	2553206	3.69	404.5	1.57	17803			1.31	Si	
SLV 1	383	-31910	13498	743423	2.82	404.5	1.4	15820			1.17	Si	
SLV 2	173	-41825	13626	2553206	3.69	404.5	1.57	17803			1.31	Si	
SLV 2	383	-31910	13498	743423	2.82	404.5	1.4	15820			1.17	Si	
SLV 3	173	-41873	13435	2693889	3.7	404.5	1.57	17813			1.33	Si	
SLV 3	383	-32353	13198	917058	2.86	404.5	1.4	15909			1.21	Si	
SLV 15	173	-53458	-22225	-2109986	4.72	404.5	1.63	18405			0.83	No, Vu<V	
SLV 15	383	-59011	-22128	610200	5.21	404.5	1.63	18405			0.83	No, Vu<V	
SLD 16	173	-50128	-11949	-774647	4.43	404.5	1.63	18405			1.54	Si	
SLD 16	383	-51245	-11916	646521	4.52	404.5	1.63	18405			1.54	Si	

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore $8 \gamma M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.32	2.99	-33846	39251	357959	9.12	Si
SLV 1	14	0.32	2.99	-33846	39251	357959	9.12	Si
SLV 4	14	0.32	3.02	-34245	39251	360790	9.19	Si
SLV 3	14	0.32	3.02	-34245	39251	360790	9.19	Si
SLV 6	14	0.32	3.68	-41629	39251	407489	10.38	Si
SLV 5	14	0.32	3.68	-41629	39251	407489	10.38	Si
SLV 7	14	0.32	3.79	-42955	39251	414712	10.57	Si
SLV 8	14	0.32	3.79	-42955	39251	414712	10.57	Si
SLV 9	14	0.32	4.3	-48697	39251	441859	11.26	Si
SLV 10	14	0.32	4.3	-48697	39251	441859	11.26	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzaera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-38205	-45984	-483	0.029	44.85	0.96	44.519	1436.128	No
SLV 7	-38205	-45984	-483	0.029	44.85	0.96	44.519	1436.128	No
SLV 5	-36880	-45824	470	0.029	43.503	0.959	44.677	1436.128	No
SLV 6	-36880	-45824	470	0.029	43.503	0.959	44.677	1436.128	No
SLV 10	-41286	-49299	484	0.03	47.984	0.963	45.231	1436.128	No
SLV 9	-41286	-49299	484	0.03	47.984	0.963	45.231	1436.128	No
SLV 11	-42611	-49459	-469	0.03	49.332	0.964	45.986	1436.128	No
SLV 12	-42611	-49459	-469	0.03	49.332	0.964	45.986	1436.128	No
SLV 13	-46890	-53410	167	0.037	53.687	0.966	55.729	942.501	No
SLV 14	-46890	-53410	167	0.037	53.687	0.966	55.729	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.855	SLU 83	Si
V_SLU	1.543	SLU 83	Si
PF_SLV	2.193	SLV 3	Si
V_SLV	0.828	SLV 15	No
PFFP_SLV	9.12	SLV 1	Si
R_SLV	0.031	SLV 7	No

Maschio 80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1239.3	333.1	-1239.3	104.6	L3	L4	228.5	14	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 76	173	-16048	-729427	5.02	704330	0.966	No, M>Mu
SLU 76	546	-17466	-292314	5.46	658005	2.251	Si
SLU 83	173	-16798	-756957	5.25	682034	0.901	No, M>Mu
SLU 83	546	-18375	-308511	5.74	618989	2.006	Si
SLU 61	173	-15585	-736577	4.87	715649	0.972	No, M>Mu
SLU 61	546	-16955	-321524	5.3	676713	2.105	Si
SLU 81	173	-17030	-788766	5.32	674116	0.855	No, M>Mu
SLU 81	546	-18658	-342767	5.83	605366	1.766	Si
SLU 75	173	-16349	-747842	5.11	695988	0.931	No, M>Mu
SLU 75	546	-17855	-303897	5.58	642203	2.113	Si
SLU 82	173	-17052	-790685	5.33	673341	0.852	No, M>Mu
SLU 82	546	-18665	-342683	5.83	605027	1.766	Si
SLU 74	173	-16327	-745924	5.1	696627	0.934	No, M>Mu
SLU 74	546	-17848	-303980	5.58	642494	2.114	Si

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Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.32	4.38	-14023	10582	62944	5.95	Si
SLV 4	14	0.32	4.38	-14023	10582	62944	5.95	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 13	-15695	-7854	133	0.012	17.66	0.971	18.014	1436.128	No
SLV 14	-15695	-7854	133	0.012	17.66	0.971	18.014	1436.128	No
SLV 15	-12208	-9108	106	0.012	14.11	0.964	18.585	1436.128	No
SLV 16	-12208	-9108	106	0.012	14.11	0.964	18.585	1436.128	No
SLV 3	-8763	-14719	-80	0.013	10.606	0.954	19.295	1436.128	No
SLV 4	-8763	-14719	-80	0.013	10.606	0.954	19.295	1436.128	No
SLV 1	-12250	-13465	-53	0.016	14.152	0.964	24.59	1436.128	No
SLV 2	-12250	-13465	-53	0.016	14.152	0.964	24.59	1436.128	No
SLV 10	-18558	-8355	100	0.015	20.575	0.975	21.919	988.665	No
SLV 9	-18558	-8355	100	0.015	20.575	0.975	21.919	988.665	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.852	SLU 82	No
V_SLU	19.526	SLU 60	Si
PF_SLV	0.714	SLV 7	No
V_SLV	0.1	SLV 7	No
PFFP_SLV	5.212	SLV 11	Si
R_SLV	0.013	SLV 13	No

Maschio 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1969.3	666.1	-1776.8	666.1	L3	L4	192.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 78	263	-21593	-372229	4.01	1056205	2.838	Si
SLU 78	453	-24473	-22394	4.54	1042571	46.557	Si
SLU 75	263	-21321	-367010	3.96	1055614	2.876	Si
SLU 75	453	-24315	-17279	4.51	1044262	60.437	Si
SLU 80	263	-21379	-369135	3.97	1055767	2.86	Si
SLU 80	453	-24160	-23331	4.48	1045809	44.826	Si
SLU 83	263	-22117	-377603	4.1	1056430	2.798	Si
SLU 83	453	-25303	-14667	4.69	1031891	70.353	Si
SLU 79	263	-21413	-369391	3.97	1055851	2.858	Si
SLU 79	453	-24182	-24208	4.49	1045596	43.192	Si
SLU 82	263	-21811	-372128	4.05	1056445	2.839	Si
SLU 82	453	-25123	-8675	4.66	1034463	119.249	Si
SLU 84	263	-22083	-377347	4.1	1056452	2.8	Si
SLU 84	453	-25281	-13790	4.69	1032212	74.853	Si
SLU 74	263	-21355	-367266	3.96	1055706	2.874	Si
SLU 74	453	-24337	-18156	4.52	1044034	57.503	Si
SLU 77	263	-21627	-372485	4.01	1056256	2.836	Si
SLU 77	453	-24495	-23271	4.54	1042328	44.791	Si
SLU 81	263	-21845	-372384	4.05	1056464	2.837	Si
SLU 81	453	-25145	-9552	4.67	1034157	108.262	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 4	263	-17690	-675911	3.28	1245339	1.842	Si
SLV 4	453	-28086	436100	5.21	1550449	3.555	Si
SLV 1	263	-13383	-634374	2.48	1026363	1.618	Si
SLV 1	453	-24913	454661	4.62	1490822	3.279	Si
SLV 3	263	-17690	-675911	3.28	1245339	1.842	Si
SLV 3	453	-28086	436100	5.21	1550449	3.555	Si
SLV 13	263	-11252	167987	2.09	897958	5.345	Si
SLV 13	453	-4547	-469489	0	0	0	No, e>1/2
SLV 6	263	-7612	-305087	1.41	647963	2.124	Si
SLV 6	453	-14084	152864	2.61	1065668	6.971	Si
SLV 15	263	-15559	126450	2.89	1143767	9.045	Si
SLV 15	453	-7719	-488050	1.43	655908	1.344	Si
SLV 14	263	-11252	167987	2.09	897958	5.345	Si
SLV 14	453	-4547	-469489	0	0	0	No, e>1/2
SLV 2	263	-13383	-634374	2.48	1026363	1.618	Si
SLV 2	453	-24913	454661	4.62	1490822	3.279	Si
SLV 16	263	-15559	126450	2.89	1143767	9.045	Si
SLV 16	453	-7719	-488050	1.43	655908	1.344	Si
SLV 5	263	-7612	-305087	1.41	647963	2.124	Si
SLV 5	453	-14084	152864	2.61	1065668	6.971	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLU 83	263	-22117	-4558	-377603		4.1	192.5	1.08	5839			1.28	Si
SLU 83	453	-25303	-4567	-14667		4.69	192.5	1.08	5839			1.28	Si
SLU 82	263	-21811	-4621	-372128		4.05	192.5	1.08	5839			1.26	Si
SLU 82	453	-25123	-4628	-8675		4.66	192.5	1.08	5839			1.26	Si
SLU 77	263	-21627	-4337	-372485		4.01	192.5	1.08	5839			1.35	Si
SLU 77	453	-24495	-4346	-23271		4.54	192.5	1.08	5839			1.34	Si
SLU 74	263	-21355	-4390	-367266		3.96	192.5	1.08	5839			1.33	Si
SLU 74	453	-24337	-4398	-18156		4.52	192.5	1.08	5839			1.33	Si
SLU 73	263	-20813	-4391	-358527		3.86	192.5	1.07	5770			1.31	Si
SLU 73	453	-23830	-4397	-12515		4.42	192.5	1.08	5839			1.33	Si
SLU 81	263	-21845	-4611	-372384		4.05	192.5	1.08	5839			1.27	Si
SLU 81	453	-25145	-4619	-9552		4.67	192.5	1.08	5839			1.26	Si
SLU 75	263	-21321	-4400	-367010		3.96	192.5	1.08	5837			1.33	Si
SLU 75	453	-24315	-4407	-17279		4.51	192.5	1.08	5839			1.33	Si
SLU 78	263	-21593	-4347	-372229		4.01	192.5	1.08	5839			1.34	Si
SLU 78	453	-24473	-4354	-22394		4.54	192.5	1.08	5839			1.34	Si
SLU 84	263	-22083	-4568	-377347		4.1	192.5	1.08	5839			1.28	Si
SLU 84	453	-25281	-4575	-13790		4.69	192.5	1.08	5839			1.28	Si
SLU 76	263	-21085	-4339	-363745		3.91	192.5	1.08	5806			1.34	Si
SLU 76	453	-23988	-4345	-17630		4.45	192.5	1.08	5839			1.34	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLV 1	263	-13383	-12268	-634374		3.26	146.55	1.49	6096			0.5	No, Vu<V
SLV 1	453	-24913	-11891	454661		4.62	192.5	1.63	8759			0.74	No, Vu<V
SLV 13	263	-11252	5333	167987		2.09	192.5	1.25	6742			1.26	Si
SLV 13	453	-4547	5857	-469489		0	0	0.83	0			0	No, Vu<V
SLV 3	263	-17690	-11333	-675911		3.63	174.13	1.56	7601			0.67	No, Vu<V
SLV 3	453	-28086	-11870	436100		5.21	192.5	1.63	8759			0.74	No, Vu<V
SLV 15	263	-15559	6268	126450		2.89	192.5	1.41	7603			1.21	Si
SLV 15	453	-7719	5878	-488050		2.78	99.08	1.39	3856			0.66	No, Vu<V
SLV 14	263	-11252	5333	167987		2.09	192.5	1.25	6742			1.26	Si
SLV 14	453	-4547	5857	-469489		0	0	0.83	0			0	No, Vu<V
SLV 2	263	-13383	-12268	-634374		3.26	146.55	1.49	6096			0.5	No, Vu<V
SLV 2	453	-24913	-11891	454661		4.62	192.5	1.63	8759			0.74	No, Vu<V
SLV 16	263	-15559	6268	126450		2.89	192.5	1.41	7603			1.21	Si
SLV 16	453	-7719	5878	-488050		2.78	99.08	1.39	3856			0.66	No, Vu<V
SLV 6	263	-7612	-7199	-305087		1.61	168.51	1.16	5454			0.76	No, Vu<V
SLV 6	453	-14084	-5704	152864		2.61	192.5	1.36	7308			1.28	Si
SLV 5	263	-7612	-7199	-305087		1.61	168.51	1.16	5454			0.76	No, Vu<V
SLV 5	453	-14084	-5704	152864		2.61	192.5	1.36	7308			1.28	Si
SLV 4	263	-17690	-11333	-675911		3.63	174.13	1.56	7601			0.67	No, Vu<V
SLV 4	453	-28086	-11870	436100		5.21	192.5	1.63	8759			0.74	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 W_a 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.32	1.45	-7794	18255	96201	5.27	Si
SLV 13	14	0.32	1.45	-7794	18255	96201	5.27	Si
SLV 9	14	0.32	1.51	-8132	18255	99791	5.47	Si
SLV 10	14	0.32	1.51	-8132	18255	99791	5.47	Si
SLV 16	14	0.32	2.12	-11422	18255	132176	7.24	Si
SLV 15	14	0.32	2.12	-11422	18255	132176	7.24	Si
SLV 6	14	0.32	2.24	-12050	18255	137837	7.55	Si
SLV 5	14	0.32	2.24	-12050	18255	137837	7.55	Si
SLV 12	14	0.32	3.75	-20226	18255	196204	10.75	Si
SLV 11	14	0.32	3.75	-20226	18255	196204	10.75	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 $W_a = 0.05$ $T_a = 0.083$

Comb.	N top	N base	V orto	α_0	M^*	e^*	a_0^*	aLim	Verifica
SLV 7	-20716	-20196	9	0.04	23.923	0.964	60.525	1436.128	No
SLV 8	-20716	-20196	9	0.04	23.923	0.964	60.525	1436.128	No
SLV 11	-14620	-18745	22	0.04	17.723	0.953	61.521	1436.128	No
SLV 12	-14620	-18745	22	0.04	17.723	0.953	61.521	1436.128	No
SLV 6	-15177	-7277	-13	0.041	18.289	0.955	62.028	1436.128	No
SLV 5	-15177	-7277	-13	0.041	18.289	0.955	62.028	1436.128	No
SLV 9	-9081	-5825	-1	0.044	12.107	0.935	67.94	1436.128	No
SLV 10	-9081	-5825	-1	0.044	12.107	0.935	67.94	1436.128	No
SLV 1	-24228	-13491	-21	0.039	27.497	0.969	59.032	942.501	No
SLV 2	-24228	-13491	-21	0.039	27.497	0.969	59.032	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.798	SLU 83	Si
V_SLU	1.262	SLU 82	Si
PF_SLV	0	SLV 13	No
V_SLV	0	SLV 13	No
PFFP_SLV	5.27	SLV 13	Si
R_SLV	0.042	SLV 7	No



Maschio 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s, sx	a.s, dx
-1676.8	666.1	-1288.8	666.1	L3	L4	388	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 80	263	-52927	-513504	4.87	4126964	8.037	Si
SLU 80	453	-54211	-336737	4.99	4074497	12.1	Si
SLU 78	263	-53400	-519277	4.92	4108446	7.912	Si
SLU 78	453	-54772	-342468	5.04	4049269	11.824	Si
SLU 82	263	-53521	-535780	4.93	4103579	7.659	Si
SLU 82	453	-55279	-374212	5.09	4025317	10.757	Si
SLU 75	263	-52483	-517301	4.83	4143428	8.01	Si
SLU 75	453	-53928	-352354	4.96	4086664	11.598	Si
SLU 83	263	-54488	-537397	5.02	4062218	7.559	Si
SLU 83	453	-56180	-365528	5.17	3979987	10.888	Si
SLU 77	263	-53450	-518918	4.92	4106469	7.914	Si
SLU 77	453	-54829	-343670	5.05	4046668	11.775	Si
SLU 81	263	-53570	-535421	4.93	4101576	7.66	Si
SLU 81	453	-55335	-375414	5.09	4022591	10.715	Si
SLU 84	263	-54439	-537756	5.01	4064419	7.558	Si
SLU 84	453	-56124	-364326	5.17	3982921	10.932	Si
SLU 74	263	-52532	-516942	4.84	4141649	8.012	Si
SLU 74	453	-53984	-353556	4.97	4084271	11.552	Si
SLU 79	263	-52976	-513146	4.88	4125089	8.039	Si
SLU 79	453	-54267	-337939	5	4072034	12.05	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 14	263	-27070	1139879	2.49	4180652	3.668	Si
SLV 14	453	-28383	-1839980	2.61	4328941	2.353	Si
SLV 3	263	-43704	-1840493	4.02	5687142	3.09	Si
SLV 3	453	-43614	1345324	4.01	5681136	4.223	Si
SLV 2	263	-31812	-1961942	2.93	4692563	2.392	Si
SLV 2	453	-35709	1353049	3.29	5063998	3.743	Si
SLV 16	263	-38962	1261328	3.59	5340065	4.234	Si
SLV 16	453	-36287	-1847705	3.34	5115346	2.768	Si
SLV 15	263	-38962	1261328	3.59	5340065	4.234	Si
SLV 15	453	-36287	-1847705	3.34	5115346	2.768	Si
SLV 5	263	-16279	-1017995	1.5	2770811	2.722	Si
SLV 5	453	-23923	244502	2.2	3804637	15.561	Si
SLV 6	263	-16279	-1017995	1.5	2770811	2.722	Si
SLV 6	453	-23923	244502	2.2	3804637	15.561	Si
SLV 13	263	-27070	1139879	2.49	4180652	3.668	Si
SLV 13	453	-28383	-1839980	2.61	4328941	2.353	Si
SLV 1	263	-31812	-1961942	2.93	4692563	2.392	Si
SLV 1	453	-35709	1353049	3.29	5063998	3.743	Si
SLV 4	263	-43704	-1840493	4.02	5687142	3.09	Si
SLV 4	453	-43614	1345324	4.01	5681136	4.223	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	263	-51976	-1673	-511767		4.78	388	1.08	11769			7.03	Si
SLU 76	453	-53329	-1673	-345822		4.91	388	1.08	11769			7.04	Si
SLU 83	263	-54488	-1746	-537397		5.02	388	1.08	11769			6.74	Si
SLU 83	453	-56180	-1745	-365528		5.17	388	1.08	11769			6.75	Si
SLU 77	263	-53450	-1726	-518918		4.92	388	1.08	11769			6.82	Si
SLU 77	453	-54829	-1725	-343670		5.05	388	1.08	11769			6.82	Si
SLU 81	263	-53570	-1692	-535421		4.93	388	1.08	11769			6.96	Si
SLU 81	453	-55335	-1691	-375414		5.09	388	1.08	11769			6.96	Si
SLU 78	263	-53400	-1733	-519277		4.92	388	1.08	11769			6.79	Si
SLU 78	453	-54772	-1732	-342468		5.04	388	1.08	11769			6.8	Si
SLU 82	263	-53521	-1699	-535780		4.93	388	1.08	11769			6.93	Si
SLU 82	453	-55279	-1699	-374212		5.09	388	1.08	11769			6.93	Si
SLU 84	263	-54439	-1753	-537756		5.01	388	1.08	11769			6.71	Si
SLU 84	453	-56124	-1752	-364326		5.17	388	1.08	11769			6.72	Si
SLU 80	263	-52927	-1722	-513504		4.87	388	1.08	11769			6.83	Si
SLU 80	453	-54211	-1721	-336737		4.99	388	1.08	11769			6.84	Si
SLU 75	263	-52483	-1679	-517301		4.83	388	1.08	11769			7.01	Si
SLU 75	453	-53928	-1678	-352354		4.96	388	1.08	11769			7.01	Si
SLU 79	263	-52976	-1715	-513146		4.88	388	1.08	11769			6.86	Si
SLU 79	453	-54267	-1714	-337939		5	388	1.08	11769			6.87	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	263	-14856	7366	-87449		1.37	388	1.11	12025			1.63	Si
SLV 9	453	-21725	3732	-713407		2	388	1.23	13398			3.59	Si
SLV 16	263	-38962	14646	1261328		3.59	388	1.55	16846			1.15	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	453	-36287	15662	-1847705		3.34	388	1.5	16311			1.04	Si
SLV 13	263	-27070	16707	1139879		2.49	388	1.33	14467			0.87	No, Vu<V
SLV 13	453	-28383	15555	-1839980		2.62	387.52	1.36	14719			0.95	No, Vu<V
SLV 2	263	-31812	-16854	-1961942		2.93	388	1.42	15416			0.91	No, Vu<V
SLV 2	453	-35709	-17868	1353049		3.29	388	1.49	16195			0.91	No, Vu<V
SLV 10	263	-14856	7366	-87449		1.37	388	1.11	12025			1.63	Si
SLV 10	453	-21725	3732	-713407		2	388	1.23	13398			3.59	Si
SLV 14	263	-27070	16707	1139879		2.49	388	1.33	14467			0.87	No, Vu<V
SLV 14	453	-28383	15555	-1839980		2.62	387.52	1.36	14719			0.95	No, Vu<V
SLV 3	263	-43704	-18915	-1840493		4.02	388	1.63	17654			0.93	No, Vu<V
SLV 3	453	-43614	-17761	1345324		4.01	388	1.63	17654			0.99	No, Vu<V
SLV 1	263	-31812	-16854	-1961942		2.93	388	1.42	15416			0.91	No, Vu<V
SLV 1	453	-35709	-17868	1353049		3.29	388	1.49	16195			0.91	No, Vu<V
SLV 15	263	-38962	14646	1261328		3.59	388	1.55	16846			1.15	Si
SLV 15	453	-36287	15662	-1847705		3.34	388	1.5	16311			1.04	Si
SLV 4	263	-43704	-18915	-1840493		4.02	388	1.63	17654			0.93	No, Vu<V
SLV 4	453	-43614	-17761	1345324		4.01	388	1.63	17654			0.99	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore $8\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.32	1.9	-20636	36794	243995	6.63	Si
SLV 10	14	0.32	1.9	-20636	36794	243995	6.63	Si
SLV 6	14	0.32	2.04	-22200	36794	258827	7.03	Si
SLV 5	14	0.32	2.04	-22200	36794	258827	7.03	Si
SLV 14	14	0.32	2.72	-29598	36794	321976	8.75	Si
SLV 13	14	0.32	2.72	-29598	36794	321976	8.75	Si
SLV 1	14	0.32	3.2	-34811	36794	359552	9.77	Si
SLV 2	14	0.32	3.2	-34811	36794	359552	9.77	Si
SLV 16	14	0.32	3.58	-38843	36794	384676	10.45	Si
SLV 15	14	0.32	3.58	-38843	36794	384676	10.45	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-40322	-51856	177	0.037	46.76	0.963	55.244	1436.128	No
SLV 7	-40322	-51856	177	0.037	46.76	0.963	55.244	1436.128	No
SLV 11	-38873	-50678	177	0.037	45.286	0.962	55.266	1436.128	No
SLV 12	-38873	-50678	177	0.037	45.286	0.962	55.266	1436.128	No
SLV 5	-21008	-14375	-176	0.036	27.14	0.941	55.52	1436.128	No
SLV 6	-21008	-14375	-176	0.036	27.14	0.941	55.52	1436.128	No
SLV 9	-19560	-13197	-176	0.036	25.674	0.938	55.521	1436.128	No
SLV 10	-19560	-13197	-176	0.036	25.674	0.938	55.521	1436.128	No
SLV 4	-35252	-40112	54	0.04	41.603	0.959	60.108	942.501	No
SLV 3	-35252	-40112	54	0.04	41.603	0.959	60.108	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.558	SLU 84	Si
V_SLU	6.714	SLU 84	Si
PF_SLV	2.353	SLV 13	Si
V_SLV	0.866	SLV 13	No
PFFP_SLV	6.631	SLV 9	Si
R_SLV	0.038	SLV 7	No

Maschio 83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1188.8	666.1	-800.8	666.1	L3	L4	388	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	263	-53226	457119	4.9	4115384	9.003	Si
SLU 84	453	-56785	454039	5.23	3947506	8.694	Si
SLU 81	263	-51898	435803	4.78	4163780	9.554	Si
SLU 81	453	-55506	442179	5.11	4014246	9.078	Si
SLU 77	263	-52698	458061	4.85	4135558	9.028	Si
SLU 77	453	-55933	452465	5.15	3992755	8.824	Si
SLU 78	263	-52635	458318	4.84	4137870	9.028	Si
SLU 78	453	-55862	450358	5.14	3996398	8.874	Si
SLU 75	263	-51245	437258	4.72	4184757	9.57	Si
SLU 75	453	-54511	436391	5.02	4061180	9.306	Si
SLU 80	263	-52255	457075	4.81	4151519	9.083	Si
SLU 80	453	-55385	447680	5.1	4020200	8.98	Si
SLU 74	263	-51307	437001	4.72	4182827	9.572	Si
SLU 74	453	-54582	438498	5.02	4057958	9.254	Si

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Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 83	263	-53289	456862	4.91	4112910	9.003	Si
SLU 83	453	-56857	456146	5.23	3943573	8.645	Si
SLU 79	263	-52318	456818	4.82	4149311	9.083	Si
SLU 79	453	-55456	449786	5.1	4016705	8.93	Si
SLU 82	263	-51836	436060	4.77	4165872	9.553	Si
SLU 82	453	-55434	440072	5.1	4017756	9.13	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 4	263	-36219	-1268643	3.33	5109362	4.027	Si
SLV 4	453	-35653	1924283	3.28	5059009	2.629	Si
SLV 14	263	-32245	1836454	2.97	4736047	2.579	Si
SLV 14	453	-36549	-1342065	3.36	5138290	3.829	Si
SLV 3	263	-36219	-1268643	3.33	5109362	4.027	Si
SLV 3	453	-35653	1924283	3.28	5059009	2.629	Si
SLV 15	263	-43614	1789276	4.01	5681164	3.175	Si
SLV 15	453	-44324	-1353224	4.08	5727664	4.233	Si
SLV 9	263	-16394	821223	1.51	2787673	3.395	Si
SLV 9	453	-24444	-181919	2.25	3868936	21.267	Si
SLV 1	263	-24851	-1221465	2.29	3918529	3.208	Si
SLV 1	453	-27879	1935442	2.57	4272598	2.208	Si
SLV 16	263	-43614	1789276	4.01	5681164	3.175	Si
SLV 16	453	-44324	-1353224	4.08	5727664	4.233	Si
SLV 2	263	-24851	-1221465	2.29	3918529	3.208	Si
SLV 2	453	-27879	1935442	2.57	4272598	2.208	Si
SLV 13	263	-32245	1836454	2.97	4736047	2.579	Si
SLV 13	453	-36549	-1342065	3.36	5138290	3.829	Si
SLV 10	263	-16394	821223	1.51	2787673	3.395	Si
SLV 10	453	-24444	-181919	2.25	3868936	21.267	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	263	-52318	1040	456818		4.82	388	1.08	11769			11.32	Si
SLU 79	453	-55456	1039	449786		5.1	388	1.08	11769			11.33	Si
SLU 75	263	-51245	1022	437258		4.72	388	1.08	11769			11.51	Si
SLU 75	453	-54511	1021	436391		5.02	388	1.08	11769			11.52	Si
SLU 84	263	-53226	1068	457119		4.9	388	1.08	11769			11.02	Si
SLU 84	453	-56785	1067	454039		5.23	388	1.08	11769			11.03	Si
SLU 80	263	-52255	1051	457075		4.81	388	1.08	11769			11.2	Si
SLU 80	453	-55385	1050	447680		5.1	388	1.08	11769			11.2	Si
SLU 78	263	-52635	1055	458318		4.84	388	1.08	11769			11.16	Si
SLU 78	453	-55862	1054	450358		5.14	388	1.08	11769			11.16	Si
SLU 83	263	-53289	1056	456862		4.91	388	1.08	11769			11.14	Si
SLU 83	453	-56857	1056	456146		5.23	388	1.08	11769			11.15	Si
SLU 77	263	-52698	1043	458061		4.85	388	1.08	11769			11.28	Si
SLU 77	453	-55933	1043	452465		5.15	388	1.08	11769			11.29	Si
SLU 81	263	-51898	1024	435803		4.78	388	1.08	11769			11.5	Si
SLU 81	453	-55506	1023	442179		5.11	388	1.08	11769			11.51	Si
SLU 82	263	-51836	1035	436060		4.77	388	1.08	11769			11.37	Si
SLU 82	453	-55434	1034	440072		5.1	388	1.08	11769			11.38	Si
SLU 76	263	-50823	1026	436187		4.68	388	1.08	11769			11.47	Si
SLU 76	453	-53986	1025	432308		4.97	388	1.08	11769			11.48	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	263	-43614	16362	1789276		4.01	388	1.63	17654			1.08	Si
SLV 16	453	-44324	17015	-1353224		4.08	388	1.63	17654			1.04	Si
SLV 14	263	-32245	18274	1836454		2.97	388	1.43	15502			0.85	No, Vu<V
SLV 14	453	-36549	17366	-1342065		3.36	388	1.51	16363			0.94	No, Vu<V
SLV 1	263	-24851	-15024	-1221465		2.29	388	1.29	14024			0.93	No, Vu<V
SLV 1	453	-27879	-15679	1935442		2.66	373.73	1.37	14296			0.91	No, Vu<V
SLV 13	263	-32245	18274	1836454		2.97	388	1.43	15502			0.85	No, Vu<V
SLV 13	453	-36549	17366	-1342065		3.36	388	1.51	16363			0.94	No, Vu<V
SLV 10	263	-16394	8851	821223		1.51	388	1.14	12332			1.39	Si
SLV 10	453	-24444	6209	-181919		2.25	388	1.28	13942			2.25	Si
SLV 3	263	-36219	-16937	-1268643		3.33	388	1.5	16297			0.96	No, Vu<V
SLV 3	453	-35653	-16030	1924283		3.28	388	1.49	16184			1.01	Si
SLV 2	263	-24851	-15024	-1221465		2.29	388	1.29	14024			0.93	No, Vu<V
SLV 2	453	-27879	-15679	1935442		2.66	373.73	1.37	14296			0.91	No, Vu<V
SLV 4	263	-36219	-16937	-1268643		3.33	388	1.5	16297			0.96	No, Vu<V
SLV 4	453	-35653	-16030	1924283		3.28	388	1.49	16184			1.01	Si
SLV 15	263	-43614	16362	1789276		4.01	388	1.63	17654			1.08	Si
SLV 15	453	-44324	17015	-1353224		4.08	388	1.63	17654			1.04	Si
SLV 9	263	-16394	8851	821223		1.51	388	1.14	12332			1.39	Si
SLV 9	453	-24444	6209	-181919		2.25	388	1.28	13942			2.25	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.32	1.74	-18874	36794	226671	6.16	Si
SLV 6	14	0.32	1.74	-18874	36794	226671	6.16	Si
SLV 10	14	0.32	1.99	-21623	36794	253408	6.89	Si
SLV 9	14	0.32	1.99	-21623	36794	253408	6.89	Si
SLV 1	14	0.32	2.45	-26602	36794	297793	8.09	Si
SLV 2	14	0.32	2.45	-26602	36794	297793	8.09	Si
SLV 13	14	0.32	3.29	-35762	36794	365789	9.94	Si
SLV 14	14	0.32	3.29	-35762	36794	365789	9.94	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.32	3.31	-35974	36794	367147	9.98	Si
SLV 3	14	0.32	3.31	-35974	36794	367147	9.98	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-19535	-13023	-217	0.034	25.648	0.938	52.826	1436.128	No
SLV 6	-19535	-13023	-217	0.034	25.648	0.938	52.826	1436.128	No
SLV 11	-39814	-48095	215	0.036	46.243	0.963	53.939	1436.128	No
SLV 12	-39814	-48095	215	0.036	46.243	0.963	53.939	1436.128	No
SLV 10	-21750	-14903	-196	0.035	27.891	0.942	54.341	1436.128	No
SLV 9	-21750	-14903	-196	0.035	27.891	0.942	54.341	1436.128	No
SLV 7	-37599	-46214	194	0.036	43.99	0.961	54.668	1436.128	No
SLV 8	-37599	-46214	194	0.036	43.99	0.961	54.668	1436.128	No
SLV 15	-36076	-38671	96	0.039	42.441	0.96	58.383	942.501	No
SLV 16	-36076	-38671	96	0.039	42.441	0.96	58.383	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.645	SLU 83	Si
V_SLU	11.023	SLU 84	Si
PF_SLV	2.208	SLV 1	Si
V_SLV	0.848	SLV 13	No
PFFP_SLV	6.16	SLV 5	Si
R_SLV	0.037	SLV 5	No

Maschio 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-700.8	666.1	-515.8	666.1	L3	L4	185	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 74	263	-19910	234498	3.84	972677	4.148	Si
SLU 74	453	-26356	64760	5.09	915152	14.131	Si
SLU 78	263	-20526	245799	3.96	975053	3.967	Si
SLU 78	453	-27196	69930	5.25	894237	12.788	Si
SLU 84	263	-20630	241359	3.98	975289	4.041	Si
SLU 84	453	-27418	61385	5.29	888194	14.469	Si
SLU 69	263	-18481	228165	3.57	960761	4.211	Si
SLU 69	453	-24187	77479	4.67	954842	12.324	Si
SLU 83	263	-20677	241531	3.99	975380	4.038	Si
SLU 83	453	-27459	62939	5.3	887053	14.094	Si
SLU 79	263	-20443	245373	3.95	974829	3.973	Si
SLU 79	453	-27033	72232	5.22	898537	12.44	Si
SLU 75	263	-19863	234326	3.83	972428	4.15	Si
SLU 75	453	-26315	63206	5.08	916094	14.494	Si
SLU 80	263	-20396	245201	3.94	974690	3.975	Si
SLU 80	453	-26992	70678	5.21	899601	12.728	Si
SLU 77	263	-20573	245971	3.97	975165	3.965	Si
SLU 77	453	-27237	71484	5.26	893136	12.494	Si
SLU 76	263	-19702	233614	3.8	971500	4.159	Si
SLU 76	453	-26084	62918	5.04	921270	14.642	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 16	263	-15793	521365	3.05	1096350	2.103	Si
SLV 16	453	-28243	-434439	5.45	1446721	3.33	Si
SLV 2	263	-10636	-205877	2.05	818506	3.976	Si
SLV 2	453	-6335	530076	1.22	527349	0.995	No, M>Mu
SLV 13	263	-12004	518826	2.32	899808	1.734	Si
SLV 13	453	-25198	-458651	4.86	1402881	3.059	Si
SLV 4	263	-14425	-203338	2.78	1030202	5.066	Si
SLV 4	453	-9380	554289	1.81	739060	1.333	Si
SLV 9	263	-7105	262218	1.37	583459	2.225	Si
SLV 9	453	-15044	-140845	2.9	1060802	7.532	Si
SLV 1	263	-10636	-205877	2.05	818506	3.976	Si
SLV 1	453	-6335	530076	1.22	527349	0.995	No, M>Mu
SLV 3	263	-14425	-203338	2.78	1030202	5.066	Si
SLV 3	453	-9380	554289	1.81	739060	1.333	Si
SLV 10	263	-7105	262218	1.37	583459	2.225	Si
SLV 10	453	-15044	-140845	2.9	1060802	7.532	Si
SLV 15	263	-15793	521365	3.05	1096350	2.103	Si
SLV 15	453	-28243	-434439	5.45	1446721	3.33	Si
SLV 14	263	-12004	518826	2.32	899808	1.734	Si
SLV 14	453	-25198	-458651	4.86	1402881	3.059	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 80	263	-20396	5207	245201		3.94	185	1.08	5597			1.08	Si
SLU 80	453	-26992	5216	70678		5.21	185	1.08	5612			1.08	Si
SLU 81	263	-20014	5187	230058		3.86	185	1.07	5546			1.07	Si
SLU 81	453	-26578	5197	56214		5.13	185	1.08	5612			1.08	Si
SLU 76	263	-19702	5083	233614		3.8	185	1.06	5505			1.08	Si
SLU 76	453	-26084	5091	62918		5.04	185	1.08	5612			1.1	Si
SLU 75	263	-19863	5119	234326		3.83	185	1.07	5526			1.08	Si
SLU 75	453	-26315	5128	63206		5.08	185	1.08	5612			1.09	Si
SLU 77	263	-20573	5239	245971		3.97	185	1.08	5612			1.07	Si
SLU 77	453	-27237	5250	71484		5.26	185	1.08	5612			1.07	Si
SLU 78	263	-20526	5250	245799		3.96	185	1.08	5612			1.07	Si
SLU 78	453	-27196	5259	69930		5.25	185	1.08	5612			1.07	Si
SLU 79	263	-20443	5196	245373		3.95	185	1.08	5604			1.08	Si
SLU 79	453	-27033	5206	72232		5.22	185	1.08	5612			1.08	Si
SLU 83	263	-20677	5318	241531		3.99	185	1.08	5612			1.06	Si
SLU 83	453	-27459	5329	62939		5.3	185	1.08	5612			1.05	Si
SLU 84	263	-20630	5329	241359		3.98	185	1.08	5612			1.05	Si
SLU 84	453	-27418	5338	61385		5.29	185	1.08	5612			1.05	Si
SLU 82	263	-19967	5198	229886		3.85	185	1.07	5540			1.07	Si
SLU 82	453	-26537	5207	54661		5.12	185	1.08	5612			1.08	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 13	263	-12004	12164	518826		2.9	147.84	1.41	5851			0.48	No, Vu<V
SLV 13	453	-25198	12421	-458651		4.86	185	1.63	8417			0.68	No, Vu<V
SLV 3	263	-14425	-5390	-203338		2.78	185	1.39	7202			1.34	Si
SLV 3	453	-9380	-5632	554289		3.34	100.22	1.5	4214			0.75	No, Vu<V
SLV 16	263	-15793	12243	521365		3.16	178.46	1.47	7323			0.6	No, Vu<V
SLV 16	453	-28243	12305	-434439		5.45	185	1.63	8417			0.68	No, Vu<V
SLV 14	263	-12004	12164	518826		2.9	147.84	1.41	5851			0.48	No, Vu<V
SLV 14	453	-25198	12421	-458651		4.86	185	1.63	8417			0.68	No, Vu<V
SLV 9	263	-7105	5900	262218		1.52	166.79	1.14	5313			0.9	No, Vu<V
SLV 9	453	-15044	6280	-140845		2.9	185	1.41	7325			1.17	Si
SLV 1	263	-10636	-5469	-205877		2.05	185	1.24	6444			1.18	Si
SLV 1	453	-6335	-5515	530076		8.54	26.48	1.63	1205			0.22	No, Vu<V
SLV 10	263	-7105	5900	262218		1.52	166.79	1.14	5313			0.9	No, Vu<V
SLV 10	453	-15044	6280	-140845		2.9	185	1.41	7325			1.17	Si
SLV 15	263	-15793	12243	521365		3.16	178.46	1.47	7323			0.6	No, Vu<V
SLV 15	453	-28243	12305	-434439		5.45	185	1.63	8417			0.68	No, Vu<V
SLV 4	263	-14425	-5390	-203338		2.78	185	1.39	7202			1.34	Si
SLV 4	453	-9380	-5632	554289		3.34	100.22	1.5	4214			0.75	No, Vu<V
SLV 2	263	-10636	-5469	-205877		2.05	185	1.24	6444			1.18	Si
SLV 2	453	-6335	-5515	530076		8.54	26.48	1.63	1205			0.22	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.32	1.66	-8579	17544	103828	5.92	Si
SLV 6	14	0.32	1.66	-8579	17544	103828	5.92	Si
SLV 2	14	0.32	1.67	-8658	17544	104634	5.96	Si
SLV 1	14	0.32	1.67	-8658	17544	104634	5.96	Si
SLV 9	14	0.32	2.34	-12104	17544	137046	7.81	Si
SLV 10	14	0.32	2.34	-12104	17544	137046	7.81	Si
SLV 3	14	0.32	2.36	-12250	17544	138311	7.88	Si
SLV 4	14	0.32	2.36	-12250	17544	138311	7.88	Si
SLV 14	14	0.32	3.94	-20406	17544	193580	11.03	Si
SLV 13	14	0.32	3.94	-20406	17544	193580	11.03	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-21196	-15252	48	0.038	24.3	0.966	57.614	1436.128	No
SLV 11	-21196	-15252	48	0.038	24.3	0.966	57.614	1436.128	No
SLV 8	-15634	-14434	57	0.038	18.643	0.957	57.699	1436.128	No
SLV 7	-15634	-14434	57	0.038	18.643	0.957	57.699	1436.128	No
SLV 10	-13846	-4290	-50	0.039	16.825	0.953	58.776	1436.128	No
SLV 9	-13846	-4290	-50	0.039	16.825	0.953	58.776	1436.128	No
SLV 6	-8284	-3472	-40	0.04	11.188	0.933	62.379	1436.128	No
SLV 5	-8284	-3472	-40	0.04	11.188	0.933	62.379	1436.128	No
SLV 13	-22906	-9080	-27	0.039	26.041	0.968	58.674	942.501	No
SLV 14	-22906	-9080	-27	0.039	26.041	0.968	58.674	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.965	SLU 77	Si
V_SLV	1.051	SLU 84	Si
PF_SLV	0.995	SLV 1	No
V_SLV	0.218	SLV 1	No
PFFP_SLV	5.918	SLV 5	Si
R_SLV	0.04	SLV 11	No



Maschio 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s, sx	a.s, dx
-1100.3	-470.9	-1100.3	-331.4	L3	Z medio 375 cm	139.5	28	202	202	202			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 74	173	-25302	-226208	6.48	361416	1.598	Si
SLU 74	375	-19789	69480	5.07	521811	7.51	Si
SLU 82	173	-25481	-220746	6.52	353937	1.603	Si
SLU 82	375	-20024	79779	5.13	517690	6.489	Si
SLU 76	173	-25223	-224754	6.46	364636	1.622	Si
SLU 76	375	-19721	66827	5.05	522967	7.826	Si
SLU 80	173	-26068	-238502	6.67	328556	1.378	Si
SLU 80	375	-20393	68818	5.22	510739	7.422	Si
SLU 77	173	-26104	-238613	6.68	326952	1.37	Si
SLU 77	375	-20427	70797	5.23	510062	7.205	Si
SLU 79	173	-26132	-240516	6.69	325703	1.354	Si
SLU 79	375	-20444	69828	5.23	509723	7.3	Si
SLU 78	173	-26040	-236599	6.67	329796	1.394	Si
SLU 78	375	-20376	69786	5.22	511074	7.323	Si
SLU 84	173	-26284	-233151	6.73	318839	1.368	Si
SLU 84	375	-20662	81096	5.29	505283	6.231	Si
SLU 83	173	-26348	-235165	6.75	315926	1.343	Si
SLU 83	375	-20714	82106	5.3	504206	6.141	Si
SLU 81	173	-25545	-222760	6.54	351249	1.577	Si
SLU 81	375	-20076	80789	5.14	516756	6.396	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 7	173	-7396	154543	1.89	435927	2.821	Si
SLV 7	375	-5590	34938	1.43	344249	9.853	Si
SLD 14	173	-18522	-316155	4.74	790543	2.5	Si
SLD 14	375	-14474	4417	3.71	703383	159.238	Si
SLV 8	173	-7396	154543	1.89	435927	2.821	Si
SLV 8	375	-5590	34938	1.43	344249	9.853	Si
SLD 13	173	-18522	-316155	4.74	790543	2.5	Si
SLD 13	375	-14474	4417	3.71	703383	159.238	Si
SLV 13	173	-20069	-534141	5.14	811185	1.519	Si
SLV 13	375	-15883	-35559	4.07	739164	20.787	Si
SLV 16	173	-14018	-404605	3.59	690561	1.707	Si
SLV 16	375	-11188	-48756	2.86	597433	12.254	Si
SLV 10	173	-27364	-465562	7.01	814322	1.749	Si
SLV 10	375	-21296	33193	5.45	822599	24.782	Si
SLV 14	173	-20069	-534141	5.14	811185	1.519	Si
SLV 14	375	-15883	-35559	4.07	739164	20.787	Si
SLV 9	173	-27364	-465562	7.01	814322	1.749	Si
SLV 9	375	-21296	33193	5.45	822599	24.782	Si
SLV 15	173	-14018	-404605	3.59	690561	1.707	Si
SLV 15	375	-11188	-48756	2.86	597433	12.254	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	173	-26348	-2131	-235165		6.75	139.5	1.08	4231			1.99	Si
SLU 83	375	-20714	-1486	82106		5.3	139.5	1.08	4231			2.85	Si
SLU 77	173	-26104	-2189	-238613		6.68	139.5	1.08	4231			1.93	Si
SLU 77	375	-20427	-1482	70797		5.23	139.5	1.08	4231			2.86	Si
SLU 84	173	-26284	-2092	-233151		6.73	139.5	1.08	4231			2.02	Si
SLU 84	375	-20662	-1447	81096		5.29	139.5	1.08	4231			2.92	Si
SLU 58	173	-24594	-1991	-229323		6.3	139.5	1.08	4231			2.13	Si
SLU 58	375	-19182	-1313	59433		4.91	139.5	1.08	4231			3.22	Si
SLU 78	173	-26040	-2150	-236599		6.67	139.5	1.08	4231			1.97	Si
SLU 78	375	-20376	-1443	69786		5.22	139.5	1.08	4231			2.93	Si
SLU 80	173	-26068	-2161	-238502		6.67	139.5	1.08	4231			1.96	Si
SLU 80	375	-20393	-1450	68818		5.22	139.5	1.08	4231			2.92	Si
SLU 75	173	-25238	-1983	-224194		6.46	139.5	1.08	4231			2.13	Si
SLU 75	375	-19738	-1304	68469		5.05	139.5	1.08	4231			3.25	Si
SLU 79	173	-26132	-2200	-240516		6.69	139.5	1.08	4231			1.92	Si
SLU 79	375	-20444	-1489	69828		5.23	139.5	1.08	4231			2.84	Si
SLU 56	173	-24566	-1980	-227420		6.29	139.5	1.08	4231			2.14	Si
SLU 56	375	-19164	-1306	60402		4.91	139.5	1.08	4231			3.24	Si
SLU 74	173	-25302	-2021	-226208		6.48	139.5	1.08	4231			2.09	Si
SLU 74	375	-19789	-1343	69480		5.07	139.5	1.08	4231			3.15	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	173	-27566	-5003	-277245		7.06	139.5	1.63	6347			1.27	Si
SLV 6	375	-21241	-4334	78927		5.44	139.5	1.63	6347			1.46	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	173	-27566	-5003	-277245		7.06	139.5	1.63	6347			1.27	Si
SLV 5	375	-21241	-4334	78927		5.44	139.5	1.63	6347			1.46	Si
SLV 10	173	-27364	-4763	-465562		7.01	139.5	1.63	6347			1.33	Si
SLV 10	375	-21296	-3278	33193		5.45	139.5	1.63	6347			1.94	Si
SLV 12	173	-7194	2448	-33775		1.84	139.5	1.2	4694			1.92	Si
SLV 12	375	-5646	2856	-10796		1.45	139.5	1.12	4384			1.54	Si
SLV 8	173	-7396	2208	154543		1.89	139.5	1.21	4734			2.14	Si
SLV 8	375	-5590	1800	34938		1.43	139.5	1.12	4373			2.43	Si
SLV 11	173	-7194	2448	-33775		1.84	139.5	1.2	4694			1.92	Si
SLV 11	375	-5646	2856	-10796		1.45	139.5	1.12	4384			1.54	Si
SLV 9	173	-27364	-4763	-465562		7.01	139.5	1.63	6347			1.33	Si
SLV 9	375	-21296	-3278	33193		5.45	139.5	1.63	6347			1.94	Si
SLV 7	173	-7396	2208	154543		1.89	139.5	1.21	4734			2.14	Si
SLV 7	375	-5590	1800	34938		1.43	139.5	1.12	4373			2.43	Si
SLV 2	173	-20742	-2758	93585		5.31	139.5	1.63	6347			2.3	Si
SLV 2	375	-15698	-3420	116887		4.02	139.5	1.63	6347			1.86	Si
SLV 1	173	-20742	-2758	93585		5.31	139.5	1.63	6347			2.3	Si
SLV 1	375	-15698	-3420	116887		4.02	139.5	1.63	6347			1.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 274 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.3	1.44	-5625	3753	69464	18.51	Si
SLV 11	14	0.3	1.44	-5625	3753	69464	18.51	Si
SLV 8	14	0.3	1.46	-5684	3753	70094	18.68	Si
SLV 7	14	0.3	1.46	-5684	3753	70094	18.68	Si
SLV 15	14	0.3	2.89	-11293	3753	120693	32.16	Si
SLV 16	14	0.3	2.89	-11293	3753	120693	32.16	Si
SLV 3	14	0.3	2.94	-11490	3753	122132	32.55	Si
SLV 4	14	0.3	2.94	-11490	3753	122132	32.55	Si
SLV 14	14	0.3	4.15	-16211	3753	149866	39.94	Si
SLV 13	14	0.3	4.15	-16211	3753	149866	39.94	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 274 Wa = 0.05 Ta = 0.0243

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 7	-5590	-7396	-230	0.041	6.806	0.952	62.019	505.837	No
SLV 8	-5590	-7396	-230	0.041	6.806	0.952	62.019	505.837	No
SLV 11	-5646	-7194	-225	0.042	6.862	0.953	63.619	505.837	No
SLV 12	-5646	-7194	-225	0.042	6.862	0.953	63.619	505.837	No
SLV 6	-21241	-27566	-47	0.069	22.744	0.985	102.45	505.837	No
SLV 5	-21241	-27566	-47	0.069	22.744	0.985	102.45	505.837	No
SLV 10	-21296	-27364	-42	0.07	22.8	0.985	102.793	505.837	No
SLV 9	-21296	-27364	-42	0.07	22.8	0.985	102.793	505.837	No
SLV 4	-11003	-14691	-172	0.059	12.313	0.972	87.942	378.678	No
SLV 3	-11003	-14691	-172	0.059	12.313	0.972	87.942	378.678	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.343	SLU 83	Si
V_SLU	1.924	SLU 79	Si
PF_SLV	1.519	SLV 13	Si
V_SLV	1.269	SLV 5	Si
PFFP_SLV	18.511	SLV 11	Si
R_SLV	0.123	SLV 7	No

Maschio 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-331.4	-1100.3	-35.4	L3	Z medio 461 cm	296	28	287.5	202	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fV0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 75	173	-50369	-653697	6.08	1892932	2.896	Si
SLU 75	375	-42253	202325	5.1	2339707	11.564	Si
SLU 78	173	-51370	-693076	6.2	1817879	2.623	Si
SLU 78	375	-43145	198890	5.21	2304705	11.588	Si
SLU 74	173	-50358	-659747	6.08	1893758	2.87	Si
SLU 74	375	-42252	201901	5.1	2339731	11.589	Si
SLU 81	173	-51452	-649687	6.21	1811485	2.788	Si
SLU 81	375	-43248	206520	5.22	2300471	11.139	Si
SLU 79	173	-51110	-707066	6.17	1837814	2.599	Si
SLU 79	375	-42881	188857	5.17	2315440	12.26	Si
SLU 84	173	-52464	-683016	6.33	1730752	2.534	Si
SLU 84	375	-44141	203509	5.33	2261545	11.113	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 82	173	-51464	-643637	6.21	1810604	2.813	Si
SLU 82	375	-43248	206944	5.22	2300445	11.116	Si
SLU 83	173	-52453	-689065	6.33	1731683	2.513	Si
SLU 83	375	-44140	203085	5.33	2261574	11.136	Si
SLU 77	173	-51358	-699125	6.2	1818754	2.601	Si
SLU 77	375	-43145	198466	5.21	2304731	11.613	Si
SLU 80	173	-51121	-701016	6.17	1836950	2.62	Si
SLU 80	375	-42882	189281	5.17	2315415	12.233	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 9	173	-34239	-1042365	4.13	3354066	3.218	Si
SLV 9	375	-30038	-56453	3.62	3126970	55.391	Si
SLD 9	173	-34290	-703354	4.14	3356505	4.772	Si
SLD 9	375	-29103	51526	3.51	3069402	59.569	Si
SLV 10	173	-34239	-1042365	4.13	3354066	3.218	Si
SLV 10	375	-30038	-56453	3.62	3126970	55.391	Si
SLV 5	173	-42625	-1270554	5.14	3653178	2.875	Si
SLV 5	375	-31938	-121541	3.85	3236096	26.626	Si
SLV 1	173	-49481	-1045462	5.97	3744995	3.582	Si
SLV 1	375	-32347	-44731	3.9	3258165	72.839	Si
SLD 6	173	-37756	-800265	4.56	3504566	4.379	Si
SLD 6	375	-29895	23057	3.61	3118342	135.247	Si
SLV 6	173	-42625	-1270554	5.14	3653178	2.875	Si
SLV 6	375	-31938	-121541	3.85	3236096	26.626	Si
SLD 10	173	-34290	-703354	4.14	3356505	4.772	Si
SLD 10	375	-29103	51526	3.51	3069402	59.569	Si
SLD 5	173	-37756	-800265	4.56	3504566	4.379	Si
SLD 5	375	-29895	23057	3.61	3118342	135.247	Si
SLV 2	173	-49481	-1045462	5.97	3744995	3.582	Si
SLV 2	375	-32347	-44731	3.9	3258165	72.839	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 10	173	-37025	1115	-474135		4.47	296	1.08	8979			8.05	Si
SLU 10	375	-30979	836	135980		3.74	296	1.05	8735			10.45	Si
SLU 61	173	-47444	1233	-622651		5.72	296	1.08	8979			7.28	Si
SLU 61	375	-39701	919	165208		4.79	296	1.08	8979			9.77	Si
SLU 82	173	-51464	1210	-643637		6.21	296	1.08	8979			7.42	Si
SLU 82	375	-43248	878	206944		5.22	296	1.08	8979			10.23	Si
SLU 31	173	-41044	1093	-495121		4.95	296	1.08	8979			8.22	Si
SLU 31	375	-34526	795	177717		4.17	296	1.08	8979			11.3	Si
SLU 19	173	-39361	1052	-499545		4.75	296	1.08	8979			8.53	Si
SLU 19	375	-33131	831	146490		4	296	1.08	8979			10.8	Si
SLU 44	173	-39641	1112	-547360		4.78	296	1.08	8979			8.08	Si
SLU 44	375	-32528	646	129516		3.92	296	1.08	8941			13.85	Si
SLU 52	173	-45109	1296	-597241		5.44	296	1.08	8979			6.93	Si
SLU 52	375	-37550	924	154698		4.53	296	1.08	8979			9.72	Si
SLU 73	173	-49128	1273	-618227		5.93	296	1.08	8979			7.05	Si
SLU 73	375	-41097	883	196435		4.96	296	1.08	8979			10.17	Si
SLU 40	173	-43380	1029	-520531		5.23	296	1.08	8979			8.72	Si
SLU 40	375	-36678	790	188226		4.43	296	1.08	8979			11.37	Si
SLU 65	173	-43660	1089	-568346		5.27	296	1.08	8979			8.24	Si
SLU 65	375	-36075	604	171252		4.35	296	1.08	8979			14.86	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	173	-25874	10530	361384		3.12	296	1.46	12081			1.15	Si
SLV 12	375	-24870	9087	379963		3	296	1.43	11881			1.31	Si
SLV 6	173	-42625	-9286	-1270554		5.14	296	1.63	13468			1.45	Si
SLV 6	375	-31938	-8458	-121541		3.85	296	1.6	13294			1.57	Si
SLV 5	173	-42625	-9286	-1270554		5.14	296	1.63	13468			1.45	Si
SLV 5	375	-31938	-8458	-121541		3.85	296	1.6	13294			1.57	Si
SLV 8	173	-34260	12821	133196		4.13	296	1.63	13468			1.05	Si
SLV 8	375	-26770	10681	314875		3.23	296	1.48	12261			1.15	Si
SLV 7	173	-34260	12821	133196		4.13	296	1.63	13468			1.05	Si
SLV 7	375	-26770	10681	314875		3.23	296	1.48	12261			1.15	Si
SLV 13	173	-21527	-6514	-284833		2.6	296	1.35	11212			1.72	Si
SLV 13	375	-26012	-5213	172228		3.14	296	1.46	12109			2.32	Si
SLV 14	173	-21527	-6514	-284833		2.6	296	1.35	11212			1.72	Si
SLV 14	375	-26012	-5213	172228		3.14	296	1.46	12109			2.32	Si
SLV 11	173	-25874	10530	361384		3.12	296	1.46	12081			1.15	Si
SLV 11	375	-24870	9087	379963		3	296	1.43	11881			1.31	Si
SLV 9	173	-34239	-11578	-1042365		4.13	296	1.63	13468			1.16	Si
SLV 9	375	-30038	-10052	-56453		3.62	296	1.56	12914			1.28	Si
SLV 10	173	-34239	-11578	-1042365		4.13	296	1.63	13468			1.16	Si
SLV 10	375	-30038	-10052	-56453		3.62	296	1.56	12914			1.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 274 $W_a 0.05$ denominatore $8 \gamma_M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.3	2.83	-23437	16133	252181	15.63	Si
SLV 15	14	0.3	2.83	-23437	16133	252181	15.63	Si
SLV 14	14	0.3	3.06	-25366	16133	266170	16.5	Si
SLV 13	14	0.3	3.06	-25366	16133	266170	16.5	Si
SLV 12	14	0.3	3.1	-25733	16133	268718	16.66	Si
SLV 11	14	0.3	3.1	-25733	16133	268718	16.66	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.3	3.58	-29630	16133	293449	18.19	Si
SLV 7	14	0.3	3.58	-29630	16133	293449	18.19	Si
SLV 9	14	0.3	3.88	-32162	16133	307268	19.05	Si
SLV 10	14	0.3	3.88	-32162	16133	307268	19.05	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 274 Wa = 0.05 Ta = 0.0493

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-24870	-25874	-110	0.048	28.676	0.965	73.043	1004.908	No
SLV 12	-24870	-25874	-110	0.048	28.676	0.965	73.043	1004.908	No
SLV 6	-31938	-42625	84	0.049	35.871	0.971	73.754	1004.908	No
SLV 5	-31938	-42625	84	0.049	35.871	0.971	73.754	1004.908	No
SLV 8	-26770	-34260	-27	0.051	30.61	0.967	77.239	1004.908	No
SLV 7	-26770	-34260	-27	0.051	30.61	0.967	77.239	1004.908	No
SLV 9	-30038	-34239	1	0.052	33.936	0.97	77.802	1004.908	No
SLV 10	-30038	-34239	1	0.052	33.936	0.97	77.802	1004.908	No
SLV 15	-24462	-19018	-168	0.046	28.261	0.964	69.764	542.726	No
SLV 16	-24462	-19018	-168	0.046	28.261	0.964	69.764	542.726	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.513	SLU 83	Si
V_SLU	6.929	SLU 52	Si
PF_SLV	2.875	SLV 5	Si
V_SLV	1.05	SLV 7	Si
PFFP_SLV	15.631	SLV 15	Si
R_SLV	0.073	SLV 11	No

Maschio 87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-972.8	220.1	-972.8	666.1	L3	L4	446	14	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 52	173	-51562	2725949	8.26	0	0	No, Rottura per schiacciamento
SLU 52	546	-32703	-320079	5.24	2603763	8.135	Si
SLU 63	173	-53052	3178506	8.5	0	0	No, Rottura per schiacciamento
SLU 63	546	-33469	-198559	5.36	2552319	12.854	Si
SLU 83	173	-57473	3638160	9.2	0	0	No, Rottura per schiacciamento
SLU 83	546	-36346	-146785	5.82	2313262	15.76	Si
SLU 54	173	-51610	3010070	8.27	0	0	No, Rottura per schiacciamento
SLU 54	546	-32580	-221029	5.22	2611523	11.815	Si
SLU 84	173	-57479	3627320	9.21	0	0	No, Rottura per schiacciamento
SLU 84	546	-36369	-151564	5.82	2311072	15.248	Si
SLU 53	173	-51603	3020909	8.26	0	0	No, Rottura per schiacciamento
SLU 53	546	-32557	-216250	5.21	2612954	12.083	Si
SLU 74	173	-56031	3469723	8.97	0	0	No, Rottura per schiacciamento
SLU 74	546	-35457	-169256	5.68	2394897	14.15	Si
SLU 60	173	-53948	2887835	8.64	0	0	No, Rottura per schiacciamento
SLU 60	546	-34339	-324467	5.5	2487719	7.667	Si
SLU 73	173	-55990	3174763	8.97	0	0	No, Rottura per schiacciamento
SLU 73	546	-35603	-273085	5.7	2382004	8.723	Si
SLU 62	173	-53045	3189346	8.5	0	0	No, Rottura per schiacciamento
SLU 62	546	-33446	-193780	5.36	2553928	13.18	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 8	173	-36515	3330305	5.85	4245603	1.275	Si
SLD 8	546	-23270	69700	3.73	3606452	51.743	Si
SLD 12	173	-38549	3365166	6.17	4252912	1.264	Si
SLD 12	546	-23505	76463	3.76	3626735	47.431	Si
SLD 7	173	-36515	3330305	5.85	4245603	1.275	Si
SLD 7	546	-23270	69700	3.73	3606452	51.743	Si
SLV 7	173	-32414	4920210	5.19	4157329	0.845	No, M>Mu
SLV 7	546	-21002	443756	3.36	3394180	7.649	Si



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 52	No
V_SLU	2.908	SLU 79	Si
PF_SLV	0.845	SLV 7	No
V_SLV	0.475	SLV 7	No
PFFP_SLV	5.315	SLV 3	Si
R_SLV	0.017	SLV 15	No

Maschio 88

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-944.8	-335.9	-1100.3	-335.9	L3	L4	155.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 73	173	-9331	432735	2.14	534629	1.235	Si
SLU 73	383	-13914	149787	3.2	657414	4.389	Si
SLU 81	173	-9648	449386	2.22	546063	1.215	Si
SLU 81	383	-14321	170445	3.29	663854	3.895	Si
SLU 39	173	-7958	383042	1.83	479893	1.253	Si
SLU 39	383	-12035	138666	2.76	618194	4.458	Si
SLU 83	173	-9930	455233	2.28	555907	1.221	Si
SLU 83	383	-14644	180777	3.36	668459	3.698	Si
SLU 76	173	-9614	438583	2.21	544865	1.242	Si
SLU 76	383	-14237	160120	3.27	662595	4.138	Si
SLU 82	173	-9669	453358	2.22	546826	1.206	Si
SLU 82	383	-14438	161164	3.32	665587	4.13	Si
SLU 40	173	-7979	387014	1.83	480816	1.242	Si
SLU 40	383	-12153	129385	2.79	621108	4.8	Si
SLU 75	173	-9619	437233	2.21	545028	1.247	Si
SLU 75	383	-14214	164764	3.26	662240	4.019	Si
SLU 84	173	-9952	459205	2.29	556644	1.212	Si
SLU 84	383	-14761	171496	3.39	670026	3.907	Si
SLU 78	173	-9901	443081	2.27	554908	1.252	Si
SLU 78	383	-14537	175097	3.34	666996	3.809	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 3	173	-6506	646755	0	0	0	No, e>/2
SLV 3	383	-16915	-261250	3.89	897008	3.434	Si
SLV 8	173	-2940	431443	0	0	0	No, e>/2
SLV 8	383	-6634	92581	1.52	451486	4.877	Si
SLV 15	173	-4353	-39635	1	310781	7.841	Si
SLV 15	383	1079	558093	0	0	0	No, Trazione
SLV 16	173	-4353	-39635	1	310781	7.841	Si
SLV 16	383	1079	558093	0	0	0	No, Trazione
SLV 11	173	-2295	225526	0	0	0	No, e>/2
SLV 11	383	-1236	338383	0	0	0	No, e>/2
SLV 4	173	-6506	646755	0	0	0	No, e>/2
SLV 4	383	-16915	-261250	3.89	897008	3.434	Si
SLV 12	173	-2295	225526	0	0	0	No, e>/2
SLV 12	383	-1236	338383	0	0	0	No, e>/2
SLV 13	173	-6764	-60999	1.55	459030	7.525	Si
SLV 13	383	-2336	500612	0	0	0	No, e>/2
SLV 14	173	-6764	-60999	1.55	459030	7.525	Si
SLV 14	383	-2336	500612	0	0	0	No, e>/2
SLV 7	173	-2940	431443	0	0	0	No, e>/2
SLV 7	383	-6634	92581	1.52	451486	4.877	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	173	-9930	3422	455233		3.71	95.72	1.05	2813			0.82	No, Vu<V
SLU 83	383	-14644	4536	180777		3.36	155.5	1	4371			0.96	No, Vu<V
SLU 82	173	-9669	3532	453358		3.73	92.59	1.05	2730			0.77	No, Vu<V
SLU 82	383	-14438	4667	161164		3.32	155.5	1	4344			0.93	No, Vu<V
SLU 40	173	-7979	3024	387014		3.25	87.74	0.99	2429			0.8	No, Vu<V
SLU 40	383	-12153	4038	129385		2.79	155.5	0.93	4039			1	Si
SLU 73	173	-9331	3453	432735		3.54	94.13	1.03	2708			0.78	No, Vu<V
SLU 73	383	-13914	4467	149787		3.2	155.5	0.98	4274			0.96	No, Vu<V
SLU 42	173	-8262	3010	392862		3.26	90.6	0.99	2511			0.83	No, Vu<V
SLU 42	383	-12476	4017	139718		2.87	155.5	0.94	4082			1.02	Si
SLU 81	173	-9648	3436	449386		3.68	93.51	1.05	2741			0.8	No, Vu<V
SLU 81	383	-14321	4557	170445		3.29	155.5	0.99	4328			0.95	No, Vu<V
SLU 84	173	-9952	3519	459205		3.75	94.82	1.06	2802			0.8	No, Vu<V
SLU 84	383	-14761	4646	171496		3.39	155.5	1.01	4387			0.94	No, Vu<V
SLU 76	173	-9614	3440	438583		3.56	96.39	1.03	2781			0.81	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	383	-14237	4446	160120		3.27	155.5	0.99	4317			0.97	No, Vu<V
SLU 75	173	-9619	3401	437233		3.55	96.88	1.03	2789			0.82	No, Vu<V
SLU 75	383	-14214	4405	164764		3.26	155.5	0.99	4314			0.98	No, Vu<V
SLU 31	173	-7641	2944	366392		3.05	89.41	0.96	2410			0.82	No, Vu<V
SLU 31	383	-11628	3838	118009		2.67	155.5	0.91	3969			1.03	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	173	-6764	-5702	-60999		1.55	155.5	1.14	4981			0.87	No, Vu<V
SLV 13	383	-2336	-2365	500612		0	0	0.83	0			0	No, Vu<V
SLV 7	173	-2940	3419	431443		0	0	0.83	0			0	No, Vu<V
SLV 7	383	-6634	2561	92581		1.52	155.5	1.14	4955			1.93	Si
SLV 12	173	-2295	-1629	225526		0	0	0.83	0			0	No, Vu<V
SLV 12	383	-1236	-971	338383		0	0	0.83	0			0	No, Vu<V
SLV 8	173	-2940	3419	431443		0	0	0.83	0			0	No, Vu<V
SLV 8	383	-6634	2561	92581		1.52	155.5	1.14	4955			1.93	Si
SLV 16	173	-4353	-6541	-39635		1	155.5	1.03	4499			0.69	No, Vu<V
SLV 16	383	1079	-3623	558093		0	0	0.83	0			0	No, Vu<V
SLV 14	173	-6764	-5702	-60999		1.55	155.5	1.14	4981			0.87	No, Vu<V
SLV 14	383	-2336	-2365	500612		0	0	0.83	0			0	No, Vu<V
SLV 11	173	-2295	-1629	225526		0	0	0.83	0			0	No, Vu<V
SLV 11	383	-1236	-971	338383		0	0	0.83	0			0	No, Vu<V
SLV 4	173	-6506	10288	646755		0	0	0.83	0			0	No, Vu<V
SLV 4	383	-16915	8150	-261250		3.89	155.5	1.61	7011			0.86	No, Vu<V
SLV 3	173	-6506	10288	646755		0	0	0.83	0			0	No, Vu<V
SLV 3	383	-16915	8150	-261250		3.89	155.5	1.61	7011			0.86	No, Vu<V
SLV 15	173	-4353	-6541	-39635		1	155.5	1.03	4499			0.69	No, Vu<V
SLV 15	383	1079	-3623	558093		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.32	0	323	14746	0	0	No, Trazione
SLV 16	14	0.32	0	323	14746	0	0	No, Trazione
SLV 11	14	0.32	0.28	-1204	14746	16480	1.12	Si
SLV 12	14	0.32	0.28	-1204	14746	16480	1.12	Si
SLV 13	14	0.32	0.7	-3052	14746	40278	2.73	Si
SLV 14	14	0.32	0.7	-3052	14746	40278	2.73	Si
SLV 8	14	0.32	1.35	-5889	14746	73320	4.97	Si
SLV 7	14	0.32	1.35	-5889	14746	73320	4.97	Si
SLV 9	14	0.32	2.86	-12455	14746	133551	9.06	Si
SLV 10	14	0.32	2.86	-12455	14746	133551	9.06	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-5532	-2940	-129	0.027	7.961	0.924	42.475	1436.128	No
SLV 8	-5532	-2940	-129	0.027	7.961	0.924	42.475	1436.128	No
SLV 11	-5968	-2295	-104	0.031	8.399	0.927	48.56	1436.128	No
SLV 12	-5968	-2295	-104	0.031	8.399	0.927	48.56	1436.128	No
SLV 10	-14241	-10329	131	0.033	16.788	0.96	49.494	1436.128	No
SLV 9	-14241	-10329	131	0.033	16.788	0.96	49.494	1436.128	No
SLV 6	-13806	-10975	106	0.034	16.346	0.959	51.811	1436.128	No
SLV 5	-13806	-10975	106	0.034	16.346	0.959	51.811	1436.128	No
SLV 14	-11853	-6764	78	0.036	14.361	0.953	54.561	942.501	No
SLV 13	-11853	-6764	78	0.036	14.361	0.953	54.561	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.206	SLU 82	Si
V_SLV	0.773	SLU 82	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 16	No
R_SLV	0.03	SLV 7	No

Maschio 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s, sx	a.s, dx
-772.3	-500.9	-772.3	-486.1	L3	L4	14.7	30	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 60	173	-862	7980	0	0	0	No, e>1/2
SLU 60	499	0	0	0	0	1000	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 53	173	-848	7990	0	0	0	No, e>/2
SLU 53	499	0	0	0	0	1000	Si
SLU 57	173	-730	9156	0	0	0	No, e>/2
SLU 57	499	0	0	0	0	1000	Si
SLU 55	173	-660	9682	0	0	0	No, e>/2
SLU 55	499	0	0	0	0	1000	Si
SLU 58	173	-838	8164	0	0	0	No, e>/2
SLU 58	499	0	0	0	0	1000	Si
SLU 61	173	-752	8987	0	0	0	No, e>/2
SLU 61	499	0	0	0	0	1000	Si
SLU 1	173	-639	5861	0	0	0	No, e>/2
SLU 1	499	0	0	0	0	1000	Si
SLU 54	173	-737	8996	0	0	0	No, e>/2
SLU 54	499	0	0	0	0	1000	Si
SLU 56	173	-841	8149	0	0	0	No, e>/2
SLU 56	499	0	0	0	0	1000	Si
SLU 59	173	-727	9171	0	0	0	No, e>/2
SLU 59	499	0	0	0	0	1000	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 2	173	-725	-8906	0	0	0	No, e>/2
SLV 2	499	0	0	0	0	1000	Si
SLV 1	173	-725	-8906	0	0	0	No, e>/2
SLV 1	499	0	0	0	0	1000	Si
SLV 4	173	582	-1075	0	0	0	No, Trazione
SLV 4	499	0	0	0	0	1000	Si
SLV 3	173	582	-1075	0	0	0	No, Trazione
SLV 3	499	0	0	0	0	1000	Si
SLV 7	173	1704	15773	0	0	0	No, Trazione
SLV 7	499	0	0	0	0	1000	Si
SLV 8	173	1704	15773	0	0	0	No, Trazione
SLV 8	499	0	0	0	0	1000	Si
SLV 12	173	1357	22382	0	0	0	No, Trazione
SLV 12	499	0	0	0	0	1000	Si
SLV 11	173	1357	22382	0	0	0	No, Trazione
SLV 11	499	0	0	0	0	1000	Si
SLD 16	173	-643	12172	0	0	0	No, e>/2
SLD 16	499	0	0	0	0	1000	Si
SLV 15	173	-572	20956	0	0	0	No, e>/2
SLV 15	499	0	0	0	0	1000	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	173	-862	-19	7980	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 60	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si
SLU 61	173	-752	-8	8987	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 61	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si
SLU 57	173	-730	-6	9156	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 57	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si
SLU 59	173	-727	-6	9171	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 59	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si
SLU 1	173	-639	-14	5861	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 1	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si
SLU 55	173	-660	1	9682	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 55	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si
SLU 56	173	-841	-17	8149	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 56	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si
SLU 53	173	-848	-18	7990	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 53	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si
SLU 58	173	-838	-17	8164	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 58	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si
SLU 54	173	-737	-7	8996	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 54	499	0	0	0	0	0	0	0.56	0	0	0	1000	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	173	582	3	-1075	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 3	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si
SLV 15	173	-572	75	20956	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 15	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si
SLV 12	173	1357	174	22382	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 12	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si
SLV 1	173	-725	-103	-8906	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 1	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si
SLV 4	173	582	3	-1075	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 4	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si
SLV 2	173	-725	-103	-8906	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 2	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si
SLV 11	173	1357	174	22382	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 11	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si
SLV 7	173	1704	152	15773	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 7	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si
SLV 8	173	1704	152	15773	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 8	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si
SLD 16	173	-643	23	12172	0	0	0	0.83	0	0	0	0	No, Vu<V
SLD 16	499	0	0	0	0	0	0	0.83	0	0	0	1000	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.32	0.52	-230	1464	3309	2.26	Si
SLV 12	14	0.32	0.52	-230	1464	3309	2.26	Si
SLV 7	14	0.32	0.59	-261	1464	3721	2.54	Si
SLV 8	14	0.32	0.59	-261	1464	3721	2.54	Si
SLV 15	14	0.32	1.73	-768	1464	9880	6.75	Si
SLV 16	14	0.32	1.73	-768	1464	9880	6.75	Si
SLV 3	14	0.32	1.96	-868	1464	10933	7.47	Si
SLV 4	14	0.32	1.96	-868	1464	10933	7.47	Si
SLV 13	14	0.32	2.84	-1258	1464	14482	9.89	Si
SLV 14	14	0.32	2.84	-1258	1464	14482	9.89	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.0774

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 4	-506	582	-4	0	0	0	0	868.205	No, Trazione
SLV 3	-506	582	-4	0	0	0	0	868.205	No, Trazione
SLV 16	566	-572	5	0	0	0	0	868.205	No, Trazione
SLV 7	977	1704	-3	0	0	0	0	1436.128	No, Trazione
SLV 11	1298	1357	0	0	0	0	0	1436.128	No, Trazione
SLV 12	1298	1357	0	0	0	0	0	1436.128	No, Trazione
SLV 8	977	1704	-3	0	0	0	0	1436.128	No, Trazione
SLV 15	566	-572	5	0	0	0	0	868.205	No, Trazione
SLV 10	-1866	-3001	5	0.041	2.133	0.967	61.302	1436.128	No
SLV 9	-1866	-3001	5	0.041	2.133	0.967	61.302	1436.128	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 3	No
PFFP_SLV	2.26	SLV 11	Si
R_SLV	0	SLV 16	No

Maschio 90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-626.8	-335.9	-626.8	104.6	L3	L4	440.5	14	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 62	173	-50598	-1035886	8.2	0	0	No, Rottura per schiacciamento
SLU 62	546	-30807	194415	5	2624153	13.498	Si
SLU 74	173	-53940	-1052038	8.75	0	0	No, Rottura per schiacciamento
SLU 74	546	-33107	240562	5.37	2486227	10.335	Si
SLU 84	173	-57035	-1237773	9.25	0	0	No, Rottura per schiacciamento
SLU 84	546	-34646	254824	5.62	2368021	9.293	Si
SLU 70	173	-50238	-1168243	8.15	0	0	No, Rottura per schiacciamento
SLU 70	546	-30563	199798	4.96	2636095	13.194	Si
SLU 63	173	-51701	-1207849	8.38	0	0	No, Rottura per schiacciamento
SLU 63	546	-31154	193968	5.05	2606332	13.437	Si
SLU 76	173	-55359	-1331786	8.98	0	0	No, Rottura per schiacciamento
SLU 76	546	-33338	232773	5.41	2469799	10.61	Si
SLU 83	173	-55931	-1065810	9.07	0	0	No, Rottura per schiacciamento
SLU 83	546	-34300	255272	5.56	2396457	9.388	Si
SLU 73	173	-54539	-1339410	8.84	0	0	No, Rottura per schiacciamento
SLU 73	546	-32638	222334	5.29	2518108	11.326	Si
SLU 61	173	-50882	-1215473	8.25	0	0	No, Rottura per schiacciamento
SLU 61	546	-30454	183528	4.94	2641234	14.391	Si
SLU 57	173	-50530	-1186454	8.19	0	0	No, Rottura per schiacciamento
SLU 57	546	-30662	189698	4.97	2631333	13.871	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 6	173	-40839	-1330227	6.62	4119892	3.097	Si
SLD 6	546	-23787	182459	3.86	3585209	19.649	Si
SLD 9	173	-39259	-1258420	6.37	4141808	3.291	Si
SLD 9	546	-22944	56691	3.72	3514736	61.998	Si
SLV 6	173	-46671	-2094626	7.57	3912638	1.868	Si
SLV 6	546	-26020	252236	4.22	3751972	14.875	Si
SLV 2	173	-45351	-1426975	7.35	3976980	2.787	Si
SLV 2	546	-26349	620784	4.27	3774073	6.08	Si
SLV 9	173	-42915	-1928084	6.96	4068908	2.11	Si
SLV 9	546	-24021	-45479	3.9	3604054	79.246	Si
SLV 1	173	-45351	-1426975	7.35	3976980	2.787	Si
SLV 1	546	-26349	620784	4.27	3774073	6.08	Si
SLV 5	173	-46671	-2094626	7.57	3912638	1.868	Si
SLV 5	546	-26020	252236	4.22	3751972	14.875	Si
SLD 5	173	-40839	-1330227	6.62	4119892	3.097	Si
SLD 5	546	-23787	182459	3.86	3585209	19.649	Si
SLD 10	173	-39259	-1258420	6.37	4141808	3.291	Si
SLD 10	546	-22944	56691	3.72	3514736	61.998	Si
SLV 10	173	-42915	-1928084	6.96	4068908	2.11	Si
SLV 10	546	-24021	-45479	3.9	3604054	79.246	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 23	173	-40688	-2367	-1074225		6.6	440.5	1.08	6681			2.82	Si
SLU 23	546	-24204	-1385	161904		3.92	440.5	1.08	6653			4.81	Si
SLU 73	173	-54539	-2509	-1339410		8.84	440.5	1.08	6681			2.66	Si
SLU 73	546	-32638	-1350	222334		5.29	440.5	1.08	6681			4.95	Si
SLU 2	173	-35354	-2409	-1044301		5.73	440.5	1.08	6681			2.77	Si
SLU 2	546	-20712	-1484	101048		3.36	440.5	1	6188			4.17	Si
SLU 52	173	-49206	-2551	-1309485		7.98	440.5	1.08	6681			2.62	Si
SLU 52	546	-29146	-1449	161477		4.73	440.5	1.08	6681			4.61	Si
SLU 44	173	-43581	-2467	-1261350		7.07	440.5	1.08	6681			2.71	Si
SLU 44	546	-25555	-1426	110721		4.14	440.5	1.08	6681			4.69	Si
SLU 55	173	-50026	-2251	-1301862		8.11	440.5	1.08	6681			2.97	Si
SLU 55	546	-29846	-1139	171917		4.84	440.5	1.08	6681			5.86	Si
SLU 65	173	-48914	-2426	-1291274		7.93	440.5	1.08	6681			2.75	Si
SLU 65	546	-29047	-1326	171577		4.71	440.5	1.08	6681			5.04	Si
SLU 31	173	-46313	-2451	-1122361		7.51	440.5	1.08	6681			2.73	Si
SLU 31	546	-27795	-1408	212660		4.51	440.5	1.08	6681			4.75	Si
SLU 10	173	-40980	-2493	-1092437		6.65	440.5	1.08	6681			2.68	Si
SLU 10	546	-24303	-1507	151804		3.94	440.5	1.08	6667			4.42	Si
SLU 76	173	-55359	-2209	-1331786		8.98	440.5	1.08	6681			3.02	Si
SLU 76	546	-33338	-1040	232773		5.41	440.5	1.08	6681			6.43	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	173	-45351	-5373	-1426975		7.35	440.5	1.63	10021			1.87	Si
SLV 1	546	-26349	-2814	620784		4.27	440.5	1.63	10021			3.56	Si
SLV 11	173	-26622	11260	534630		4.32	440.5	1.63	10021			0.89	No, Vu<V
SLV 11	546	-18296	10597	15130		2.97	440.5	1.43	8798			0.83	No, Vu<V
SLV 5	173	-46671	-11577	-2094626		7.57	440.5	1.63	10021			0.87	No, Vu<V
SLV 5	546	-26020	-9938	252236		4.22	440.5	1.63	10021			1.01	Si
SLV 8	173	-30378	10080	368088		4.93	440.5	1.63	10021			0.99	No, Vu<V
SLV 8	546	-20296	10555	312845		3.29	440.5	1.49	9198			0.87	No, Vu<V
SLV 2	173	-45351	-5373	-1426975		7.35	440.5	1.63	10021			1.87	Si
SLV 2	546	-26349	-2814	620784		4.27	440.5	1.63	10021			3.56	Si
SLV 6	173	-46671	-11577	-2094626		7.57	440.5	1.63	10021			0.87	No, Vu<V
SLV 6	546	-26020	-9938	252236		4.22	440.5	1.63	10021			1.01	Si
SLV 9	173	-42915	-10398	-1928084		6.96	440.5	1.63	10021			0.96	No, Vu<V
SLV 9	546	-24021	-9897	-45479		3.9	440.5	1.61	9943			1	Si
SLV 12	173	-26622	11260	534630		4.32	440.5	1.63	10021			0.89	No, Vu<V
SLV 12	546	-18296	10597	15130		2.97	440.5	1.43	8798			0.83	No, Vu<V
SLV 7	173	-30378	10080	368088		4.93	440.5	1.63	10021			0.99	No, Vu<V
SLV 7	546	-20296	10555	312845		3.29	440.5	1.49	9198			0.87	No, Vu<V
SLV 10	173	-42915	-10398	-1928084		6.96	440.5	1.63	10021			0.96	No, Vu<V
SLV 10	546	-24021	-9897	-45479		3.9	440.5	1.61	9943			1	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.32	3.41	-21019	22344	106091	4.75	Si
SLV 12	14	0.32	3.41	-21019	22344	106091	4.75	Si
SLV 16	14	0.32	3.56	-21977	22344	108973	4.88	Si
SLV 15	14	0.32	3.56	-21977	22344	108973	4.88	Si
SLV 7	14	0.32	3.85	-23755	22344	113863	5.1	Si
SLV 8	14	0.32	3.85	-23755	22344	113863	5.1	Si
SLV 13	14	0.32	4.14	-25535	22344	118174	5.29	Si
SLV 14	14	0.32	4.14	-25535	22344	118174	5.29	Si
SLV 3	14	0.32	5.04	-31098	22344	127847	5.72	Si
SLV 4	14	0.32	5.04	-31098	22344	127847	5.72	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 4	-24632	-40463	26	0.019	28.317	0.965	28.966	1436.128	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-24632	-40463	26	0.019	28.317	0.965	28.966	1436.128	No
SLV 2	-26349	-45351	22	0.019	30.065	0.967	29.108	1436.128	No
SLV 1	-26349	-45351	22	0.019	30.065	0.967	29.108	1436.128	No
SLV 13	-19685	-32830	-25	0.019	23.284	0.959	29.388	1436.128	No
SLV 14	-19685	-32830	-25	0.019	23.284	0.959	29.388	1436.128	No
SLV 15	-17967	-27942	-21	0.02	21.538	0.956	29.908	1436.128	No
SLV 16	-17967	-27942	-21	0.02	21.538	0.956	29.908	1436.128	No
SLV 10	-24021	-42915	-14	0.02	27.695	0.965	29.69	988.665	No
SLV 9	-24021	-42915	-14	0.02	27.695	0.965	29.69	988.665	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 57	No
V_SLU	2.619	SLU 52	Si
PF_SLV	1.868	SLV 5	Si
V_SLV	0.83	SLV 11	No
PFFP_SLV	4.748	SLV 11	Si
R_SLV	0.02	SLV 3	No

Maschio 91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-746.3	-335.9	-854.8	-335.9	L3	L4	108.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 79	263	-18007	-326765	5.93	266067	0.814	No, M>Mu
SLU 79	453	-13816	-73752	4.55	331068	4.489	Si
SLU 84	263	-18950	-357524	6.24	240821	0.674	No, M>Mu
SLU 84	453	-14115	-70661	4.65	328985	4.656	Si
SLU 77	263	-18081	-327188	5.95	264227	0.808	No, M>Mu
SLU 77	453	-13927	-75386	4.58	330339	4.382	Si
SLU 82	263	-18547	-348362	6.1	252087	0.724	No, M>Mu
SLU 82	453	-13919	-72223	4.58	330397	4.575	Si
SLU 75	263	-18308	-343536	6.03	258437	0.752	No, M>Mu
SLU 75	453	-13583	-69073	4.47	332425	4.813	Si
SLU 80	263	-18637	-352276	6.13	249640	0.709	No, M>Mu
SLU 80	453	-13668	-65878	4.5	331959	5.039	Si
SLU 78	263	-18711	-352698	6.16	247595	0.702	No, M>Mu
SLU 78	453	-13779	-67511	4.54	331302	4.907	Si
SLU 73	263	-18250	-350959	6.01	259917	0.741	No, M>Mu
SLU 73	453	-13177	-63752	4.34	334216	5.242	Si
SLU 83	263	-18320	-332013	6.03	258114	0.777	No, M>Mu
SLU 83	453	-14263	-78536	4.69	327803	4.174	Si
SLU 76	263	-18654	-360121	6.14	249175	0.692	No, M>Mu
SLU 76	453	-13373	-62190	4.4	333442	5.362	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 8	263	-3909	-61482	1.29	189736	3.086	Si
SLV 8	453	774	104082	0	0	0	No, Trazione
SLV 11	263	-6755	-240571	2.22	299776	1.246	Si
SLV 11	453	2293	208063	0	0	0	No, Trazione
SLV 14	263	-18895	-532617	6.22	503284	0.945	No, M>Mu
SLV 14	453	-10048	56388	3.31	397551	7.05	Si
SLV 12	263	-6755	-240571	2.22	299776	1.246	Si
SLV 12	453	2293	208063	0	0	0	No, Trazione
SLV 15	263	-14825	-494258	4.88	483052	0.977	No, M>Mu
SLV 15	453	-3534	182382	1.16	173454	0.951	No, M>Mu
SLV 10	263	-20324	-368432	6.69	498902	1.354	Si
SLV 10	453	-19421	-211915	6.39	502365	2.371	Si
SLV 13	263	-18895	-532617	6.22	503284	0.945	No, M>Mu
SLV 13	453	-10048	56388	3.31	397551	7.05	Si
SLV 16	263	-14825	-494258	4.88	483052	0.977	No, M>Mu
SLV 16	453	-3534	182382	1.16	173454	0.951	No, M>Mu
SLV 9	263	-20324	-368432	6.69	498902	1.354	Si
SLV 9	453	-19421	-211915	6.39	502365	2.371	Si
SLV 7	263	-3909	-61482	1.29	189736	3.086	Si
SLV 7	453	774	104082	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	263	-18250	-3256	-350959		6.2	105.06	1.08	3187			0.98	No, Vu<V
SLU 73	453	-13177	-651	-63752		4.34	108.5	1.08	3291			5.06	Si
SLU 82	263	-18547	-3365	-348362		6.23	106.4	1.08	3228			0.96	No, Vu<V
SLU 82	453	-13919	-699	-72223		4.58	108.5	1.08	3291			4.71	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	263	-18950	-3502	-357524		6.38	106.15	1.08	3220			0.92	No, Vu<V
SLU 84	453	-14115	-742	-70661		4.65	108.5	1.08	3291			4.44	Si
SLU 78	263	-18711	-3473	-352698		6.29	106.2	1.08	3221			0.93	No, Vu<V
SLU 78	453	-13779	-735	-67511		4.54	108.5	1.08	3291			4.47	Si
SLU 80	263	-18637	-3482	-352276		6.28	106.04	1.08	3217			0.92	No, Vu<V
SLU 80	453	-13668	-743	-65878		4.5	108.5	1.08	3291			4.43	Si
SLU 83	263	-18320	-3431	-332013		6.04	108.38	1.08	3288			0.96	No, Vu<V
SLU 83	453	-14263	-752	-78536		4.69	108.5	1.08	3291			4.38	Si
SLU 79	263	-18007	-3411	-326765		5.94	108.31	1.08	3285			0.96	No, Vu<V
SLU 79	453	-13816	-754	-73752		4.55	108.5	1.08	3291			4.37	Si
SLU 75	263	-18308	-3336	-343536		6.14	106.46	1.08	3229			0.97	No, Vu<V
SLU 75	453	-13583	-693	-69073		4.47	108.5	1.08	3291			4.75	Si
SLU 76	263	-18654	-3392	-360121		6.35	104.83	1.08	3180			0.94	No, Vu<V
SLU 76	453	-13373	-693	-62190		4.4	108.5	1.08	3291			4.75	Si
SLU 77	263	-18081	-3402	-327188		5.95	108.46	1.08	3290			0.97	No, Vu<V
SLU 77	453	-13927	-746	-75386		4.58	108.5	1.08	3291			4.41	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	263	-6755	-2652	-240571		4.32	55.91	1.63	2544			0.96	No, Vu<V
SLV 11	453	2293	-2549	208063		0	0	0.83	0			0	No, Vu<V
SLV 15	263	-14825	-7570	-494258		8.44	62.73	1.63	2854			0.38	No, Vu<V
SLV 15	453	-3534	-3591	182382		15.95	7.91	1.63	360			0.1	No, Vu<V
SLD 14	263	-14968	-4797	-349779		5.77	92.65	1.63	4215			0.88	No, Vu<V
SLD 14	453	-9556	-1469	-5195		3.15	108.5	1.46	4443			3.02	Si
SLD 13	263	-14968	-4797	-349779		5.77	92.65	1.63	4215			0.88	No, Vu<V
SLD 13	453	-9556	-1469	-5195		3.15	108.5	1.46	4443			3.02	Si
SLV 14	263	-18895	-8326	-532617		8.63	78.19	1.63	3557			0.43	No, Vu<V
SLV 14	453	-10048	-2826	56388		3.31	108.5	1.49	4541			1.61	Si
SLV 7	263	-3909	808	-61482		1.29	108.5	1.09	3313			4.1	Si
SLV 7	453	774	-890	104082		0	0	0.83	0			0	No, Vu<V
SLV 13	263	-18895	-8326	-532617		8.63	78.19	1.63	3557			0.43	No, Vu<V
SLV 13	453	-10048	-2826	56388		3.31	108.5	1.49	4541			1.61	Si
SLV 12	263	-6755	-2652	-240571		4.32	55.91	1.63	2544			0.96	No, Vu<V
SLV 12	453	2293	-2549	208063		0	0	0.83	0			0	No, Vu<V
SLV 16	263	-14825	-7570	-494258		8.44	62.73	1.63	2854			0.38	No, Vu<V
SLV 16	453	-3534	-3591	182382		15.95	7.91	1.63	360			0.1	No, Vu<V
SLV 8	263	-3909	808	-61482		1.29	108.5	1.09	3313			4.1	Si
SLV 8	453	774	-890	104082		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.32	0.87	-2649	10289	34438	3.35	Si
SLV 8	14	0.32	0.87	-2649	10289	34438	3.35	Si
SLV 4	14	0.32	1.45	-4411	10289	54418	5.29	Si
SLV 3	14	0.32	1.45	-4411	10289	54418	5.29	Si
SLV 11	14	0.32	1.9	-5784	10289	68360	6.64	Si
SLV 12	14	0.32	1.9	-5784	10289	68360	6.64	Si
SLV 2	14	0.32	2.98	-9057	10289	95861	9.32	Si
SLV 1	14	0.32	2.98	-9057	10289	95861	9.32	Si
SLV 15	14	0.32	4.89	-14862	10289	124764	12.13	Si
SLV 16	14	0.32	4.89	-14862	10289	124764	12.13	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 11	-2469	-2898	61	0.031	4.165	0.906	49.716	1436.128	No
SLV 12	-2469	-2898	61	0.031	4.165	0.906	49.716	1436.128	No
SLV 8	-4371	-3026	66	0.032	6.07	0.929	50.687	1436.128	No
SLV 7	-4371	-3026	66	0.032	6.07	0.929	50.687	1436.128	No
SLV 9	-10060	-16620	-63	0.035	11.839	0.96	53.423	1436.128	No
SLV 10	-10060	-16620	-63	0.035	11.839	0.96	53.423	1436.128	No
SLV 5	-11962	-16747	-58	0.036	13.775	0.965	54.205	1436.128	No
SLV 6	-11962	-16747	-58	0.036	13.775	0.965	54.205	1436.128	No
SLV 4	-9248	-7977	28	0.039	11.013	0.957	58.471	942.501	No
SLV 3	-9248	-7977	28	0.039	11.013	0.957	58.471	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.674	SLU 84	No
V_SLU	0.92	SLU 84	No
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 7	No
PFFP_SLV	3.347	SLV 7	Si
R_SLV	0.035	SLV 11	No

Maschio 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	104.6	-515.8	581.1	L3	L4	476.5	14	373	373	373			

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Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 79	173	-57435	2395100	8.61	0	0	No, Rottura per schiacciamento
SLU 79	546	-38860	37184	5.83	2637583	70.932	Si
SLU 76	173	-55076	2310573	8.26	0	0	No, Rottura per schiacciamento
SLU 76	546	-36958	-3787	5.54	2816657	743.75	Si
SLU 74	173	-55936	2310207	8.38	0	0	No, Rottura per schiacciamento
SLU 74	546	-37334	-10691	5.6	2783766	260.388	Si
SLU 78	173	-57474	2404464	8.62	0	0	No, Rottura per schiacciamento
SLU 78	546	-39006	19671	5.85	2622482	133.318	Si
SLU 77	173	-57782	2400815	8.66	0	0	No, Rottura per schiacciamento
SLU 77	546	-39092	23650	5.86	2613514	110.51	Si
SLU 80	173	-57127	2398749	8.56	0	0	No, Rottura per schiacciamento
SLU 80	546	-38774	33206	5.81	2646376	79.696	Si
SLU 75	173	-55628	2313856	8.34	0	0	No, Rottura per schiacciamento
SLU 75	546	-37248	-14670	5.58	2791407	190.286	Si
SLU 82	173	-55709	2303767	8.35	0	0	No, Rottura per schiacciamento
SLU 82	546	-36833	-51731	5.52	2827328	54.654	Si
SLU 81	173	-56017	2300119	8.4	0	0	No, Rottura per schiacciamento
SLU 81	546	-36919	-47752	5.53	2820001	59.055	Si
SLU 84	173	-57555	2394375	8.63	0	0	No, Rottura per schiacciamento
SLU 84	546	-38591	-17391	5.78	2664803	153.23	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 7	173	-48315	2413005	7.24	4687990	1.943	Si
SLV 7	546	-29391	149549	4.41	4477521	29.94	Si
SLV 8	173	-48315	2413005	7.24	4687990	1.943	Si
SLV 8	546	-29391	149549	4.41	4477521	29.94	Si
SLV 11	173	-47555	2025426	7.13	4719896	2.33	Si
SLV 11	546	-30046	-115499	4.5	4519769	39.133	Si
SLV 12	173	-47555	2025426	7.13	4719896	2.33	Si
SLV 12	546	-30046	-115499	4.5	4519769	39.133	Si
SLV 2	173	-35617	2002891	5.34	4777831	2.385	Si
SLV 2	546	-21817	432754	3.27	3806638	8.796	Si
SLD 7	173	-42050	1913398	6.3	4850120	2.535	Si
SLD 7	546	-26558	62731	3.98	4265872	68.003	Si
SLD 8	173	-42050	1913398	6.3	4850120	2.535	Si
SLD 8	546	-26558	62731	3.98	4265872	68.003	Si
SLV 3	173	-41887	2400871	6.28	4851275	2.021	Si
SLV 3	546	-24960	444762	3.74	4125757	9.276	Si
SLV 4	173	-41887	2400871	6.28	4851275	2.021	Si
SLV 4	546	-24960	444762	3.74	4125757	9.276	Si
SLV 1	173	-35617	2002891	5.34	4777831	2.385	Si
SLV 1	546	-21817	432754	3.27	3806638	8.796	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	173	-57555	2437	2394375		8.63	476.5	1.08	7227			2.97	Si
SLU 84	546	-38591	1259	-17391		5.78	476.5	1.08	7227			5.74	Si
SLU 74	173	-55936	2369	2310207		8.38	476.5	1.08	7227			3.05	Si
SLU 74	546	-37334	1220	-10691		5.6	476.5	1.08	7227			5.93	Si
SLU 78	173	-57474	2411	2404464		8.62	476.5	1.08	7227			3	Si
SLU 78	546	-39006	1185	19671		5.85	476.5	1.08	7227			6.1	Si
SLU 83	173	-57863	2503	2390726		8.67	476.5	1.08	7227			2.89	Si
SLU 83	546	-38677	1321	-13412		5.8	476.5	1.08	7227			5.47	Si
SLU 80	173	-57127	2380	2398749		8.56	476.5	1.08	7227			3.04	Si
SLU 80	546	-38774	1144	33206		5.81	476.5	1.08	7227			6.32	Si
SLU 79	173	-57435	2446	2395100		8.61	476.5	1.08	7227			2.95	Si
SLU 79	546	-38860	1206	37184		5.83	476.5	1.08	7227			5.99	Si
SLU 75	173	-55628	2303	2313856		8.34	476.5	1.08	7227			3.14	Si
SLU 75	546	-37248	1158	-14670		5.58	476.5	1.08	7227			6.24	Si
SLU 82	173	-55709	2329	2303767		8.35	476.5	1.08	7227			3.1	Si
SLU 82	546	-36833	1231	-51731		5.52	476.5	1.08	7227			5.87	Si
SLU 77	173	-57782	2477	2400815		8.66	476.5	1.08	7227			2.92	Si
SLU 77	546	-39092	1247	23650		5.86	476.5	1.08	7227			5.79	Si
SLU 81	173	-56017	2395	2300119		8.4	476.5	1.08	7227			3.02	Si
SLU 81	546	-36919	1293	-47752		5.53	476.5	1.08	7227			5.59	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	173	-27415	-11032	1086405		4.11	476.5	1.63	10840			0.98	No, Vu<V
SLV 5	546	-18914	-11209	109522		2.84	476.5	1.4	9342			0.83	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	173	-39353	9027	1108940		5.9	476.5	1.63	10840			1.2	Si
SLV 16	546	-27143	8824	-438730		4.07	476.5	1.63	10840			1.23	Si
SLV 12	173	-47555	13926	2025426		7.13	476.5	1.63	10840			0.78	No, Vu<V
SLV 12	546	-30046	12536	-115499		4.5	476.5	1.63	10840			0.86	No, Vu<V
SLV 15	173	-39353	9027	1108940		5.9	476.5	1.63	10840			1.2	Si
SLV 15	546	-27143	8824	-438730		4.07	476.5	1.63	10840			1.23	Si
SLV 6	173	-27415	-11032	1086405		4.11	476.5	1.63	10840			0.98	No, Vu<V
SLV 6	546	-18914	-11209	109522		2.84	476.5	1.4	9342			0.83	No, Vu<V
SLV 10	173	-26655	-8503	698826		4	476.5	1.63	10840			1.27	Si
SLV 10	546	-19568	-8177	-155526		2.93	476.5	1.42	9473			1.16	Si
SLV 7	173	-48315	11396	2413005		7.24	476.5	1.63	10840			0.95	No, Vu<V
SLV 7	546	-29391	9504	149549		4.41	476.5	1.63	10840			1.14	Si
SLV 9	173	-26655	-8503	698826		4	476.5	1.63	10840			1.27	Si
SLV 9	546	-19568	-8177	-155526		2.93	476.5	1.42	9473			1.16	Si
SLV 11	173	-47555	13926	2025426		7.13	476.5	1.63	10840			0.78	No, Vu<V
SLV 11	546	-30046	12536	-115499		4.5	476.5	1.63	10840			0.86	No, Vu<V
SLV 8	173	-48315	11396	2413005		7.24	476.5	1.63	10840			0.95	No, Vu<V
SLV 8	546	-29391	9504	149549		4.41	476.5	1.63	10840			1.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359,5 Wa 0.03 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.32	3.44	-22946	24170	115405	4.77	Si
SLV 9	14	0.32	3.44	-22946	24170	115405	4.77	Si
SLV 5	14	0.32	3.54	-23614	24170	117410	4.86	Si
SLV 6	14	0.32	3.54	-23614	24170	117410	4.86	Si
SLV 13	14	0.32	4.14	-27637	24170	127866	5.29	Si
SLV 14	14	0.32	4.14	-27637	24170	127866	5.29	Si
SLV 1	14	0.32	4.48	-29863	24170	132456	5.48	Si
SLV 2	14	0.32	4.48	-29863	24170	132456	5.48	Si
SLV 16	14	0.32	4.85	-32326	24170	136543	5.65	Si
SLV 15	14	0.32	4.85	-32326	24170	136543	5.65	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 16	-27143	-39353	-28	0.019	31.138	0.966	28.978	1436.128	No
SLV 15	-27143	-39353	-28	0.019	31.138	0.966	28.978	1436.128	No
SLV 1	-21817	-35617	30	0.019	25.719	0.959	29.19	1436.128	No
SLV 2	-21817	-35617	30	0.019	25.719	0.959	29.19	1436.128	No
SLV 3	-24960	-41887	10	0.02	28.917	0.964	30.087	1436.128	No
SLV 4	-24960	-41887	10	0.02	28.917	0.964	30.087	1436.128	No
SLV 14	-24000	-33083	-7	0.02	27.939	0.962	30.326	1436.128	No
SLV 13	-24000	-33083	-7	0.02	27.939	0.962	30.326	1436.128	No
SLV 12	-30046	-47555	-38	0.019	34.093	0.969	28.352	988.665	No
SLV 11	-30046	-47555	-38	0.019	34.093	0.969	28.352	988.665	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 74	No
V_SLU	2.888	SLU 83	Si
PF_SLV	1.943	SLV 7	Si
V_SLV	0.778	SLV 11	No
PFFP_SLV	4.775	SLV 9	Si
R_SLV	0.02	SLV 15	No

Maschio 93

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	595.1	-515.8	600.6	L3	L4	5.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 61	373	-1165	2352	7.56	229	0.097	No, M>Mu
SLU 61	453	-1365	4116	0	0	0	No, e>l/2
SLU 54	373	-1180	2399	7.66	192	0.08	No, M>Mu
SLU 54	453	-1367	4075	0	0	0	No, e>l/2
SLU 53	373	-1187	2415	7.7	177	0.073	No, M>Mu
SLU 53	453	-1369	4077	0	0	0	No, e>l/2
SLU 56	373	-1247	2553	8.1	20	0.008	No, M>Mu
SLU 56	453	-1428	4214	0	0	0	No, e>l/2
SLU 60	373	-1171	2369	7.6	214	0.091	No, M>Mu
SLU 60	453	-1367	4118	0	0	0	No, e>l/2
SLU 58	373	-1243	2543	8.07	32	0.013	No, M>Mu
SLU 58	453	-1418	4175	0	0	0	No, e>l/2
SLU 59	373	-1236	2527	8.03	49	0.019	No, M>Mu

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 59	453	-1416	4173	0	0	0	No, e>l/2
SLU 57	373	-1241	2536	8.06	37	0.014	No, M>Mu
SLU 57	453	-1426	4212	0	0	0	No, e>l/2
SLU 1	373	-810	1642	5.26	789	0.481	No, M>Mu
SLU 1	453	-924	2747	0	0	0	No, e>l/2
SLU 55	373	-1172	2378	7.61	213	0.09	No, M>Mu
SLU 55	453	-1356	4035	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	373	-1290	3597	0	0	0	No, e>l/2
SLV 12	453	-1489	3643	9.67	855	0.235	No, M>Mu
SLV 10	373	-187	-1120	0	0	0	No, e>l/2
SLV 10	453	-851	3852	0	0	0	No, e>l/2
SLV 9	373	-187	-1120	0	0	0	No, e>l/2
SLV 9	453	-851	3852	0	0	0	No, e>l/2
SLV 14	373	-236	-762	0	0	0	No, e>l/2
SLV 14	453	-1431	5442	0	0	0	No, e>l/2
SLV 7	373	-1579	4705	0	0	0	No, e>l/2
SLV 7	453	-1183	2218	7.68	1208	0.545	No, M>Mu
SLV 8	373	-1579	4705	0	0	0	No, e>l/2
SLV 8	453	-1183	2218	7.68	1208	0.545	No, M>Mu
SLV 11	373	-1290	3597	0	0	0	No, e>l/2
SLV 11	453	-1489	3643	9.67	855	0.235	No, M>Mu
SLV 13	373	-236	-762	0	0	0	No, e>l/2
SLV 13	453	-1431	5442	0	0	0	No, e>l/2
SLD 16	373	-746	1292	4.84	1238	0.958	No, M>Mu
SLD 16	453	-1275	4040	0	0	0	No, e>l/2
SLV 6	373	-475	-12	3.09	977	80.492	Si
SLV 6	453	-545	2426	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 59	373	-1236	127	2527		20.84	2.12	1.08	64			0.5	No, Vu<V
SLU 59	453	-1416	-200	4173		0	0	0.56	0			0	No, Vu<V
SLU 57	373	-1241	128	2536		20.91	2.12	1.08	64			0.5	No, Vu<V
SLU 57	453	-1426	-202	4212		0	0	0.56	0			0	No, Vu<V
SLU 55	373	-1172	120	2378		19.38	2.16	1.08	66			0.55	No, Vu<V
SLU 55	453	-1356	-193	4035		0	0	0.56	0			0	No, Vu<V
SLU 61	373	-1165	119	2352		18.98	2.19	1.08	66			0.56	No, Vu<V
SLU 61	453	-1365	-197	4116		0	0	0.56	0			0	No, Vu<V
SLU 58	373	-1243	128	2543		21.04	2.11	1.08	64			0.5	No, Vu<V
SLU 58	453	-1418	-200	4175		0	0	0.56	0			0	No, Vu<V
SLU 56	373	-1247	129	2553		21.11	2.11	1.08	64			0.5	No, Vu<V
SLU 56	453	-1428	-202	4214		0	0	0.56	0			0	No, Vu<V
SLU 60	373	-1171	120	2369		19.17	2.18	1.08	66			0.55	No, Vu<V
SLU 60	453	-1367	-197	4118		0	0	0.56	0			0	No, Vu<V
SLU 54	373	-1180	121	2399		19.58	2.15	1.08	65			0.54	No, Vu<V
SLU 54	453	-1367	-195	4075		0	0	0.56	0			0	No, Vu<V
SLU 1	373	-810	83	1642		13.34	2.17	1.08	66			0.79	No, Vu<V
SLU 1	453	-924	-131	2747		0	0	0.56	0			0	No, Vu<V
SLU 53	373	-1187	122	2415		19.77	2.14	1.08	65			0.53	No, Vu<V
SLU 53	453	-1369	-195	4077		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	373	-475	43	-12		3.09	5.5	1.45	223			5.15	Si
SLV 6	453	-545	-130	2426		0	0	0.83	0			0	No, Vu<V
SLV 10	373	-187	-8	-1120		0	0	0.83	0			0	No, Vu<V
SLV 10	453	-851	-196	3852		0	0	0.83	0			0	No, Vu<V
SLV 7	373	-1579	189	4705		0	0	0.83	0			0	No, Vu<V
SLV 7	453	-1183	-95	2218		16.09	2.63	1.63	119			1.26	Si
SLV 13	373	-236	-17	-762		0	0	0.83	0			0	No, Vu<V
SLV 13	453	-1431	-260	5442		0	0	0.83	0			0	No, Vu<V
SLV 8	373	-1579	189	4705		0	0	0.83	0			0	No, Vu<V
SLV 8	453	-1183	-95	2218		16.09	2.63	1.63	119			1.26	Si
SLV 11	373	-1290	138	3597		0	0	0.83	0			0	No, Vu<V
SLV 11	453	-1489	-161	3643		58.53	0.91	1.63	41			0.26	No, Vu<V
SLV 14	373	-236	-17	-762		0	0	0.83	0			0	No, Vu<V
SLV 14	453	-1431	-260	5442		0	0	0.83	0			0	No, Vu<V
SLV 9	373	-187	-8	-1120		0	0	0.83	0			0	No, Vu<V
SLV 9	453	-851	-196	3852		0	0	0.83	0			0	No, Vu<V
SLD 1	373	-1020	118	2292		24.19	1.51	1.63	69			0.58	No, Vu<V
SLD 1	453	-759	-101	2029		0	0	0.83	0			0	No, Vu<V
SLV 12	373	-1290	138	3597		0	0	0.83	0			0	No, Vu<V
SLV 12	453	-1489	-161	3643		58.53	0.91	1.63	41			0.26	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.32	0.39	-60	534	807	1.51	Si
SLV 14	14	0.32	0.39	-60	534	807	1.51	Si
SLV 10	14	0.32	0.61	-94	534	1251	2.34	Si
SLV 9	14	0.32	0.61	-94	534	1251	2.34	Si
SLV 16	14	0.32	1.38	-212	534	2639	4.94	Si
SLV 15	14	0.32	1.38	-212	534	2639	4.94	Si
SLV 5	14	0.32	1.8	-277	534	3303	6.19	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.32	1.8	-277	534	3303	6.19	Si
SLV 12	14	0.32	3.92	-604	534	5741	10.76	Si
SLV 11	14	0.32	3.92	-604	534	5741	10.76	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 $W_a = 0.05$ $T_a = 0.083$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-484	-2205	1	0.038	0.574	0.958	58.224	1436.128	No
SLV 12	-484	-2205	1	0.038	0.574	0.958	58.224	1436.128	No
SLV 7	-510	-2168	1	0.039	0.6	0.96	58.683	1436.128	No
SLV 8	-510	-2168	1	0.039	0.6	0.96	58.683	1436.128	No
SLV 5	-234	-1122	-2	0.039	0.32	0.931	60.436	1436.128	No
SLV 6	-234	-1122	-2	0.039	0.32	0.931	60.436	1436.128	No
SLV 9	-209	-1158	-1	0.04	0.295	0.926	62.31	1436.128	No
SLV 10	-209	-1158	-1	0.04	0.295	0.926	62.31	1436.128	No
SLV 2	-361	-1445	-1	0.04	0.448	0.948	61.521	942.501	No
SLV 1	-361	-1445	-1	0.04	0.448	0.948	61.521	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLD 5	No
V_SLV	0	SLD 1	No
PFFP_SLV	1.512	SLV 13	Si
R_SLV	0.041	SLV 11	No

Maschio 94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-515.8	650.6	-515.8	666.1	L3	L4	15.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 42	373	-4019	-11485	9.26	0	0	No, Rottura per schiacciamento
SLU 42	453	-2598	7670	5.99	5339	0.696	No, M>Mu
SLU 59	373	-4148	-11404	9.56	0	0	No, Rottura per schiacciamento
SLU 59	453	-2728	7412	6.29	4827	0.651	No, M>Mu
SLU 55	373	-3986	-11245	9.18	0	0	No, Rottura per schiacciamento
SLU 55	453	-2578	7444	5.94	5409	0.727	No, M>Mu
SLU 54	373	-4021	-11367	9.27	0	0	No, Rottura per schiacciamento
SLU 54	453	-2598	7537	5.99	5337	0.708	No, M>Mu
SLU 58	373	-4155	-11364	9.57	0	0	No, Rottura per schiacciamento
SLU 58	453	-2742	7359	6.32	4769	0.648	No, M>Mu
SLU 62	373	-4196	-11856	9.67	0	0	No, Rottura per schiacciamento
SLU 62	453	-2715	7860	6.26	4882	0.621	No, M>Mu
SLU 60	373	-4039	-11670	9.31	0	0	No, Rottura per schiacciamento
SLU 60	453	-2574	7856	5.93	5424	0.69	No, M>Mu
SLU 56	373	-4185	-11513	9.64	0	0	No, Rottura per schiacciamento
SLU 56	453	-2753	7488	6.34	4722	0.631	No, M>Mu
SLU 61	373	-4031	-11710	9.29	0	0	No, Rottura per schiacciamento
SLU 61	453	-2560	7909	5.9	5472	0.692	No, M>Mu
SLU 57	373	-4178	-11553	9.63	0	0	No, Rottura per schiacciamento
SLU 57	453	-2739	7541	6.31	4780	0.634	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	373	-4210	-28886	9.7	6723	0.233	No, M>Mu
SLV 13	453	-383	26905	0	0	0	No, e>l/2
SLV 1	373	-1170	11517	0	0	0	No, e>l/2
SLV 1	453	-2758	-13022	6.36	10258	0.788	No, M>Mu
SLD 16	373	-3778	-16998	8.71	8419	0.495	No, M>Mu
SLD 16	453	-1584	13566	0	0	0	No, e>l/2
SLD 14	373	-3519	-17175	8.11	9176	0.534	No, M>Mu
SLD 14	453	-1276	14690	0	0	0	No, e>l/2
SLV 15	373	-4828	-28432	11.12	3354	0.118	No, M>Mu



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 15	453	-1117	24222	0	0	0	No, e>l/2
SLV 2	373	-1170	11517	0	0	0	No, e>l/2
SLV 2	453	-2758	-13022	6.36	10258	0.788	No, M>Mu
SLV 9	373	-2426	-15274	5.59	10200	0.668	No, M>Mu
SLV 9	453	-358	16060	0	0	0	No, e>l/2
SLV 14	373	-4210	-28886	9.7	6723	0.233	No, M>Mu
SLV 14	453	-383	26905	0	0	0	No, e>l/2
SLV 10	373	-2426	-15274	5.59	10200	0.668	No, M>Mu
SLV 10	453	-358	16060	0	0	0	No, e>l/2
SLD 15	373	-3778	-16998	8.71	8419	0.495	No, M>Mu
SLD 15	453	-1584	13566	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 74	373	-4513	-415	-12721	10.89	14.79	1.08	449				1.08	Si
SLU 74	453	-2930	-403	8419	7.15	14.63	1.08	444				1.1	Si
SLU 83	373	-4680	-432	-13250	11.33	14.76	1.08	448				1.04	Si
SLU 83	453	-3033	-421	8795	7.44	14.55	1.08	441				1.05	Si
SLU 76	373	-4470	-412	-12639	10.81	14.77	1.08	448				1.09	Si
SLU 76	453	-2896	-401	8379	7.1	14.57	1.08	442				1.1	Si
SLU 77	373	-4669	-419	-12907	11.15	14.96	1.08	454				1.08	Si
SLU 77	453	-3071	-407	8423	7.3	15.02	1.08	456				1.12	Si
SLU 81	373	-4523	-428	-13064	11.08	14.59	1.08	442				1.03	Si
SLU 81	453	-2892	-417	8791	7.31	14.13	1.08	429				1.03	Si
SLU 82	373	-4515	-430	-13104	11.09	14.54	1.08	441				1.03	Si
SLU 82	453	-2879	-419	8844	7.33	14.03	1.08	426				1.02	Si
SLU 84	373	-4672	-434	-13289	11.34	14.72	1.08	446				1.03	Si
SLU 84	453	-3020	-422	8848	7.46	14.46	1.08	439				1.04	Si
SLU 75	373	-4505	-416	-12761	10.91	14.75	1.08	447				1.07	Si
SLU 75	453	-2916	-405	8472	7.17	14.54	1.08	441				1.09	Si
SLU 73	373	-4313	-408	-12453	10.56	14.59	1.08	443				1.08	Si
SLU 73	453	-2755	-397	8375	6.96	14.13	1.08	429				1.08	Si
SLU 78	373	-4662	-420	-12947	11.16	14.92	1.08	453				1.08	Si
SLU 78	453	-3058	-409	8476	7.31	14.93	1.08	453				1.11	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	373	-4210	-1094	-28886	56.36	2.67	1.63	121				0.11	No, Vu<V
SLV 14	453	-383	-1093	26905	0	0	0.83	0				0	No, Vu<V
SLV 2	373	-1170	442	11517	0	0	0.83	0				0	No, Vu<V
SLV 2	453	-2758	427	-13022	10.84	9.09	1.63	413				0.97	No, Vu<V
SLD 14	373	-3519	-625	-17175	14.6	8.61	1.63	392				0.63	No, Vu<V
SLD 14	453	-1276	-620	14690	0	0	0.83	0				0	No, Vu<V
SLV 9	373	-2426	-673	-15274	19.86	4.36	1.63	198				0.3	No, Vu<V
SLV 9	453	-358	-713	16060	0	0	0.83	0				0	No, Vu<V
SLD 15	373	-3778	-582	-16998	13.84	9.75	1.63	444				0.76	No, Vu<V
SLD 15	453	-1584	-566	13566	0	0	0.83	0				0	No, Vu<V
SLV 10	373	-2426	-673	-15274	19.86	4.36	1.63	198				0.3	No, Vu<V
SLV 10	453	-358	-713	16060	0	0	0.83	0				0	No, Vu<V
SLV 13	373	-4210	-1094	-28886	56.36	2.67	1.63	121				0.11	No, Vu<V
SLV 13	453	-383	-1093	26905	0	0	0.83	0				0	No, Vu<V
SLV 15	373	-4828	-994	-28432	30.89	5.58	1.63	254				0.26	No, Vu<V
SLV 15	453	-1117	-964	24222	0	0	0.83	0				0	No, Vu<V
SLD 16	373	-3778	-582	-16998	13.84	9.75	1.63	444				0.76	No, Vu<V
SLD 16	453	-1584	-566	13566	0	0	0.83	0				0	No, Vu<V
SLV 1	373	-1170	442	11517	0	0	0.83	0				0	No, Vu<V
SLV 1	453	-2758	427	-13022	10.84	9.09	1.63	413				0.97	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.32	1.68	-727	1504	8786	5.84	Si
SLV 1	14	0.32	1.68	-727	1504	8786	5.84	Si
SLV 6	14	0.32	2.55	-1107	1504	12259	8.15	Si
SLV 5	14	0.32	2.55	-1107	1504	12259	8.15	Si
SLV 4	14	0.32	2.61	-1132	1504	12466	8.29	Si
SLV 3	14	0.32	2.61	-1132	1504	12466	8.29	Si
SLV 16	14	0.32	8.22	-3565	1504	16356	10.87	Si
SLV 15	14	0.32	8.22	-3565	1504	16356	10.87	Si
SLV 9	14	0.32	4.23	-1837	1504	16807	11.17	Si
SLV 10	14	0.32	4.23	-1837	1504	16807	11.17	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 10	16	-2416	-11	0	0	0	0	1436.128	No, Trazione
SLV 9	16	-2416	-11	0	0	0	0	1436.128	No, Trazione
SLV 14	-29	-4074	12	0	0.306	0.935	0.045	942.501	No
SLV 13	-29	-4074	12	0	0.306	0.935	0.045	942.501	No
SLV 6	-366	-1675	-20	0.008	0.609	0.908	13.22	1436.128	No
SLV 5	-366	-1675	-20	0.008	0.609	0.908	13.22	1436.128	No
SLV 15	-450	-4756	22	0.01	0.692	0.915	15.45	942.501	No
SLV 16	-450	-4756	22	0.01	0.692	0.915	15.45	942.501	No
SLV 11	-1386	-4687	22	0.026	1.64	0.959	40.069	1436.128	No
SLV 12	-1386	-4687	22	0.026	1.64	0.959	40.069	1436.128	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 20	No
V_SLU	1.017	SLU 82	Si
PF_SLV	0	SLD 9	No
V_SLV	0	SLD 9	No
PFFP_SLV	5.841	SLV 1	Si
R_SLV	0	SLV 10	No

Maschio 95

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-600.8	-335.9	-646.3	-335.9	L3	L4	45.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 61	373	-9512	19365	7.47	18057	0.932	No, M>Mu
SLU 61	453	-10391	-29666	8.16	0	0	No, Rottura per schiacciamento
SLU 73	373	-10188	22755	8	4234	0.186	No, M>Mu
SLU 73	453	-11120	-33753	8.73	0	0	No, Rottura per schiacciamento
SLU 63	373	-9681	19172	7.6	14797	0.772	No, M>Mu
SLU 63	453	-10598	-29099	8.32	0	0	No, Rottura per schiacciamento
SLU 57	373	-9485	18643	7.44	18568	0.996	No, M>Mu
SLU 57	453	-10381	-28083	8.15	0	0	No, Rottura per schiacciamento
SLU 84	373	-10578	20779	8.3	0	0	No, Rottura per schiacciamento
SLU 84	453	-11619	-31767	9.12	0	0	No, Rottura per schiacciamento
SLU 83	373	-10261	17250	8.05	2621	0.152	No, M>Mu
SLU 83	453	-11320	-28191	8.89	0	0	No, Rottura per schiacciamento
SLU 74	373	-9897	16913	7.77	10435	0.617	No, M>Mu
SLU 74	453	-10897	-27743	8.55	0	0	No, Rottura per schiacciamento
SLU 78	373	-10382	20250	8.15	0	0	No, Rottura per schiacciamento
SLU 78	453	-11403	-30751	8.95	0	0	No, Rottura per schiacciamento
SLU 75	373	-10213	20443	8.02	3680	0.18	No, M>Mu
SLU 75	453	-11196	-31319	8.79	0	0	No, Rottura per schiacciamento
SLU 77	373	-10066	16721	7.9	6890	0.412	No, M>Mu
SLU 77	453	-11103	-27176	8.72	0	0	No, Rottura per schiacciamento

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 5	373	-9326	42298	7.32	85056	2.011	Si
SLV 5	453	-10064	-68794	7.9	80936	1.176	Si
SLV 3	373	-3908	84665	3.07	66592	0.787	No, M>Mu
SLV 3	453	-4859	-121960	0	0	0	No, e>l/2
SLV 16	373	-7696	-65380	6.04	88524	1.354	Si
SLV 16	453	-8029	92688	6.3	88447	0.954	No, M>Mu
SLV 13	373	-9585	-60696	7.52	83792	1.381	Si
SLV 13	453	-9920	82552	7.79	81867	0.992	No, M>Mu
SLV 1	373	-5797	89349	4.55	82770	0.926	No, M>Mu
SLV 1	453	-6749	-132095	5.3	86972	0.658	No, M>Mu
SLV 4	373	-3908	84665	3.07	66592	0.787	No, M>Mu
SLV 4	453	-4859	-121960	0	0	0	No, e>l/2
SLV 15	373	-7696	-65380	6.04	88524	1.354	Si
SLV 15	453	-8029	92688	6.3	88447	0.954	No, M>Mu
SLV 14	373	-9585	-60696	7.52	83792	1.381	Si
SLV 14	453	-9920	82552	7.79	81867	0.992	No, M>Mu
SLV 6	373	-9326	42298	7.32	85056	2.011	Si
SLV 6	453	-10064	-68794	7.9	80936	1.176	Si
SLV 2	373	-5797	89349	4.55	82770	0.926	No, M>Mu
SLV 2	453	-6749	-132095	5.3	86972	0.658	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 68	373	-9349	697	21235		7.34	45.5	1.08	1380			1.98	Si
SLU 68	453	-10177	695	-30933		7.99	45.5	1.08	1380			1.99	Si
SLU 52	373	-9291	697	21149		7.29	45.5	1.08	1380			1.98	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	453	-10098	695	-31085		7.93	45.5	1.08	1380			1.99	Si
SLU 55	373	-9460	689	20956		7.43	45.5	1.08	1380			2	Si
SLU 55	453	-10305	687	-30517		8.09	45.5	1.08	1380			2.01	Si
SLU 65	373	-9180	705	21428		7.21	45.5	1.08	1380			1.96	Si
SLU 65	453	-9970	703	-31500		7.83	45.5	1.08	1380			1.96	Si
SLU 78	373	-10382	690	20250		8.15	45.5	1.08	1380			2	Si
SLU 78	453	-11403	688	-30751		8.95	45.5	1.08	1380			2.01	Si
SLU 76	373	-10357	747	22563		8.13	45.5	1.08	1380			1.85	Si
SLU 76	453	-11326	745	-33185		8.89	45.5	1.08	1380			1.85	Si
SLU 84	373	-10578	710	20779		8.3	45.5	1.08	1380			1.94	Si
SLU 84	453	-11619	708	-31767		9.12	45.5	1.08	1380			1.95	Si
SLU 82	373	-10409	718	20972		8.17	45.5	1.08	1380			1.92	Si
SLU 82	453	-11413	716	-32334		8.96	45.5	1.08	1380			1.93	Si
SLU 75	373	-10213	698	20443		8.02	45.5	1.08	1380			1.98	Si
SLU 75	453	-11196	696	-31319		8.79	45.5	1.08	1380			1.98	Si
SLU 73	373	-10188	755	22755		8	45.5	1.08	1380			1.83	Si
SLU 73	453	-11120	753	-33753		8.73	45.5	1.08	1380			1.83	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	373	-3908	2471	84665		42.77	3.26	1.63	148			0.06	No, Vu<V
SLV 4	453	-4859	2657	-121960		0	0	0.83	0			0	No, Vu<V
SLV 13	373	-9585	-1611	-60696		7.52	45.5	1.63	2070			1.28	Si
SLV 13	453	-9920	-1797	82552		8.18	43.28	1.63	1969			1.1	Si
SLV 16	373	-7696	-2115	-65380		6.43	42.76	1.63	1946			0.92	No, Vu<V
SLV 16	453	-8029	-1962	92688		8.53	33.62	1.63	1530			0.78	No, Vu<V
SLV 14	373	-9585	-1611	-60696		7.52	45.5	1.63	2070			1.28	Si
SLV 14	453	-9920	-1797	82552		8.18	43.28	1.63	1969			1.1	Si
SLV 3	373	-3908	2471	84665		42.77	3.26	1.63	148			0.06	No, Vu<V
SLV 3	453	-4859	2657	-121960		0	0	0.83	0			0	No, Vu<V
SLV 2	373	-5797	2975	89349		9.41	22.01	1.63	1002			0.34	No, Vu<V
SLV 2	453	-6749	2822	-132095		25.29	9.53	1.63	434			0.15	No, Vu<V
SLV 15	373	-7696	-2115	-65380		6.43	42.76	1.63	1946			0.92	No, Vu<V
SLV 15	453	-8029	-1962	92688		8.53	33.62	1.63	1530			0.78	No, Vu<V
SLV 5	373	-9326	1958	42298		7.32	45.5	1.63	2070			1.06	Si
SLV 5	453	-10064	1397	-68794		7.9	45.5	1.63	2070			1.48	Si
SLV 1	373	-5797	2975	89349		9.41	22.01	1.63	1002			0.34	No, Vu<V
SLV 1	453	-6749	2822	-132095		25.29	9.53	1.63	434			0.15	No, Vu<V
SLV 6	373	-9326	1958	42298		7.32	45.5	1.63	2070			1.06	Si
SLV 6	453	-10064	1397	-68794		7.9	45.5	1.63	2070			1.48	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.32	1.83	-2335	4315	27786	6.44	Si
SLV 8	14	0.32	1.83	-2335	4315	27786	6.44	Si
SLV 12	14	0.32	2.03	-2584	4315	30174	6.99	Si
SLV 11	14	0.32	2.03	-2584	4315	30174	6.99	Si
SLV 3	14	0.32	3.18	-4056	4315	41990	9.73	Si
SLV 4	14	0.32	3.18	-4056	4315	41990	9.73	Si
SLV 15	14	0.32	3.84	-4887	4315	46941	10.88	Si
SLV 16	14	0.32	3.84	-4887	4315	46941	10.88	Si
SLV 2	14	0.32	4.54	-5781	4315	50877	11.79	Si
SLV 1	14	0.32	4.54	-5781	4315	50877	11.79	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-2041	-2023	-18	0.037	2.755	0.933	57.253	1436.128	No
SLV 11	-2041	-2023	-18	0.037	2.755	0.933	57.253	1436.128	No
SLV 6	-3491	-8928	11	0.039	4.226	0.954	59.238	1436.128	No
SLV 5	-3491	-8928	11	0.039	4.226	0.954	59.238	1436.128	No
SLV 10	-3750	-8429	-3	0.041	4.488	0.956	61.746	1436.128	No
SLV 9	-3750	-8429	-3	0.041	4.488	0.956	61.746	1436.128	No
SLV 7	-1783	-2522	-4	0.043	2.495	0.928	67.358	1436.128	No
SLV 8	-1783	-2522	-4	0.043	2.495	0.928	67.358	1436.128	No
SLV 16	-2941	-3683	-29	0.034	3.666	0.947	51.64	942.501	No
SLV 15	-2941	-3683	-29	0.034	3.666	0.947	51.64	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 57	No
V_SLU	1.828	SLU 73	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	6.44	SLV 7	Si
R_SLV	0.04	SLV 11	No

Maschio 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-323.3	-335.9	-550.8	-335.9	L3	L4	227.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 52	373	-15416	786005	2.42	1232607	1.568	Si
SLU 52	453	-14304	351442	2.25	1178562	3.354	Si
SLU 47	373	-13488	728600	2.12	1135455	1.558	Si
SLU 47	453	-12376	325599	1.94	1072009	3.292	Si
SLU 2	373	-10059	605243	1.58	922388	1.524	Si
SLU 2	453	-9199	274326	1.44	860844	3.138	Si
SLU 44	373	-13164	719659	2.07	1117532	1.553	Si
SLU 44	453	-12052	322417	1.89	1052506	3.264	Si
SLU 76	373	-17824	854237	2.8	1331052	1.558	Si
SLU 76	453	-16694	377916	2.62	1288000	3.408	Si
SLU 65	373	-15248	778950	2.39	1224793	1.572	Si
SLU 65	453	-14118	345708	2.22	1168972	3.381	Si
SLU 5	373	-10383	614184	1.63	944721	1.538	Si
SLU 5	453	-9522	277507	1.49	884400	3.187	Si
SLU 68	373	-15572	787891	2.44	1239756	1.574	Si
SLU 68	453	-14442	348890	2.27	1185540	3.398	Si
SLU 55	373	-15740	794946	2.47	1247331	1.569	Si
SLU 55	453	-14628	354624	2.3	1194866	3.369	Si
SLU 73	373	-17501	845296	2.75	1319289	1.561	Si
SLU 73	453	-16370	374734	2.57	1274631	3.401	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	373	-12058	2002	1.89	1159134	579.021	Si
SLV 16	453	-8771	876520	1.38	885295	1.01	Si
SLV 13	373	-10642	441810	1.67	1045006	2.365	Si
SLV 13	453	-12568	1056141	1.97	1198782	1.135	Si
SLV 15	373	-12058	2002	1.89	1159134	579.021	Si
SLV 15	453	-8771	876520	1.38	885295	1.01	Si
SLV 6	373	-12398	1297001	1.95	1185631	0.914	No, M>Mu
SLV 6	453	-20166	271901	3.17	1699542	6.251	Si
SLV 10	373	-10825	1139117	1.7	1060073	0.931	No, M>Mu
SLV 10	453	-18704	730576	2.94	1616287	2.212	Si
SLV 2	373	-15886	968089	2.49	1438205	1.486	Si
SLV 2	453	-17442	-472779	2.74	1539401	3.256	Si
SLV 14	373	-10642	441810	1.67	1045006	2.365	Si
SLV 14	453	-12568	1056141	1.97	1198782	1.135	Si
SLV 5	373	-12398	1297001	1.95	1185631	0.914	No, M>Mu
SLV 5	453	-20166	271901	3.17	1699542	6.251	Si
SLV 1	373	-15886	968089	2.49	1438205	1.486	Si
SLV 1	453	-17442	-472779	2.74	1539401	3.256	Si
SLV 9	373	-10825	1139117	1.7	1060073	0.931	No, M>Mu
SLV 9	453	-18704	730576	2.94	1616287	2.212	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 2	373	-10059	4130	605243		2.23	160.74	0.85	3842			0.93	No, Vu<V
SLU 2	453	-9199	4130	274326		1.44	227.5	0.75	4765			1.15	Si
SLU 52	373	-15416	5423	786005		2.92	188.29	0.95	4985			0.92	No, Vu<V
SLU 52	453	-14304	5423	351442		2.25	227.5	0.85	5446			1	Si
SLU 76	373	-17824	5946	854237		3.22	197.48	0.99	5448			0.92	No, Vu<V
SLU 76	453	-16694	5946	377916		2.62	227.5	0.9	5765			0.97	No, Vu<V
SLU 55	373	-15740	5495	794946		2.96	189.74	0.95	5050			0.92	No, Vu<V
SLU 55	453	-14628	5495	354624		2.3	227.5	0.86	5489			1	No, Vu<V
SLU 44	373	-13164	4957	719659		2.65	177.25	0.91	4512			0.91	No, Vu<V
SLU 44	453	-12052	4957	322417		1.89	227.5	0.81	5146			1.04	Si
SLU 68	373	-15572	5480	787891		2.94	189.46	0.95	5024			0.92	No, Vu<V
SLU 68	453	-14442	5480	348890		2.27	227.5	0.86	5464			1	No, Vu<V
SLU 65	373	-15248	5408	778950		2.9	188	0.94	4958			0.92	No, Vu<V
SLU 65	453	-14118	5408	345708		2.22	227.5	0.85	5421			1	Si
SLU 73	373	-17501	5874	845296		3.18	196.35	0.98	5388			0.92	No, Vu<V
SLU 73	453	-16370	5874	374734		2.57	227.5	0.9	5722			0.97	No, Vu<V
SLU 47	373	-13488	5029	728600		2.69	179.2	0.91	4586			0.91	No, Vu<V
SLU 47	453	-12376	5029	325599		1.94	227.5	0.81	5189			1.03	Si
SLU 5	373	-10383	4202	614184		2.26	163.79	0.86	3932			0.94	No, Vu<V
SLU 5	453	-9522	4202	277507		1.49	227.5	0.75	4809			1.14	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	373	-12398	11572	1297001		16.15	27.41	1.63	1247			0.11	No, Vu<V
SLV 6	453	-20166	12673	271901		3.17	227.5	1.47	9341			0.74	No, Vu<V
SLV 9	373	-10825	3748	1139117		15.13	25.55	1.63	1163			0.31	No, Vu<V
SLV 9	453	-18704	4853	730576		2.98	224.07	1.43	8969			1.85	Si
SLV 10	373	-10825	3748	1139117		15.13	25.55	1.63	1163			0.31	No, Vu<V
SLV 10	453	-18704	4853	730576		2.98	224.07	1.43	8969			1.85	Si
SLV 16	373	-12058	-10745	2002		1.89	227.5	1.21	7720			0.72	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	453	-8771	-11069	876520		7.56	41.46	1.63	1886			0.17	No, Vu<V
SLV 4	373	-17302	15335	528281		2.72	227.5	1.38	8769			0.57	No, Vu<V
SLV 4	453	-13645	14998	-652400		2.46	197.81	1.33	7345			0.49	No, Vu<V
SLV 5	373	-12398	11572	1297001		16.15	27.41	1.63	1247			0.11	No, Vu<V
SLV 5	453	-20166	12673	271901		3.17	227.5	1.47	9341			0.74	No, Vu<V
SLV 2	373	-15886	17811	968089		3.58	158.43	1.55	6874			0.39	No, Vu<V
SLV 2	453	-17442	18136	-472779		2.74	227.5	1.38	8797			0.49	No, Vu<V
SLV 3	373	-17302	15335	528281		2.72	227.5	1.38	8769			0.57	No, Vu<V
SLV 3	453	-13645	14998	-652400		2.46	197.81	1.33	7345			0.49	No, Vu<V
SLV 1	373	-15886	17811	968089		3.58	158.43	1.55	6874			0.39	No, Vu<V
SLV 1	453	-17442	18136	-472779		2.74	227.5	1.38	8797			0.49	No, Vu<V
SLV 15	373	-12058	-10745	2002		1.89	227.5	1.21	7720			0.72	No, Vu<V
SLV 15	453	-8771	-11069	876520		7.56	41.46	1.63	1886			0.17	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.32	1.18	-7527	21574	95184	4.41	Si
SLV 9	14	0.32	1.18	-7527	21574	95184	4.41	Si
SLV 5	14	0.32	1.22	-7783	21574	98065	4.55	Si
SLV 6	14	0.32	1.22	-7783	21574	98065	4.55	Si
SLV 13	14	0.32	1.54	-9830	21574	120240	5.57	Si
SLV 14	14	0.32	1.54	-9830	21574	120240	5.57	Si
SLV 1	14	0.32	1.68	-10684	21574	129044	5.98	Si
SLV 2	14	0.32	1.68	-10684	21574	129044	5.98	Si
SLV 15	14	0.32	1.89	-12060	21574	142683	6.61	Si
SLV 16	14	0.32	1.89	-12060	21574	142683	6.61	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-5090	-8895	-125	0.031	8.648	0.906	50.353	1436.128	No
SLV 12	-5090	-8895	-125	0.031	8.648	0.906	50.353	1436.128	No
SLV 5	-18433	-8341	124	0.035	22.119	0.955	53.836	1436.128	No
SLV 6	-18433	-8341	124	0.035	22.119	0.955	53.836	1436.128	No
SLV 8	-5155	-7622	-107	0.034	8.712	0.906	54.408	1436.128	No
SLV 7	-5155	-7622	-107	0.034	8.712	0.906	54.408	1436.128	No
SLV 9	-18367	-9614	106	0.036	22.053	0.955	55.179	1436.128	No
SLV 10	-18367	-9614	106	0.036	22.053	0.955	55.179	1436.128	No
SLV 2	-13862	-6604	65	0.039	17.478	0.945	59.208	942.501	No
SLV 1	-13862	-6604	65	0.039	17.478	0.945	59.208	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.524	SLV 2	Si
V_SLV	0.91	SLV 44	No
PF_SLV	0.914	SLV 5	No
V_SLV	0.108	SLV 5	No
PFFP_SLV	4.412	SLV 9	Si
R_SLV	0.035	SLV 11	No

Maschio 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	-335.9	-223.3	-335.9	L3	L4	211	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 2	263	-9204	-594683	1.56	785309	1.321	Si
SLU 2	453	-13682	-132862	2.32	1033072	7.776	Si
SLU 76	263	-15243	-794081	2.58	1098774	1.384	Si
SLU 76	453	-22269	-137120	3.77	1262261	9.206	Si
SLU 47	263	-12183	-695713	2.06	959926	1.38	Si
SLU 47	453	-17541	-149329	2.97	1176063	7.876	Si
SLU 10	263	-10685	-642391	1.81	876978	1.365	Si
SLU 10	453	-16027	-123418	2.71	1127753	9.138	Si
SLU 23	263	-10783	-645342	1.83	882703	1.368	Si
SLU 23	453	-16065	-130096	2.72	1129097	8.679	Si
SLU 13	263	-11050	-653034	1.87	898090	1.375	Si
SLU 13	453	-16503	-127014	2.79	1144018	9.007	Si
SLU 5	263	-9569	-605326	1.62	808790	1.336	Si
SLU 5	453	-14158	-136457	2.4	1054229	7.726	Si
SLU 44	263	-11818	-685070	2	940627	1.373	Si
SLU 44	453	-17065	-145734	2.89	1161963	7.973	Si
SLU 26	263	-11148	-655985	1.89	903658	1.378	Si
SLU 26	453	-16541	-133692	2.8	1145283	8.567	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 73	263	-14878	-783437	2.52	1084370	1.384	Si
SLU 73	453	-21794	-133525	3.69	1258024	9.422	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 8	263	-5838	371435	0.99	566078	1.524	Si
SLV 8	453	-2310	-195937	0.39	235874	1.204	Si
SLV 2	263	-8747	75045	1.48	810969	10.806	Si
SLV 2	453	-6310	-448740	1.07	607544	1.354	Si
SLV 14	263	-16658	-1190927	2.82	1351907	1.135	Si
SLV 14	453	-30080	396006	5.09	1851113	4.674	Si
SLV 9	263	-16947	-1146019	2.87	1368164	1.194	Si
SLV 9	453	-28395	123422	4.81	1817332	14.725	Si
SLV 1	263	-8747	75045	1.48	810969	10.806	Si
SLV 1	453	-6310	-448740	1.07	607544	1.354	Si
SLV 3	263	-6126	416343	1.04	591453	1.421	Si
SLV 3	453	-624	-468520	0	0	0	No, $e > l/2$
SLV 10	263	-16947	-1146019	2.87	1368164	1.194	Si
SLV 10	453	-28395	123422	4.81	1817332	14.725	Si
SLV 7	263	-5838	371435	0.99	566078	1.524	Si
SLV 7	453	-2310	-195937	0.39	235874	1.204	Si
SLV 13	263	-16658	-1190927	2.82	1351907	1.135	Si
SLV 13	453	-30080	396006	5.09	1851113	4.674	Si
SLV 4	263	-6126	416343	1.04	591453	1.421	Si
SLV 4	453	-624	-468520	0	0	0	No, $e > l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	263	-14878	-8703	-783437		3.35	158.53	1	4450			0.51	No, Vu<V
SLU 73	453	-21794	-8643	-133525		3.69	211	1.05	6188			0.72	No, Vu<V
SLU 23	263	-10783	-6772	-645342		2.81	136.95	0.93	3568			0.53	No, Vu<V
SLU 23	453	-16065	-6718	-130096		2.72	211	0.92	5424			0.81	No, Vu<V
SLU 31	263	-12264	-7554	-693050		2.98	146.96	0.95	3921			0.52	No, Vu<V
SLU 31	453	-18410	-7498	-120653		3.12	211	0.97	5737			0.77	No, Vu<V
SLU 2	263	-9204	-6024	-594683		2.68	122.66	0.91	3135			0.52	No, Vu<V
SLU 2	453	-13682	-5972	-132862		2.32	211	0.86	5106			0.86	No, Vu<V
SLU 76	263	-15243	-8802	-794081		3.4	160.21	1.01	4525			0.51	No, Vu<V
SLU 76	453	-22269	-8742	-137120		3.77	211	1.06	6251			0.72	No, Vu<V
SLU 65	263	-13397	-7922	-735729		3.15	151.75	0.98	4147			0.52	No, Vu<V
SLU 65	453	-19448	-7864	-142968		3.29	211	0.99	5875			0.75	No, Vu<V
SLU 55	263	-13664	-8054	-743421		3.18	153.28	0.98	4206			0.52	No, Vu<V
SLU 55	453	-19886	-7995	-139886		3.37	211	1	5934			0.74	No, Vu<V
SLU 34	263	-12629	-7652	-703693		3.02	149.33	0.96	4007			0.52	No, Vu<V
SLU 34	453	-18886	-7596	-124248		3.2	211	0.98	5800			0.76	No, Vu<V
SLU 10	263	-10685	-6805	-642391		2.8	136.13	0.93	3542			0.52	No, Vu<V
SLU 10	453	-16027	-6751	-123418		2.71	211	0.92	5419			0.8	No, Vu<V
SLU 52	263	-13299	-7955	-732778		3.14	151.2	0.97	4125			0.52	No, Vu<V
SLU 52	453	-19410	-7897	-136290		3.29	211	0.99	5870			0.74	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	263	-14038	-13772	-849629		3.72	134.93	1.58	5956			0.43	No, Vu<V
SLV 16	453	-24394	-13748	376225		4.13	211	1.63	9601			0.7	No, Vu<V
SLV 3	263	-6126	6030	416343		1.94	112.61	1.22	3853			0.64	No, Vu<V
SLV 3	453	-624	5518	-468520		0	0	0.83	0			0	No, Vu<V
SLV 15	263	-14038	-13772	-849629		3.72	134.93	1.58	5956			0.43	No, Vu<V
SLV 15	453	-24394	-13748	376225		4.13	211	1.63	9601			0.7	No, Vu<V
SLV 10	263	-16947	-12270	-1146019		5.33	113.63	1.63	5170			0.42	No, Vu<V
SLV 10	453	-28395	-11304	123422		4.81	211	1.63	9601			0.85	No, Vu<V
SLD 13	263	-13609	-9847	-727083		3.11	156.22	1.46	6367			0.65	No, Vu<V
SLD 13	453	-21589	-9623	146402		3.65	211	1.56	9241			0.96	No, Vu<V
SLD 14	263	-13609	-9847	-727083		3.11	156.22	1.46	6367			0.65	No, Vu<V
SLD 14	453	-21589	-9623	146402		3.65	211	1.56	9241			0.96	No, Vu<V
SLV 13	263	-16658	-16278	-1190927		5.83	102.03	1.63	4642			0.29	No, Vu<V
SLV 13	453	-30080	-15732	396006		5.09	211	1.63	9601			0.61	No, Vu<V
SLV 14	263	-16658	-16278	-1190927		5.83	102.03	1.63	4642			0.29	No, Vu<V
SLV 14	453	-30080	-15732	396006		5.09	211	1.63	9601			0.61	No, Vu<V
SLV 9	263	-16947	-12270	-1146019		5.33	113.63	1.63	5170			0.42	No, Vu<V
SLV 9	453	-28395	-11304	123422		4.81	211	1.63	9601			0.85	No, Vu<V
SLV 4	263	-6126	6030	416343		1.94	112.61	1.22	3853			0.64	No, Vu<V
SLV 4	453	-624	5518	-468520		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.32	0.61	-3633	20009	48305	2.41	Si
SLV 4	14	0.32	0.61	-3633	20009	48305	2.41	Si
SLV 8	14	0.32	0.72	-4261	20009	56129	2.81	Si
SLV 7	14	0.32	0.72	-4261	20009	56129	2.81	Si
SLV 2	14	0.32	1.31	-7767	20009	97038	4.85	Si
SLV 1	14	0.32	1.31	-7767	20009	97038	4.85	Si
SLV 11	14	0.32	1.51	-8932	20009	109578	5.48	Si
SLV 12	14	0.32	1.51	-8932	20009	109578	5.48	Si
SLV 6	14	0.32	3.05	-18040	20009	189444	9.47	Si
SLV 5	14	0.32	3.05	-18040	20009	189444	9.47	Si



Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 $W_a = 0.05$ $T_a = 0.083$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 7	-3696	447	-70	0	0	0	0	1436.128	No, Trazione
SLV 8	-3696	447	-70	0	0	0	0	1436.128	No, Trazione
SLV 12	-7886	-2208	-98	0.035	11.185	0.926	55.215	1436.128	No
SLV 11	-7886	-2208	-98	0.035	11.185	0.926	55.215	1436.128	No
SLV 6	-18606	-17857	76	0.037	22.05	0.958	56.814	1436.128	No
SLV 5	-18606	-17857	76	0.037	22.05	0.958	56.814	1436.128	No
SLV 10	-22796	-20512	48	0.039	26.312	0.964	58.141	1436.128	No
SLV 9	-22796	-20512	48	0.039	26.312	0.964	58.141	1436.128	No
SLV 15	-17993	-11712	-79	0.037	21.427	0.957	56.661	942.501	No
SLV 16	-17993	-11712	-79	0.037	21.427	0.957	56.661	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.321	SLU 2	Si
V_SLU	0.511	SLU 73	No
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	2.414	SLV 3	Si
R_SLV	0	SLV 8	No

Maschio 98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-301.3	595.1	-515.8	595.1	L3	L4	214.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 78	263	-22158	498824	3.69	1300131	2.606	Si
SLU 78	453	-26987	428523	4.49	1297799	3.029	Si
SLU 84	263	-22208	493058	3.7	1300634	2.638	Si
SLU 84	453	-27088	414625	4.51	1296648	3.127	Si
SLU 76	263	-21239	474547	3.54	1288995	2.716	Si
SLU 76	453	-25786	404829	4.29	1307926	3.231	Si
SLU 75	263	-21439	477716	3.57	1291735	2.704	Si
SLU 75	453	-26058	402734	4.34	1306185	3.243	Si
SLU 80	263	-22024	497669	3.67	1298739	2.61	Si
SLU 80	453	-26824	427128	4.47	1299545	3.043	Si
SLU 77	263	-22257	501844	3.71	1301112	2.593	Si
SLU 77	453	-27150	423288	4.52	1295934	3.062	Si
SLU 81	263	-21588	474971	3.59	1293671	2.724	Si
SLU 81	453	-26323	383601	4.38	1304175	3.4	Si
SLU 74	263	-21538	480736	3.59	1293030	2.69	Si
SLU 74	453	-26222	397498	4.37	1304984	3.283	Si
SLU 79	263	-22123	500689	3.68	1299779	2.596	Si
SLU 79	453	-26987	421893	4.49	1297797	3.076	Si
SLU 83	263	-22307	496079	3.71	1301594	2.624	Si
SLU 83	453	-27252	409390	4.54	1294710	3.163	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 2	263	-6855	762604	0	0	0	No, e>/2
SLV 2	453	-17538	-211010	2.92	1431412	6.784	Si
SLV 10	263	-3467	424675	0	0	0	No, e>/2
SLV 10	453	-6236	587207	1.04	611954	1.042	Si
SLV 6	263	-1122	649518	0	0	0	No, e>/2
SLV 6	453	-8180	273680	1.36	779546	2.848	Si
SLD 6	263	-8971	455072	1.49	844536	1.856	Si
SLD 6	453	-13555	260599	2.26	1185237	4.548	Si
SLV 5	263	-1122	649518	0	0	0	No, e>/2
SLV 5	453	-8180	273680	1.36	779546	2.848	Si
SLV 14	263	-14670	13128	2.44	1258835	95.893	Si
SLV 14	453	-11055	834081	1.84	1007076	1.207	Si
SLV 1	263	-6855	762604	0	0	0	No, e>/2
SLV 1	453	-17538	-211010	2.92	1431412	6.784	Si
SLV 13	263	-14670	13128	2.44	1258835	95.893	Si
SLV 13	453	-11055	834081	1.84	1007076	1.207	Si
SLD 5	263	-8971	455072	1.49	844536	1.856	Si
SLD 5	453	-13555	260599	2.26	1185237	4.548	Si
SLV 9	263	-3467	424675	0	0	0	No, e>/2
SLV 9	453	-6236	587207	1.04	611954	1.042	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 83	263	-22307	4748	496079		3.71	214.5	1.05	6311			1.33	Si
SLU 83	453	-27252	4739	409390		4.54	214.5	1.08	6507			1.37	Si
SLU 78	263	-22158	4598	498824		3.69	214.5	1.05	6291			1.37	Si
SLU 78	453	-26987	4587	428523		4.49	214.5	1.08	6507			1.42	Si
SLU 81	263	-21588	4654	474971		3.59	214.5	1.03	6215			1.34	Si
SLU 81	453	-26323	4645	383601		4.38	214.5	1.08	6507			1.4	Si
SLU 74	263	-21538	4583	480736		3.59	214.5	1.03	6208			1.35	Si
SLU 74	453	-26222	4574	397498		4.37	214.5	1.08	6507			1.42	Si
SLU 77	263	-22257	4676	501844		3.71	214.5	1.05	6304			1.35	Si
SLU 77	453	-27150	4667	423288		4.52	214.5	1.08	6507			1.39	Si
SLU 75	263	-21439	4504	477716		3.57	214.5	1.03	6195			1.38	Si
SLU 75	453	-26058	4494	402734		4.34	214.5	1.08	6507			1.45	Si
SLU 82	263	-21489	4576	471950		3.58	214.5	1.03	6202			1.36	Si
SLU 82	453	-26160	4566	388836		4.36	214.5	1.08	6507			1.43	Si
SLU 79	263	-22123	4661	500689		3.68	214.5	1.05	6286			1.35	Si
SLU 79	453	-26987	4652	421893		4.49	214.5	1.08	6507			1.4	Si
SLU 80	263	-22024	4583	497669		3.67	214.5	1.04	6273			1.37	Si
SLU 80	453	-26824	4572	427128		4.47	214.5	1.08	6507			1.42	Si
SLU 84	263	-22208	4670	493058		3.7	214.5	1.05	6298			1.35	Si
SLU 84	453	-27088	4659	414625		4.51	214.5	1.08	6507			1.4	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 2	263	-6855	11499	762604		0	0	0.83	0			0	No, Vu<V
SLV 2	453	-17538	11692	-211010		2.92	214.5	1.42	8513			0.73	No, Vu<V
SLV 1	263	-6855	11499	762604		0	0	0.83	0			0	No, Vu<V
SLV 1	453	-17538	11692	-211010		2.92	214.5	1.42	8513			0.73	No, Vu<V
SLV 5	263	-1122	4459	649518		0	0	0.83	0			0	No, Vu<V
SLV 5	453	-8180	5847	273680		1.36	214.5	1.11	6641			1.14	Si
SLV 6	263	-1122	4459	649518		0	0	0.83	0			0	No, Vu<V
SLV 6	453	-8180	5847	273680		1.36	214.5	1.11	6641			1.14	Si
SLV 3	263	-14114	12284	634692		2.7	186.84	1.37	7182			0.58	No, Vu<V
SLV 3	453	-23613	11598	-312931		3.93	214.5	1.62	9728			0.84	No, Vu<V
SLV 13	263	-14670	-5997	13128		2.44	214.5	1.32	7939			1.32	Si
SLV 13	453	-11055	-5321	834081		4.14	95.41	1.63	4341			0.82	No, Vu<V
SLV 10	263	-3467	-790	424675		0	0	0.83	0			0	No, Vu<V
SLV 10	453	-6236	743	587207		5.67	39.25	1.63	1786			2.4	Si
SLV 4	263	-14114	12284	634692		2.7	186.84	1.37	7182			0.58	No, Vu<V
SLV 4	453	-23613	11598	-312931		3.93	214.5	1.62	9728			0.84	No, Vu<V
SLV 14	263	-14670	-5997	13128		2.44	214.5	1.32	7939			1.32	Si
SLV 14	453	-11055	-5321	834081		4.14	95.41	1.63	4341			0.82	No, Vu<V
SLV 9	263	-3467	-790	424675		0	0	0.83	0			0	No, Vu<V
SLV 9	453	-6236	743	587207		5.67	39.25	1.63	1786			2.4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.32	0.67	-4040	20341	53443	2.63	Si
SLV 10	14	0.32	0.67	-4040	20341	53443	2.63	Si
SLV 5	14	0.32	0.78	-4712	20341	61735	3.03	Si
SLV 6	14	0.32	0.78	-4712	20341	61735	3.03	Si
SLV 13	14	0.32	1.92	-11516	20341	135923	6.68	Si
SLV 14	14	0.32	1.92	-11516	20341	135923	6.68	Si
SLV 2	14	0.32	2.29	-13758	20341	156499	7.69	Si
SLV 1	14	0.32	2.29	-13758	20341	156499	7.69	Si
SLV 15	14	0.32	3.1	-18597	20341	194377	9.56	Si
SLV 16	14	0.32	3.1	-18597	20341	194377	9.56	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-8636	1950	86	0	0	0	0	1436.128	No, Trazione
SLV 10	-7156	884	112	0	0	0	0	1436.128	No, Trazione
SLV 9	-7156	884	112	0	0	0	0	1436.128	No, Trazione
SLV 6	-8636	1950	86	0	0	0	0	1436.128	No, Trazione
SLV 8	-21328	-23503	-106	0.036	24.871	0.962	54.757	1436.128	No
SLV 7	-21328	-23503	-106	0.036	24.871	0.962	54.757	1436.128	No
SLV 12	-19849	-24569	-79	0.037	23.366	0.96	56.592	1436.128	No
SLV 11	-19849	-24569	-79	0.037	23.366	0.96	56.592	1436.128	No
SLV 4	-18612	-13350	-70	0.038	22.108	0.958	57.397	942.501	No
SLV 3	-18612	-13350	-70	0.038	22.108	0.958	57.397	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.593	SLU 77	Si
V_SLU	1.329	SLU 83	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	2.627	SLV 9	Si
R_SLV	0	SLV 10	No



Maschio 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	595.1	-201.3	595.1	L3	L4	189	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 83	263	-16031	-476907	3.03	951561	1.995	Si
SLU 83	453	-19471	124805	3.68	1008913	8.084	Si
SLU 81	263	-15989	-480373	3.02	950526	1.979	Si
SLU 81	453	-19427	117935	3.67	1008505	8.551	Si
SLU 79	263	-15472	-456171	2.92	937329	2.055	Si
SLU 79	453	-18645	122282	3.52	999875	8.177	Si
SLU 74	263	-15590	-465064	2.95	940445	2.022	Si
SLU 74	453	-18817	115844	3.56	1001998	8.65	Si
SLU 82	263	-15535	-467761	2.94	939000	2.007	Si
SLU 82	453	-18983	125981	3.59	1003935	7.969	Si
SLU 60	263	-14666	-444389	2.77	914403	2.058	Si
SLU 60	453	-17573	96005	3.32	983679	10.246	Si
SLU 77	263	-15632	-461599	2.95	941555	2.04	Si
SLU 77	453	-18861	122713	3.56	1002523	8.17	Si
SLU 84	263	-15577	-464296	2.94	940120	2.025	Si
SLU 84	453	-19027	132850	3.6	1004428	7.561	Si
SLU 73	263	-14630	-442084	2.76	913333	2.066	Si
SLU 73	453	-17817	121952	3.37	987813	8.1	Si
SLU 75	263	-15136	-452453	2.86	928126	2.051	Si
SLU 75	453	-18373	123889	3.47	996240	8.041	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 12	263	-19135	-874855	3.62	1273141	1.455	Si
SLV 12	453	-25506	180661	4.82	1459569	8.079	Si
SLV 2	263	-4882	327801	0.92	426544	1.301	Si
SLV 2	453	-90	-234247	0	0	0	No, e>l/2
SLV 6	263	-2597	217174	0.49	235546	1.085	Si
SLV 6	453	-264	-44504	0	0	0	No, e>l/2
SLV 1	263	-4882	327801	0.92	426544	1.301	Si
SLV 1	453	-90	-234247	0	0	0	No, e>l/2
SLV 16	263	-16849	-985482	3.18	1177354	1.195	Si
SLV 16	453	-25681	370404	4.85	1462997	3.95	Si
SLV 5	263	-2597	217174	0.49	235546	1.085	Si
SLV 5	453	-264	-44504	0	0	0	No, e>l/2
SLV 11	263	-19135	-874855	3.62	1273141	1.455	Si
SLV 11	453	-25506	180661	4.82	1459569	8.079	Si
SLV 13	263	-12581	-755358	2.38	957571	1.268	Si
SLV 13	453	-19890	355975	3.76	1301432	3.656	Si
SLV 14	263	-12581	-755358	2.38	957571	1.268	Si
SLV 14	453	-19890	355975	3.76	1301432	3.656	Si
SLV 15	263	-16849	-985482	3.18	1177354	1.195	Si
SLV 15	453	-25681	370404	4.85	1462997	3.95	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	263	-15018	-5829	-443560		2.84	189	0.93	4942			0.85	No, Vu<V
SLU 80	453	-18201	-5816	130327		3.44	189	1.01	5367			0.92	No, Vu<V
SLU 83	263	-16031	-6102	-476907		3.03	189	0.96	5078			0.83	No, Vu<V
SLU 83	453	-19471	-6090	124805		3.68	189	1.05	5536			0.91	No, Vu<V
SLU 77	263	-15632	-5906	-461599		2.95	189	0.95	5024			0.85	No, Vu<V
SLU 77	453	-18861	-5894	122713		3.56	189	1.03	5455			0.93	No, Vu<V
SLU 81	263	-15989	-6083	-480373		3.02	189	0.96	5072			0.83	No, Vu<V
SLU 81	453	-19427	-6072	117935		3.67	189	1.05	5530			0.91	No, Vu<V
SLU 75	263	-15136	-5868	-452453		2.86	189	0.94	4958			0.84	No, Vu<V
SLU 75	453	-18373	-5855	123889		3.47	189	1.02	5390			0.92	No, Vu<V
SLU 84	263	-15577	-6084	-464296		2.94	189	0.95	5017			0.82	No, Vu<V
SLU 84	453	-19027	-6070	132850		3.6	189	1.03	5477			0.9	No, Vu<V
SLU 82	263	-15535	-6065	-467761		2.94	189	0.95	5011			0.83	No, Vu<V
SLU 82	453	-18983	-6052	125981		3.59	189	1.03	5471			0.9	No, Vu<V
SLU 78	263	-15179	-5887	-448987		2.87	189	0.94	4964			0.84	No, Vu<V
SLU 78	453	-18417	-5874	130759		3.48	189	1.02	5396			0.92	No, Vu<V
SLU 76	263	-14673	-5797	-438618		2.77	189	0.93	4896			0.84	No, Vu<V
SLU 76	453	-17861	-5784	128821		3.38	189	1.01	5322			0.92	No, Vu<V
SLU 73	263	-14630	-5779	-442084		2.76	189	0.92	4891			0.85	No, Vu<V
SLU 73	453	-17817	-5765	121952		3.37	189	1	5316			0.92	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	263	-12581	-9547	-755358		4.35	103.38	1.63	4704			0.49	No, Vu<V
SLV 13	453	-19890	-9810	355975		3.76	189	1.59	8388			0.86	No, Vu<V
SLV 2	263	-4882	5292	327801		2.12	82.08	1.26	2892			0.55	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	453	-90	4277	-234247		0	0	0.83	0			0	No, Vu<V
SLV 14	263	-12581	-9547	-755358		4.35	103.38	1.63	4704			0.49	No, Vu<V
SLV 14	453	-19890	-9810	355975		3.76	189	1.59	8388			0.86	No, Vu<V
SLV 16	263	-16849	-13355	-985482		5.57	108.04	1.63	4916			0.37	No, Vu<V
SLV 16	453	-25681	-12324	370404		4.85	189	1.63	8599			0.7	No, Vu<V
SLV 11	263	-19135	-12604	-874855		4.67	146.34	1.63	6658			0.53	No, Vu<V
SLV 11	453	-25506	-10327	180661		4.82	189	1.63	8599			0.83	No, Vu<V
SLV 1	263	-4882	5292	327801		2.12	82.08	1.26	2892			0.55	No, Vu<V
SLV 1	453	-90	4277	-234247		0	0	0.83	0			0	No, Vu<V
SLV 6	263	-2597	4541	217174		2.84	32.61	1.4	1280			0.28	No, Vu<V
SLV 6	453	-264	2280	-44504		0	0	0.83	0			0	No, Vu<V
SLV 15	263	-16849	-13355	-985482		5.57	108.04	1.63	4916			0.37	No, Vu<V
SLV 15	453	-25681	-12324	370404		4.85	189	1.63	8599			0.7	No, Vu<V
SLV 12	263	-19135	-12604	-874855		4.67	146.34	1.63	6658			0.53	No, Vu<V
SLV 12	453	-25506	-10327	180661		4.82	189	1.63	8599			0.83	No, Vu<V
SLV 5	263	-2597	4541	217174		2.84	32.61	1.4	1280			0.28	No, Vu<V
SLV 5	453	-264	2280	-44504		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 359.5 Wa 0.05 denominatore $8 \gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.32	0	1845	17923	0	0	No, Trazione
SLV 6	14	0.32	0	1845	17923	0	0	No, Trazione
SLV 2	14	0.32	0.29	-1534	17923	20960	1.17	Si
SLV 1	14	0.32	0.29	-1534	17923	20960	1.17	Si
SLV 10	14	0.32	0.42	-2245	17923	30336	1.69	Si
SLV 9	14	0.32	0.42	-2245	17923	30336	1.69	Si
SLV 3	14	0.32	1.61	-8519	17923	103552	5.78	Si
SLV 4	14	0.32	1.61	-8519	17923	103552	5.78	Si
SLV 13	14	0.32	2.87	-15166	17923	162523	9.07	Si
SLV 14	14	0.32	2.87	-15166	17923	162523	9.07	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-2355	3448	68	0	0	0	0	1436.128	No, Trazione
SLV 10	-5851	919	74	0	0	0	0	1436.128	No, Trazione
SLV 6	-2355	3448	68	0	0	0	0	1436.128	No, Trazione
SLV 9	-5851	919	74	0	0	0	0	1436.128	No, Trazione
SLV 7	-16282	-20047	-70	0.037	19.36	0.958	56.689	1436.128	No
SLV 8	-16282	-20047	-70	0.037	19.36	0.958	56.689	1436.128	No
SLV 11	-19778	-22576	-64	0.038	22.916	0.964	56.795	1436.128	No
SLV 12	-19778	-22576	-64	0.038	22.916	0.964	56.795	1436.128	No
SLV 13	-14805	-10254	33	0.04	17.859	0.954	60.269	942.501	No
SLV 14	-14805	-10254	33	0.04	17.859	0.954	60.269	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.979	SLU 81	Si
V_SLU	0.825	SLU 84	No
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 6	No
R_SLV	0	SLV 10	No

Maschio 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	-328.4	-12.3	595.1	L3	L4	923.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 75	173	-167326	-4723015	6.47	15885664	3.363	Si
SLU 75	546	-110802	-2061390	4.29	24248915	11.763	Si
SLU 80	173	-167651	-5130155	6.48	15797129	3.079	Si
SLU 80	546	-111012	-2309247	4.29	24243760	10.499	Si
SLU 76	173	-166979	-5679787	6.46	15979719	2.813	Si
SLU 76	546	-110262	-2512476	4.26	24261260	9.656	Si
SLU 73	173	-165157	-5288209	6.39	16464963	3.114	Si
SLU 73	546	-108855	-2275797	4.21	24287426	10.672	Si
SLU 70	173	-155121	-4848335	6	18877301	3.894	Si
SLU 70	546	-102636	-2197889	3.97	24299115	11.056	Si
SLU 55	173	-152880	-5216562	5.91	19355668	3.71	Si
SLU 55	546	-100464	-2272327	3.89	24263252	10.678	Si
SLU 82	173	-170019	-4461111	6.58	15137697	3.393	Si
SLU 82	546	-112301	-1878823	4.34	24207942	12.885	Si

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Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.32	4.26	-110046	87576	1004035	11.46	Si
SLV 9	14	0.32	4.26	-110046	87576	1004035	11.46	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 359.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-89256	-138240	-144	0.039	104.463	0.961	59.553	1436.128	No
SLV 12	-89256	-138240	-144	0.039	104.463	0.961	59.553	1436.128	No
SLV 10	-87556	-137334	48	0.04	102.734	0.961	61.162	1436.128	No
SLV 9	-87556	-137334	48	0.04	102.734	0.961	61.162	1436.128	No
SLV 6	-62123	-91663	120	0.04	76.888	0.949	61.935	1436.128	No
SLV 5	-62123	-91663	120	0.04	76.888	0.949	61.935	1436.128	No
SLV 8	-63823	-92569	-72	0.041	78.614	0.95	62.78	1436.128	No
SLV 7	-63823	-92569	-72	0.041	78.614	0.95	62.78	1436.128	No
SLV 16	-118333	-191206	-162	0.039	134.054	0.969	58.223	942.501	No
SLV 15	-118333	-191206	-162	0.039	134.054	0.969	58.223	942.501	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.813	SLU 76	Si
V_SLU	20.148	SLU 5	Si
PF_SLV	1.872	SLV 5	Si
V_SLV	1.722	SLV 5	Si
PFFP_SLV	5.128	SLV 1	Si
R_SLV	0.041	SLV 11	No

Maschio 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	-335.9	-2467.8	126.6	L4	L5	462.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 60	546	-51700	371836	3.99	6097956	16.4	Si
SLU 60	756	-40549	290744	3.13	5773951	19.859	Si
SLU 81	546	-57270	462201	4.42	6055632	13.102	Si
SLU 81	756	-44803	300704	3.46	5961874	19.826	Si
SLU 77	546	-58070	376703	4.48	6038381	16.03	Si
SLU 77	756	-45952	276258	3.55	5999020	21.715	Si
SLU 41	546	-49796	416922	3.84	6081220	14.586	Si
SLU 41	756	-39002	229852	3.01	5685898	24.737	Si
SLU 74	546	-56822	400608	4.39	6064080	15.137	Si
SLU 74	756	-44790	288250	3.46	5961393	20.681	Si
SLU 18	546	-42977	350461	3.32	5890891	16.809	Si
SLU 18	756	-33585	231883	2.59	5295025	22.835	Si
SLU 32	546	-48098	379233	3.71	6052898	15.961	Si
SLU 32	756	-37825	229390	2.92	5611937	24.465	Si
SLU 83	546	-58519	438296	4.52	6027476	13.752	Si
SLU 83	756	-45966	288713	3.55	5999431	20.78	Si
SLU 79	546	-57508	361610	4.44	6050794	16.733	Si
SLU 79	756	-45476	269431	3.51	5984327	22.211	Si
SLU 39	546	-48547	440827	3.75	6061614	13.751	Si
SLU 39	756	-37839	241844	2.92	5612840	23.209	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 11	546	-22022	1422143	1.7	4384636	3.083	Si
SLV 11	756	-17665	493394	1.36	3629506	7.356	Si
SLV 8	546	-36357	2025544	2.81	6476982	3.198	Si
SLV 8	756	-25705	503998	1.98	4979592	9.88	Si
SLV 4	546	-59627	1687691	4.6	8594799	5.093	Si
SLV 4	756	-41182	317984	3.18	7046248	22.159	Si
SLV 13	546	-17458	-1216632	1.35	3592264	2.953	Si
SLV 13	756	-19604	112596	1.51	3972498	35.281	Si
SLV 9	546	-40728	-1554485	3.14	6995556	4.5	Si
SLV 9	756	-35081	-73417	2.71	6315156	86.018	Si
SLV 7	546	-36357	2025544	2.81	6476982	3.198	Si
SLV 7	756	-25705	503998	1.98	4979592	9.88	Si
SLV 14	546	-17458	-1216632	1.35	3592264	2.953	Si
SLV 14	756	-19604	112596	1.51	3972498	35.281	Si
SLV 3	546	-59627	1687691	4.6	8594799	5.093	Si
SLV 3	756	-41182	317984	3.18	7046248	22.159	Si
SLV 10	546	-40728	-1554485	3.14	6995556	4.5	Si
SLV 10	756	-35081	-73417	2.71	6315156	86.018	Si
SLV 12	546	-22022	1422143	1.7	4384636	3.083	Si
SLV 12	756	-17665	493394	1.36	3629506	7.356	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 81	546	-57270	3970	462201		4.42	462.57	1.08	14031			3.53	Si
SLU 81	756	-44803	3970	300704		3.46	462.57	1.02	13169			3.32	Si
SLU 53	546	-51251	3603	310242		3.96	462.57	1.08	14029			3.89	Si
SLU 53	756	-40536	3603	278290		3.13	462.57	0.97	12600			3.5	Si
SLU 83	546	-58519	3929	438296		4.52	462.57	1.08	14031			3.57	Si
SLU 83	756	-45966	3929	288713		3.55	462.57	1.03	13324			3.39	Si
SLU 62	546	-52949	3688	347930		4.09	462.57	1.08	14031			3.8	Si
SLU 62	756	-41712	3688	278752		3.22	462.57	0.98	12757			3.46	Si
SLU 60	546	-51700	3730	371836		3.99	462.57	1.08	14031			3.76	Si
SLU 60	756	-40549	3729	290744		3.13	462.57	0.97	12602			3.38	Si
SLU 79	546	-57508	3776	361610		4.44	462.57	1.08	14031			3.72	Si
SLU 79	756	-45476	3775	269431		3.51	462.57	1.02	13259			3.51	Si
SLU 64	546	-49738	3597	286263		3.84	462.57	1.07	13827			3.84	Si
SLU 64	756	-39294	3597	276406		3.03	462.57	0.96	12435			3.46	Si
SLU 77	546	-58070	3803	376703		4.48	462.57	1.08	14031			3.69	Si
SLU 77	756	-45952	3802	276258		3.55	462.57	1.03	13322			3.5	Si
SLU 74	546	-56822	3844	400608		4.39	462.57	1.08	14031			3.65	Si
SLU 74	756	-44790	3844	288250		3.46	462.57	1.02	13167			3.43	Si
SLU 82	546	-58789	3701	334101		4.54	462.57	1.08	14031			3.79	Si
SLU 82	756	-45913	3847	291805		3.54	462.57	1.03	13317			3.46	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 12	546	-22022	10689	1422143		1.7	462.57	1.17	15198			1.42	Si
SLV 12	756	-17665	9958	493394		1.36	462.57	1.11	14326			1.44	Si
SLD 7	546	-37731	6984	987049		2.91	462.57	1.42	18340			2.63	Si
SLD 7	756	-28461	6624	335161		2.2	462.57	1.27	16486			2.49	Si
SLV 10	546	-40728	-7162	-1554485		3.14	462.57	1.46	18939			2.64	Si
SLV 10	756	-35081	-6280	-73417		2.71	462.57	1.38	17810			2.84	Si
SLV 7	546	-36357	12739	2025544		2.81	462.57	1.39	18065			1.42	Si
SLV 7	756	-25705	11857	503998		1.98	462.57	1.23	15934			1.34	Si
SLD 8	546	-37731	6984	987049		2.91	462.57	1.42	18340			2.63	Si
SLD 8	756	-28461	6624	335161		2.2	462.57	1.27	16486			2.49	Si
SLV 11	546	-22022	10689	1422143		1.7	462.57	1.17	15198			1.42	Si
SLV 11	756	-17665	9958	493394		1.36	462.57	1.11	14326			1.44	Si
SLV 8	546	-36357	12739	2025544		2.81	462.57	1.39	18065			1.42	Si
SLV 8	756	-25705	11857	503998		1.98	462.57	1.23	15934			1.34	Si
SLV 3	546	-59627	8883	1687691		4.6	462.57	1.63	21047			2.37	Si
SLV 3	756	-41182	8389	317984		3.18	462.57	1.47	19030			2.27	Si
SLV 4	546	-59627	8883	1687691		4.6	462.57	1.63	21047			2.37	Si
SLV 4	756	-41182	8389	317984		3.18	462.57	1.47	19030			2.27	Si
SLV 9	546	-40728	-7162	-1554485		3.14	462.57	1.46	18939			2.64	Si
SLV 9	756	-35081	-6280	-73417		2.71	462.57	1.38	17810			2.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.39	1.14	-14802	48100	187851	3.91	Si
SLV 16	14	0.39	1.14	-14802	48100	187851	3.91	Si
SLV 12	14	0.39	1.41	-18306	48100	226638	4.71	Si
SLV 11	14	0.39	1.41	-18306	48100	226638	4.71	Si
SLV 14	14	0.39	1.55	-20067	48100	245313	5.1	Si
SLV 13	14	0.39	1.55	-20067	48100	245313	5.1	Si
SLV 8	14	0.39	2.05	-26573	48100	309557	6.44	Si
SLV 7	14	0.39	2.05	-26573	48100	309557	6.44	Si
SLV 9	14	0.39	2.77	-35854	48100	388232	8.07	Si
SLV 10	14	0.39	2.77	-35854	48100	388232	8.07	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-32714	-55063	-6	0.044	39.744	0.953	67.174	1675.871	No
SLV 6	-32714	-55063	-6	0.044	39.744	0.953	67.174	1675.871	No
SLV 10	-27464	-40728	-19	0.044	34.416	0.946	68.071	1675.871	No
SLV 9	-27464	-40728	-19	0.044	34.416	0.946	68.071	1675.871	No
SLV 7	-20783	-36357	23	0.045	27.648	0.936	70.53	1675.871	No
SLV 8	-20783	-36357	23	0.045	27.648	0.936	70.53	1675.871	No
SLV 12	-15534	-22022	10	0.048	22.353	0.924	74.866	1675.871	No
SLV 11	-15534	-22022	10	0.048	22.353	0.924	74.866	1675.871	No
SLV 2	-34662	-65239	19	0.043	41.724	0.955	66.181	960.164	No
SLV 1	-34662	-65239	19	0.043	41.724	0.955	66.181	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	13.102	SLV 81	Si
V_SLV	3.317	SLV 81	Si
PF_SLV	2.953	SLV 13	Si
V_SLV	1.344	SLV 7	Si
PFFP_SLV	3.905	SLV 15	Si
R_SLV	0.04	SLV 5	No



Maschio 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2467.8	206.6	-2467.8	595.1	L4	L5	388.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 73	546	-40330	-722980	3.71	4268504	5.904	Si
SLU 73	756	-31820	-344382	2.93	3961421	11.503	Si
SLU 76	546	-41012	-765794	3.77	4279360	5.588	Si
SLU 76	756	-32576	-337271	2.99	4001554	11.865	Si
SLU 55	546	-37533	-718655	3.45	4202597	5.848	Si
SLU 55	756	-29516	-279993	2.71	3823674	13.656	Si
SLU 80	546	-41964	-751545	3.86	4291125	5.71	Si
SLU 80	756	-33676	-337254	3.1	4055458	12.025	Si
SLU 78	546	-42350	-749576	3.89	4294764	5.73	Si
SLU 78	756	-34020	-345810	3.13	4071252	11.773	Si
SLU 84	546	-42726	-718804	3.93	4297672	5.979	Si
SLU 84	756	-34161	-372334	3.14	4077571	10.951	Si
SLU 72	546	-38597	-728041	3.55	4231709	5.812	Si
SLU 72	756	-30779	-271995	2.83	3902043	14.346	Si
SLU 68	546	-37644	-742290	3.46	4205883	5.666	Si
SLU 68	756	-29679	-272011	2.73	3834170	14.096	Si
SLU 47	546	-34166	-695151	3.14	4077765	5.866	Si
SLU 47	756	-26619	-214734	2.45	3617423	16.846	Si
SLU 70	546	-38983	-726073	3.58	4241051	5.841	Si
SLU 70	756	-31123	-280551	2.86	3922213	13.98	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 9	546	-16704	-1424360	1.54	2837031	1.992	Si
SLV 9	756	-11123	-151259	1.02	1979878	13.089	Si
SLD 5	546	-28390	-885816	2.61	4336829	4.896	Si
SLD 5	756	-21635	-272161	1.99	3518566	12.928	Si
SLV 14	546	-9477	-584266	0.87	1709722	2.926	Si
SLV 14	756	-6575	50691	0.6	1213963	23.948	Si
SLV 5	546	-27215	-1516877	2.5	4204022	2.771	Si
SLV 5	756	-19634	-322791	1.8	3250486	10.07	Si
SLD 9	546	-23906	-846209	2.2	3808503	4.501	Si
SLD 9	756	-18001	-199114	1.65	3023176	15.183	Si
SLV 6	546	-27215	-1516877	2.5	4204022	2.771	Si
SLV 6	756	-19634	-322791	1.8	3250486	10.07	Si
SLD 10	546	-23906	-846209	2.2	3808503	4.501	Si
SLD 10	756	-18001	-199114	1.65	3023176	15.183	Si
SLD 6	546	-28390	-885816	2.61	4336829	4.896	Si
SLD 6	756	-21635	-272161	1.99	3518566	12.928	Si
SLV 13	546	-9477	-584266	0.87	1709722	2.926	Si
SLV 13	756	-6575	50691	0.6	1213963	23.948	Si
SLV 10	546	-16704	-1424360	1.54	2837031	1.992	Si
SLV 10	756	-11123	-151259	1.02	1979878	13.089	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	546	-40330	-4600	-722980		3.71	388.5	1.05	11421			2.48	Si
SLU 73	756	-31820	-4599	-344382		2.93	388.5	0.95	10286			2.24	Si
SLU 68	546	-37644	-4532	-742290		3.46	388.5	1.02	11063			2.44	Si
SLU 68	756	-29679	-4531	-272011		2.73	388.5	0.92	10001			2.21	Si
SLU 55	546	-37533	-4482	-718655		3.45	388.5	1.02	11048			2.46	Si
SLU 55	756	-29516	-4481	-279993		2.71	388.5	0.92	9979			2.23	Si
SLU 65	546	-36963	-4364	-699476		3.4	388.5	1.01	10972			2.51	Si
SLU 65	756	-28923	-4363	-279123		2.66	388.5	0.91	9900			2.27	Si
SLU 76	546	-41012	-4768	-765794		3.77	388.5	1.06	11512			2.41	Si
SLU 76	756	-32576	-4767	-337271		2.99	388.5	0.95	10387			2.18	Si
SLU 44	546	-33484	-4078	-652338		3.08	388.5	0.97	10508			2.58	Si
SLU 44	756	-25863	-4077	-221845		2.38	388.5	0.87	9492			2.33	Si
SLU 80	546	-41964	-4565	-751545		3.86	388.5	1.07	11639			2.55	Si
SLU 80	756	-33676	-4562	-337254		3.1	388.5	0.97	10533			2.31	Si
SLU 52	546	-36852	-4313	-675841		3.39	388.5	1.01	10957			2.54	Si
SLU 52	756	-28760	-4313	-287105		2.64	388.5	0.91	9878			2.29	Si
SLU 47	546	-34166	-4246	-695151		3.14	388.5	0.97	10599			2.5	Si
SLU 47	756	-26619	-4246	-214734		2.45	388.5	0.88	9593			2.26	Si
SLU 78	546	-42350	-4553	-749576		3.89	388.5	1.07	11690			2.57	Si
SLU 78	756	-34020	-4551	-345810		3.13	388.5	0.97	10579			2.32	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 10	546	-23906	-5323	-846209		2.2	388.5	1.27	13846			2.6	Si
SLD 10	756	-18001	-5022	-199114		1.65	388.5	1.16	12665			2.52	Si
SLV 2	546	-44511	-7462	-892656		4.09	388.5	1.63	17677			2.37	Si

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Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	756	-34943	-7071	-521081		3.21	388.5	1.48	16054			2.27	Si
SLV 6	546	-27215	-10611	-1516877		2.5	388.5	1.33	14508			1.37	Si
SLV 6	756	-19634	-9773	-322791		1.8	388.5	1.19	12992			1.33	Si
SLD 6	546	-28390	-6002	-885816		2.61	388.5	1.36	14743			2.46	Si
SLD 6	756	-21635	-5665	-272161		1.99	388.5	1.23	13392			2.36	Si
SLD 9	546	-23906	-5323	-846209		2.2	388.5	1.27	13846			2.6	Si
SLD 9	756	-18001	-5022	-199114		1.65	388.5	1.16	12665			2.52	Si
SLV 9	546	-16704	-9011	-1424360		1.82	326.94	1.2	10970			1.22	Si
SLV 9	756	-11123	-8263	-151259		1.02	388.5	1.04	11290			1.37	Si
SLV 10	546	-16704	-9011	-1424360		1.82	326.94	1.2	10970			1.22	Si
SLV 10	756	-11123	-8263	-151259		1.02	388.5	1.04	11290			1.37	Si
SLV 5	546	-27215	-10611	-1516877		2.5	388.5	1.33	14508			1.37	Si
SLV 5	756	-19634	-9773	-322791		1.8	388.5	1.19	12992			1.33	Si
SLD 5	546	-28390	-6002	-885816		2.61	388.5	1.36	14743			2.46	Si
SLD 5	756	-21635	-5665	-272161		1.99	388.5	1.23	13392			2.36	Si
SLV 1	546	-44511	-7462	-892656		4.09	388.5	1.63	17677			2.37	Si
SLV 1	756	-34943	-7071	-521081		3.21	388.5	1.48	16054			2.27	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.39	0.66	-7222	40398	95618	2.37	Si
SLV 13	14	0.39	0.66	-7222	40398	95618	2.37	Si
SLV 9	14	0.39	1.08	-11726	40398	149677	3.71	Si
SLV 10	14	0.39	1.08	-11726	40398	149677	3.71	Si
SLV 15	14	0.39	1.09	-11883	40398	151488	3.75	Si
SLV 16	14	0.39	1.09	-11883	40398	151488	3.75	Si
SLV 5	14	0.39	1.86	-20246	40398	240272	5.95	Si
SLV 6	14	0.39	1.86	-20246	40398	240272	5.95	Si
SLV 11	14	0.39	2.51	-27261	40398	303377	7.51	Si
SLV 12	14	0.39	2.51	-27261	40398	303377	7.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 7	-26193	-41600	-45	0.043	32.078	0.951	65.544	1675.871	No
SLV 8	-26193	-41600	-45	0.043	32.078	0.951	65.544	1675.871	No
SLV 12	-20644	-31090	-68	0.043	26.449	0.942	65.793	1675.871	No
SLV 11	-20644	-31090	-68	0.043	26.449	0.942	65.793	1675.871	No
SLV 5	-15943	-27215	69	0.043	21.692	0.932	67.477	1675.871	No
SLV 6	-15943	-27215	69	0.043	21.692	0.932	67.477	1675.871	No
SLV 9	-10394	-16704	46	0.046	16.114	0.914	73.64	1675.871	No
SLV 10	-10394	-16704	46	0.046	16.114	0.914	73.64	1675.871	No
SLV 1	-26005	-44511	56	0.043	31.887	0.951	64.974	960.164	No
SLV 2	-26005	-44511	56	0.043	31.887	0.951	64.974	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.588	SLU 76	Si
V_SLU	2.179	SLU 76	Si
PF_SLV	1.992	SLV 9	Si
V_SLV	1.217	SLV 9	Si
PFFP_SLV	2.367	SLV 13	Si
R_SLV	0.039	SLV 7	No

Maschio 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2271.3	595.1	-2467.8	595.1	L4	L5	196.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 31	636	-11609	-21959	2.11	845151	38.488	Si
SLU 31	816	-12149	-116059	2.21	870080	7.497	Si
SLU 60	636	-14139	-22077	2.57	950931	43.074	Si
SLU 60	816	-14140	-127275	2.57	950966	7.472	Si
SLU 61	636	-13743	-24603	2.5	936230	38.053	Si
SLU 61	816	-13862	-129340	2.52	940703	7.273	Si
SLU 52	636	-12987	-28073	2.36	906231	32.281	Si
SLU 52	816	-12991	-119261	2.36	906414	7.6	Si
SLU 82	636	-14935	-24883	2.71	978400	39.32	Si
SLU 82	816	-15361	-143075	2.79	991941	6.933	Si
SLU 81	636	-15331	-22356	2.79	991032	44.329	Si
SLU 81	816	-15639	-141010	2.84	1000374	7.094	Si
SLU 19	636	-11174	-18210	2.03	824122	45.258	Si
SLU 19	816	-11521	-112402	2.09	840965	7.482	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 39	636	-12762	-15962	2.32	896813	56.183	Si
SLU 39	816	-13298	-124073	2.42	918876	7.406	Si
SLU 73	636	-14179	-28353	2.58	952354	33.59	Si
SLU 73	816	-14490	-132997	2.63	963372	7.244	Si
SLU 40	636	-12366	-18489	2.25	879720	47.58	Si
SLU 40	816	-13020	-126137	2.37	907585	7.195	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 1	636	-11036	341891	2.01	906261	2.651	Si
SLV 1	816	-14765	-289541	2.68	1132072	3.91	Si
SLV 9	636	-3266	-102772	0.59	305325	2.971	Si
SLV 9	816	-3365	6659	0.61	314102	47.17	Si
SLV 15	636	-10158	-382936	1.85	847220	2.212	Si
SLV 15	816	-6036	122108	1.1	539820	4.421	Si
SLV 2	636	-11036	341891	2.01	906261	2.651	Si
SLV 2	816	-14765	-289541	2.68	1132072	3.91	Si
SLV 14	636	-6195	-368363	1.13	552597	1.5	Si
SLV 14	816	-2884	137867	0.52	271234	1.967	Si
SLV 3	636	-14998	327317	2.73	1144823	3.498	Si
SLV 3	816	-17917	-305300	3.26	1291201	4.229	Si
SLV 13	636	-6195	-368363	1.13	552597	1.5	Si
SLV 13	816	-2884	137867	0.52	271234	1.967	Si
SLV 10	636	-3266	-102772	0.59	305325	2.971	Si
SLV 10	816	-3365	6659	0.61	314102	47.17	Si
SLV 16	636	-10158	-382936	1.85	847220	2.212	Si
SLV 16	816	-6036	122108	1.1	539820	4.421	Si
SLV 4	636	-14998	327317	2.73	1144823	3.498	Si
SLV 4	816	-17917	-305300	3.26	1291201	4.229	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 61	636	-13743	1961	-24603		2.5	196.5	0.89	4889			2.49	Si
SLU 61	816	-13862	1962	-129340		2.52	196.5	0.89	4905			2.5	Si
SLU 40	636	-12366	1984	-18489		2.25	196.5	0.86	4705			2.37	Si
SLU 40	816	-13020	1984	-126137		2.37	196.5	0.87	4793			2.42	Si
SLU 73	636	-14179	2080	-28353		2.58	196.5	0.9	4947			2.38	Si
SLU 73	816	-14490	2080	-132997		2.63	196.5	0.91	4989			2.4	Si
SLU 39	636	-12762	1921	-15962		2.32	196.5	0.86	4758			2.48	Si
SLU 39	816	-13298	1924	-124073		2.42	196.5	0.88	4830			2.51	Si
SLU 31	636	-11609	1847	-21959		2.11	196.5	0.84	4605			2.49	Si
SLU 31	816	-12149	1846	-116059		2.21	196.5	0.85	4677			2.53	Si
SLU 52	636	-12987	1824	-28073		2.36	196.5	0.87	4788			2.62	Si
SLU 52	816	-12991	1823	-119261		2.36	196.5	0.87	4789			2.63	Si
SLU 82	636	-14935	2217	-24883		2.71	196.5	0.92	5048			2.28	Si
SLU 82	816	-15361	2218	-143075		2.79	196.5	0.93	5105			2.3	Si
SLU 81	636	-15331	2154	-22356		2.79	196.5	0.93	5101			2.37	Si
SLU 81	816	-15639	2158	-141010		2.84	196.5	0.93	5142			2.38	Si
SLU 60	636	-14139	1898	-22077		2.57	196.5	0.9	4942			2.6	Si
SLU 60	816	-14140	1901	-127275		2.57	196.5	0.9	4942			2.6	Si
SLU 84	636	-15133	2014	-31016		2.75	196.5	0.92	5074			2.52	Si
SLU 84	816	-15466	2016	-121759		2.81	196.5	0.93	5119			2.54	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	636	-11036	7039	341891		2.01	196.5	1.23	6792			0.96	No, Vu<V
SLV 1	816	-14765	6293	-289541		2.68	196.5	1.37	7538			1.2	Si
SLV 4	636	-14998	6166	327317		2.73	196.5	1.38	7585			1.23	Si
SLV 4	816	-17917	6182	-305300		3.26	196.5	1.48	8168			1.32	Si
SLV 2	636	-11036	7039	341891		2.01	196.5	1.23	6792			0.96	No, Vu<V
SLV 2	816	-14765	6293	-289541		2.68	196.5	1.37	7538			1.2	Si
SLV 6	636	-4718	4319	110304		0.86	196.5	1	5529			1.28	Si
SLV 6	816	-6930	2942	-121564		1.26	196.5	1.09	5971			2.03	Si
SLV 3	636	-14998	6166	327317		2.73	196.5	1.38	7585			1.23	Si
SLV 3	816	-17917	6182	-305300		3.26	196.5	1.48	8168			1.32	Si
SLV 15	636	-10158	4515	-382936		2	181.66	1.23	6270			1.39	Si
SLV 15	816	-6036	3764	122108		1.1	196.5	1.05	5792			1.54	Si
SLV 14	636	-6195	3642	-368363		1.9	116.38	1.21	3954			1.09	Si
SLV 14	816	-2884	3653	137867		0.68	151.36	0.97	4109			1.12	Si
SLV 5	636	-4718	4319	110304		0.86	196.5	1	5529			1.28	Si
SLV 5	816	-6930	2942	-121564		1.26	196.5	1.09	5971			2.03	Si
SLV 16	636	-10158	4515	-382936		2	181.66	1.23	6270			1.39	Si
SLV 16	816	-6036	3764	122108		1.1	196.5	1.05	5792			1.54	Si
SLV 13	636	-6195	3642	-368363		1.9	116.38	1.21	3954			1.09	Si
SLV 13	816	-2884	3653	137867		0.68	151.36	0.97	4109			1.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.39	0.69	-3799	20433	50183	2.46	Si
SLV 10	14	0.39	0.69	-3799	20433	50183	2.46	Si
SLV 14	14	0.39	0.87	-4798	20433	62383	3.05	Si
SLV 13	14	0.39	0.87	-4798	20433	62383	3.05	Si
SLV 6	14	0.39	1.16	-6389	20433	80946	3.96	Si
SLV 5	14	0.39	1.16	-6389	20433	80946	3.96	Si
SLV 16	14	0.39	1.5	-8245	20433	101269	4.96	Si
SLV 15	14	0.39	1.5	-8245	20433	101269	4.96	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.39	2.44	-13431	20433	150468	7.36	Si
SLV 1	14	0.39	2.44	-13431	20433	150468	7.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 12	-11491	-15110	-62	0.04	14.441	0.946	61.959	1675.871	No
SLV 11	-11491	-15110	-62	0.04	14.441	0.946	61.959	1675.871	No
SLV 8	-13771	-18394	-39	0.042	16.755	0.953	63.678	1675.871	No
SLV 7	-13771	-18394	-39	0.042	16.755	0.953	63.678	1675.871	No
SLV 6	-6077	-4956	63	0.041	8.972	0.92	64.146	1675.871	No
SLV 5	-6077	-4956	63	0.041	8.972	0.92	64.146	1675.871	No
SLV 10	-3798	-1672	40	0.045	6.702	0.903	72.67	1675.871	No
SLV 9	-3798	-1672	40	0.045	6.702	0.903	72.67	1675.871	No
SLV 1	-11429	-13490	54	0.041	14.379	0.946	62.899	960.164	No
SLV 2	-11429	-13490	54	0.041	14.379	0.946	62.899	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.933	SLU 82	Si
V_SLU	2.277	SLU 82	Si
PF_SLV	1.5	SLV 13	Si
V_SLV	0.965	SLV 1	No
PFFP_SLV	2.456	SLV 9	Si
R_SLV	0.037	SLV 11	No

Maschio 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-2181.3	595.1	L4	L5	219.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 29	636	-15401	-83232	2.51	1170294	14.061	Si
SLU 29	816	-12513	-19463	2.04	1030039	52.922	Si
SLU 9	636	-13394	-73437	2.18	1076712	14.662	Si
SLU 9	816	-10604	-20342	1.73	917312	45.094	Si
SLU 37	636	-17113	-80656	2.78	1236170	15.326	Si
SLU 37	816	-14527	-7269	2.36	1131695	155.691	Si
SLU 72	636	-18399	-83309	2.99	1277173	15.331	Si
SLU 72	816	-15079	-11264	2.45	1156458	102.664	Si
SLU 38	636	-16979	-84049	2.76	1231454	14.652	Si
SLU 38	816	-14416	-10281	2.35	1126564	109.572	Si
SLU 8	636	-13529	-70043	2.2	1083544	15.47	Si
SLU 8	816	-10715	-17330	1.74	924295	53.336	Si
SLU 30	636	-15266	-86626	2.48	1164567	13.444	Si
SLU 30	816	-12402	-22476	2.02	1023929	45.557	Si
SLU 71	636	-18533	-79915	3.02	1281051	16.03	Si
SLU 71	816	-15190	-8252	2.47	1161267	140.729	Si
SLU 28	636	-15516	-79352	2.52	1175123	14.809	Si
SLU 28	816	-12767	-17075	2.08	1043877	61.133	Si
SLU 27	636	-15651	-75959	2.55	1180702	15.544	Si
SLU 27	816	-12878	-14063	2.1	1049810	74.651	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 15	636	-15499	-429962	2.52	1349962	3.14	Si
SLV 15	816	-19206	338891	3.12	1568758	4.629	Si
SLV 13	636	-11870	-461035	1.93	1096834	2.379	Si
SLV 13	816	-17669	285474	2.87	1482910	5.195	Si
SLV 16	636	-15499	-429962	2.52	1349962	3.14	Si
SLV 16	816	-19206	338891	3.12	1568758	4.629	Si
SLV 2	636	-11711	415866	1.91	1084817	2.609	Si
SLV 2	816	-4927	-263277	0.8	505249	1.919	Si
SLV 3	636	-15340	446939	2.5	1339638	2.997	Si
SLV 3	816	-6464	-209860	1.05	648336	3.089	Si
SLV 9	636	-7580	-190371	1.23	747976	3.929	Si
SLV 9	816	-11416	31091	1.86	1062455	34.172	Si
SLV 10	636	-7580	-190371	1.23	747976	3.929	Si
SLV 10	816	-11416	31091	1.86	1062455	34.172	Si
SLV 14	636	-11870	-461035	1.93	1096834	2.379	Si
SLV 14	816	-17669	285474	2.87	1482910	5.195	Si
SLV 4	636	-15340	446939	2.5	1339638	2.997	Si
SLV 4	816	-6464	-209860	1.05	648336	3.089	Si
SLV 1	636	-11711	415866	1.91	1084817	2.609	Si
SLV 1	816	-4927	-263277	0.8	505249	1.919	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 40	636	-16765	-888	-16917		2.73	219.5	0.92	5650			6.36	Si
SLU 40	816	-15541	-888	47207		2.53	219.5	0.89	5487			6.18	Si
SLU 60	636	-18159	-976	2983		2.95	219.5	0.95	5836			5.98	Si
SLU 60	816	-16531	-975	63564		2.69	219.5	0.91	5619			5.76	Si
SLU 82	636	-19897	-1027	-13600		3.24	219.5	0.99	6067			5.91	Si
SLU 82	816	-18218	-1026	58418		2.96	219.5	0.95	5844			5.7	Si
SLU 18	636	-15027	-838	-335		2.44	219.5	0.88	5418			6.47	Si
SLU 18	816	-13854	-837	52353		2.25	219.5	0.86	5262			6.28	Si
SLU 61	636	-18024	-993	-411		2.93	219.5	0.95	5818			5.86	Si
SLU 61	816	-16421	-992	60552		2.67	219.5	0.91	5604			5.65	Si
SLU 19	636	-14892	-855	-3728		2.42	219.5	0.88	5400			6.32	Si
SLU 19	816	-13744	-854	49340		2.24	219.5	0.85	5247			6.14	Si
SLU 52	636	-17201	-902	-3777		2.8	219.5	0.93	5708			6.33	Si
SLU 52	816	-15484	-902	53317		2.52	219.5	0.89	5479			6.08	Si
SLU 39	636	-16899	-872	-13524		2.75	219.5	0.92	5668			6.5	Si
SLU 39	816	-15652	-871	50219		2.55	219.5	0.9	5501			6.32	Si
SLU 81	636	-20031	-1010	-10207		3.26	219.5	0.99	6085			6.03	Si
SLU 81	816	-18329	-1009	61431		2.98	219.5	0.95	5858			5.81	Si
SLU 73	636	-19073	-936	-16967		3.1	219.5	0.97	5958			6.37	Si
SLU 73	816	-17281	-935	51184		2.81	219.5	0.93	5719			6.11	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 4	636	-15340	8387	446939		2.5	219.5	1.33	8190			0.98	No, Vu<V
SLV 4	816	-6464	7894	-209860		1.05	219.5	1.04	6414			0.81	No, Vu<V
SLV 14	636	-11870	-9540	-461035		1.99	212.73	1.23	7338			0.77	No, Vu<V
SLV 14	816	-17669	-9046	285474		2.87	219.5	1.41	8655			0.96	No, Vu<V
SLV 1	636	-11711	6779	415866		1.91	219.5	1.21	7464			1.1	Si
SLV 1	816	-4927	5909	-263277		1.04	168.94	1.04	4927			0.83	No, Vu<V
SLV 10	636	-7580	-5704	-190371		1.23	219.5	1.08	6638			1.16	Si
SLV 10	816	-11416	-6128	31091		1.86	219.5	1.2	7405			1.21	Si
SLV 16	636	-15499	-7932	-429962		2.52	219.5	1.34	8222			1.04	Si
SLV 16	816	-19206	-7060	338891		3.12	219.5	1.46	8963			1.27	Si
SLV 2	636	-11711	6779	415866		1.91	219.5	1.21	7464			1.1	Si
SLV 2	816	-4927	5909	-263277		1.04	168.94	1.04	4927			0.83	No, Vu<V
SLV 9	636	-7580	-5704	-190371		1.23	219.5	1.08	6638			1.16	Si
SLV 9	816	-11416	-6128	31091		1.86	219.5	1.2	7405			1.21	Si
SLV 15	636	-15499	-7932	-429962		2.52	219.5	1.34	8222			1.04	Si
SLV 15	816	-19206	-7060	338891		3.12	219.5	1.46	8963			1.27	Si
SLV 3	636	-15340	8387	446939		2.5	219.5	1.33	8190			0.98	No, Vu<V
SLV 3	816	-6464	7894	-209860		1.05	219.5	1.04	6414			0.81	No, Vu<V
SLV 13	636	-11870	-9540	-461035		1.99	212.73	1.23	7338			0.77	No, Vu<V
SLV 13	816	-17669	-9046	285474		2.87	219.5	1.41	8655			0.96	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.39	1.13	-6973	22825	88556	3.88	Si
SLV 6	14	0.39	1.13	-6973	22825	88556	3.88	Si
SLV 2	14	0.39	1.31	-8081	22825	100963	4.42	Si
SLV 1	14	0.39	1.31	-8081	22825	100963	4.42	Si
SLV 10	14	0.39	1.48	-9085	22825	111801	4.9	Si
SLV 9	14	0.39	1.48	-9085	22825	111801	4.9	Si
SLV 4	14	0.39	1.81	-11143	22825	132858	5.82	Si
SLV 3	14	0.39	1.81	-11143	22825	132858	5.82	Si
SLV 13	14	0.39	2.46	-15121	22825	169072	7.41	Si
SLV 14	14	0.39	2.46	-15121	22825	169072	7.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-7619	-6119	-246	0.022	10.856	0.925	34.766	1675.871	No
SLV 6	-7619	-6119	-246	0.022	10.856	0.925	34.766	1675.871	No
SLV 8	-8147	-18296	220	0.026	11.387	0.928	40.145	1675.871	No
SLV 7	-8147	-18296	220	0.026	11.387	0.928	40.145	1675.871	No
SLV 12	-11900	-20014	256	0.027	15.183	0.943	41.411	1675.871	No
SLV 11	-11900	-20014	256	0.027	15.183	0.943	41.411	1675.871	No
SLV 10	-11373	-7838	-210	0.03	14.648	0.941	46.003	1675.871	No
SLV 9	-11373	-7838	-210	0.03	14.648	0.941	46.003	1675.871	No
SLV 1	-3425	-8377	-125	0.031	6.688	0.896	50.174	960.164	No
SLV 2	-3425	-8377	-125	0.031	6.688	0.896	50.174	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	13.444	SLU 30	Si
V_SLV	5.649	SLU 61	Si
PF_SLV	1.919	SLV 1	Si
V_SLV	0.769	SLV 13	No
PFFP_SLV	3.88	SLV 5	Si
R_SLV	0.021	SLV 5	No



Maschio 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2249.3	-335.9	-2467.8	-335.9	L4	L5	218.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 26	636	-13086	239935	2.14	1054235	4.394	Si
SLU 26	816	-14438	-168156	2.36	1120398	6.663	Si
SLU 65	636	-15440	261127	2.52	1164209	4.458	Si
SLU 65	816	-16662	-198881	2.72	1211741	6.093	Si
SLU 10	636	-12339	228883	2.02	1014257	4.431	Si
SLU 10	816	-13704	-170474	2.24	1085470	6.367	Si
SLU 34	636	-14390	263501	2.35	1118146	4.243	Si
SLU 34	816	-16286	-199690	2.66	1197810	5.998	Si
SLU 68	636	-15973	267484	2.61	1185756	4.433	Si
SLU 68	816	-17242	-198851	2.82	1231973	6.195	Si
SLU 73	636	-16744	284692	2.74	1214663	4.267	Si
SLU 73	816	-18510	-230414	3.03	1271137	5.517	Si
SLU 13	636	-12872	235240	2.1	1043058	4.434	Si
SLU 13	816	-14283	-170444	2.33	1113216	6.531	Si
SLU 31	636	-13856	257144	2.26	1092894	4.25	Si
SLU 31	816	-15707	-199719	2.57	1175151	5.884	Si
SLU 76	636	-17277	291050	2.82	1233160	4.237	Si
SLU 76	816	-19089	-230384	3.12	1286676	5.585	Si
SLU 23	636	-12552	233578	2.05	1025934	4.392	Si
SLU 23	816	-13859	-168186	2.27	1093046	6.499	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	636	-7212	-259260	1.18	711859	2.746	Si
SLV 15	816	-4441	275164	0.73	456353	1.658	Si
SLV 1	636	-17119	537131	2.8	1441954	2.685	Si
SLV 1	816	-21026	-581373	3.44	1650995	2.84	Si
SLV 13	636	-11739	-266943	1.92	1081112	4.05	Si
SLV 13	816	-7985	259725	1.31	779210	3	Si
SLV 4	636	-12591	544813	2.06	1143896	2.1	Si
SLV 4	816	-17482	-565934	2.86	1463238	2.586	Si
SLV 2	636	-17119	537131	2.8	1441954	2.685	Si
SLV 2	816	-21026	-581373	3.44	1650995	2.84	Si
SLV 3	636	-12591	544813	2.06	1143896	2.1	Si
SLV 3	816	-17482	-565934	2.86	1463238	2.586	Si
SLV 14	636	-11739	-266943	1.92	1081112	4.05	Si
SLV 14	816	-7985	259725	1.31	779210	3	Si
SLV 8	636	-5426	272350	0.89	549767	2.019	Si
SLV 8	816	-8782	-253537	1.44	846745	3.34	Si
SLV 16	636	-7212	-259260	1.18	711859	2.746	Si
SLV 16	816	-4441	275164	0.73	456353	1.658	Si
SLV 7	636	-5426	272350	0.89	549767	2.019	Si
SLV 7	816	-8782	-253537	1.44	846745	3.34	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	636	-18122	5448	266151	2.96	218.5	218.5	0.95	5815			1.07	Si
SLU 78	816	-19797	5421	-233164	3.24	218.5	218.5	0.99	6039			1.11	Si
SLU 40	636	-14544	4900	234768	2.38	218.5	218.5	0.87	5338			1.09	Si
SLU 40	816	-16410	4873	-211953	2.68	218.5	218.5	0.91	5587			1.15	Si
SLU 34	636	-14390	5022	263501	2.35	218.5	218.5	0.87	5317			1.06	Si
SLU 34	816	-16286	4973	-199690	2.66	218.5	218.5	0.91	5570			1.12	Si
SLU 82	636	-17432	5543	262316	2.85	218.5	218.5	0.94	5723			1.03	Si
SLU 82	816	-19213	5516	-242648	3.14	218.5	218.5	0.97	5961			1.08	Si
SLU 75	636	-17588	5385	259793	2.87	218.5	218.5	0.94	5744			1.07	Si
SLU 75	816	-19218	5358	-233194	3.14	218.5	218.5	0.97	5961			1.11	Si
SLU 73	636	-16744	5602	284692	2.74	218.5	218.5	0.92	5631			1.01	Si
SLU 73	816	-18510	5554	-230414	3.03	218.5	218.5	0.96	5867			1.06	Si
SLU 31	636	-13856	4959	257144	2.26	218.5	218.5	0.86	5246			1.06	Si
SLU 31	816	-15707	4910	-199719	2.57	218.5	218.5	0.9	5493			1.12	Si
SLU 80	636	-17940	5396	264932	2.93	218.5	218.5	0.95	5791			1.07	Si
SLU 80	816	-19580	5369	-229074	3.2	218.5	218.5	0.98	6009			1.12	Si
SLU 84	636	-17966	5606	268674	2.94	218.5	218.5	0.95	5794			1.03	Si
SLU 84	816	-19792	5579	-242618	3.24	218.5	218.5	0.99	6038			1.08	Si
SLU 76	636	-17277	5665	291050	2.82	218.5	218.5	0.93	5702			1.01	Si
SLU 76	816	-19089	5617	-230384	3.12	218.5	218.5	0.97	5944			1.06	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 4	636	-12352	6235	311205	2.02	218.5	218.5	1.24	7569			1.21	Si
SLD 4	816	-14774	6168	-329490	2.41	218.5	218.5	1.32	8053			1.31	Si
SLV 2	636	-17119	11393	537131	2.8	218.5	218.5	1.39	8522			0.75	No, Vu<Vc



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	816	-21026	10309	-581373		3.44	218.5	1.52	9304			0.9	No, Vu<V
SLV 1	636	-17119	11393	537131		2.8	218.5	1.39	8522			0.75	No, Vu<V
SLV 1	816	-21026	10309	-581373		3.44	218.5	1.52	9304			0.9	No, Vu<V
SLV 3	636	-12591	10243	544813		2.27	197.94	1.29	7137			0.7	No, Vu<V
SLV 3	816	-17482	10101	-565934		2.86	218.5	1.4	8595			0.85	No, Vu<V
SLV 4	636	-12591	10243	544813		2.27	197.94	1.29	7137			0.7	No, Vu<V
SLV 4	816	-17482	10101	-565934		2.86	218.5	1.4	8595			0.85	No, Vu<V
SLV 15	636	-7212	-4941	-259260		1.18	218.5	1.07	6541			1.32	Si
SLV 15	816	-4441	-3852	275164		1.12	141.87	1.06	4198			1.09	Si
SLD 1	636	-14239	6695	309875		2.33	218.5	1.3	7946			1.19	Si
SLD 1	816	-16265	6248	-335678		2.66	218.5	1.37	8351			1.34	Si
SLV 16	636	-7212	-4941	-259260		1.18	218.5	1.07	6541			1.32	Si
SLV 16	816	-4441	-3852	275164		1.12	141.87	1.06	4198			1.09	Si
SLD 3	636	-12352	6235	311205		2.02	218.5	1.24	7569			1.21	Si
SLD 3	816	-14774	6168	-329490		2.41	218.5	1.32	8053			1.31	Si
SLD 2	636	-14239	6695	309875		2.33	218.5	1.3	7946			1.19	Si
SLD 2	816	-16265	6248	-335678		2.66	218.5	1.37	8351			1.34	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.39	0.79	-4818	22721	63106	2.78	Si
SLV 12	14	0.39	0.79	-4818	22721	63106	2.78	Si
SLV 16	14	0.39	0.97	-5915	22721	76255	3.36	Si
SLV 15	14	0.39	0.97	-5915	22721	76255	3.36	Si
SLV 8	14	0.39	1.28	-7825	22721	98084	4.32	Si
SLV 7	14	0.39	1.28	-7825	22721	98084	4.32	Si
SLV 14	14	0.39	1.61	-9862	22721	119851	5.28	Si
SLV 13	14	0.39	1.61	-9862	22721	119851	5.28	Si
SLV 4	14	0.39	2.61	-15938	22721	175559	7.73	Si
SLV 3	14	0.39	2.61	-15938	22721	175559	7.73	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-7213	-6847	-126	0.034	10.434	0.923	54.184	1675.871	No
SLV 7	-7213	-6847	-126	0.034	10.434	0.923	54.184	1675.871	No
SLV 9	-13573	-18077	124	0.037	16.865	0.948	56.314	1675.871	No
SLV 10	-13573	-18077	124	0.037	16.865	0.948	56.314	1675.871	No
SLV 5	-15951	-21519	86	0.039	19.28	0.954	59.832	1675.871	No
SLV 6	-15951	-21519	86	0.039	19.28	0.954	59.832	1675.871	No
SLV 12	-4835	-3405	-88	0.038	8.058	0.907	61.107	1675.871	No
SLV 11	-4835	-3405	-88	0.038	8.058	0.907	61.107	1675.871	No
SLV 4	-13046	-15998	-96	0.038	16.33	0.947	59.087	960.164	No
SLV 3	-13046	-15998	-96	0.038	16.33	0.947	59.087	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.237	SLU 76	Si
V_SLU	1.005	SLU 73	Si
PF_SLV	1.658	SLV 15	Si
V_SLV	0.697	SLV 3	No
PFFP_SLV	2.777	SLV 11	Si
R_SLV	0.032	SLV 7	No

Maschio 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1936.8	-335.9	-2159.3	-335.9	L4	L5	222.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 83	746	-17683	-147463	2.84	1281769	8.692	Si
SLU 83	826	-15959	-189910	2.56	1217117	6.409	Si
SLU 76	746	-15618	-156688	2.51	1202793	7.676	Si
SLU 76	826	-14073	-179630	2.26	1131445	6.299	Si
SLU 78	746	-16632	-146676	2.67	1243885	8.481	Si
SLU 78	826	-15012	-185355	2.41	1176041	6.345	Si
SLU 65	746	-13745	-145557	2.21	1114960	7.66	Si
SLU 65	826	-12256	-160461	1.97	1034193	6.445	Si
SLU 80	746	-16345	-143655	2.62	1232731	8.581	Si
SLU 80	826	-14731	-181647	2.36	1163098	6.403	Si
SLU 81	746	-17493	-153809	2.81	1275292	8.291	Si
SLU 81	826	-15776	-188893	2.53	1209473	6.403	Si
SLU 75	746	-16442	-153023	2.64	1236534	8.081	Si
SLU 75	826	-14828	-184338	2.38	1167635	6.334	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 73	746	-15429	-163035	2.48	1194599	7.327	Si
SLU 73	826	-13889	-178613	2.23	1122284	6.283	Si
SLU 82	746	-16687	-163839	2.68	1246021	7.605	Si
SLU 82	826	-15064	-187392	2.42	1178404	6.288	Si
SLU 84	746	-16877	-157492	2.71	1253168	7.957	Si
SLU 84	826	-15247	-188409	2.45	1186620	6.298	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 4	746	-10406	-33369	1.67	999420	29.95	Si
SLD 4	826	-10080	-279818	1.62	972899	3.477	Si
SLV 2	746	-11521	76734	1.85	1087751	14.176	Si
SLV 2	826	-12040	-510445	1.93	1127631	2.209	Si
SLV 3	746	-8552	59509	1.37	844516	14.191	Si
SLV 3	826	-9512	-485289	1.53	926006	1.908	Si
SLV 16	746	-11966	-280547	1.92	1121951	3.999	Si
SLV 16	826	-8906	256997	1.43	874833	3.404	Si
SLV 8	746	-6282	-79607	1.01	641245	8.055	Si
SLV 8	826	-6350	-196140	1.02	647545	3.301	Si
SLV 15	746	-11966	-280547	1.92	1121951	3.999	Si
SLV 15	826	-8906	256997	1.43	874833	3.404	Si
SLV 4	746	-8552	59509	1.37	844516	14.191	Si
SLV 4	826	-9512	-485289	1.53	926006	1.908	Si
SLV 1	746	-11521	76734	1.85	1087751	14.176	Si
SLV 1	826	-12040	-510445	1.93	1127631	2.209	Si
SLD 3	746	-10406	-33369	1.67	999420	29.95	Si
SLD 3	826	-10080	-279818	1.62	972899	3.477	Si
SLV 7	746	-6282	-79607	1.01	641245	8.055	Si
SLV 7	826	-6350	-196140	1.02	647545	3.301	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	746	-16687	-283	-163839		2.68	222.5	0.91	5686			20.08	Si
SLU 82	826	-15064	-644	-187392		2.42	222.5	0.88	5470			8.49	Si
SLU 19	746	-12415	-268	-129057		1.99	222.5	0.82	5116			19.13	Si
SLU 19	826	-11194	-533	-141007		1.8	222.5	0.8	4954			9.29	Si
SLU 52	746	-13865	-323	-153045		2.23	222.5	0.85	5310			16.46	Si
SLU 52	826	-12370	-616	-161246		1.99	222.5	0.82	5110			8.29	Si
SLU 40	746	-13979	-210	-139047		2.24	222.5	0.85	5325			25.4	Si
SLU 40	826	-12713	-543	-158374		2.04	222.5	0.83	5156			9.5	Si
SLU 44	746	-12181	-266	-135567		1.96	222.5	0.82	5085			19.09	Si
SLU 44	826	-10736	-514	-143094		1.72	222.5	0.79	4893			9.51	Si
SLU 60	746	-15930	-333	-143819		2.56	222.5	0.9	5585			16.79	Si
SLU 60	826	-14256	-596	-171526		2.29	222.5	0.86	5362			9	Si
SLU 73	746	-15429	-265	-163035		2.48	222.5	0.89	5518			20.85	Si
SLU 73	826	-13889	-626	-178613		2.23	222.5	0.85	5313			8.49	Si
SLU 61	746	-15124	-341	-153849		2.43	222.5	0.88	5478			16.06	Si
SLU 61	826	-13544	-634	-170026		2.17	222.5	0.85	5267			8.3	Si
SLU 81	746	-17493	-275	-153809		2.81	222.5	0.93	5794			21.08	Si
SLU 81	826	-15776	-606	-188893		2.53	222.5	0.89	5565			9.19	Si
SLU 10	746	-11156	-249	-128252		1.79	222.5	0.79	4949			19.87	Si
SLU 10	826	-10019	-515	-132227		1.61	222.5	0.77	4797			9.31	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	746	-14935	-9470	-263322		2.4	222.5	1.31	8179			0.86	No, Vu<V
SLV 14	826	-11434	-8154	231841		1.84	222.5	1.2	7478			0.92	No, Vu<V
SLV 13	746	-14935	-9470	-263322		2.4	222.5	1.31	8179			0.86	No, Vu<V
SLV 13	826	-11434	-8154	231841		1.84	222.5	1.2	7478			0.92	No, Vu<V
SLV 2	746	-11521	10305	76734		1.85	222.5	1.2	7496			0.73	No, Vu<V
SLV 2	826	-12040	6985	-510445		2.08	206.57	1.25	7228			1.03	Si
SLV 11	746	-7307	-5131	-181623		1.17	222.5	1.07	6653			1.3	Si
SLV 11	826	-6168	-1974	26545		0.99	222.5	1.03	6425			3.26	Si
SLV 1	746	-11521	10305	76734		1.85	222.5	1.2	7496			0.73	No, Vu<V
SLV 1	826	-12040	6985	-510445		2.08	206.57	1.25	7228			1.03	Si
SLV 4	746	-8552	9113	59509		1.37	222.5	1.11	6902			0.76	No, Vu<V
SLV 4	826	-9512	7392	-485289		1.88	180.7	1.21	6119			0.83	No, Vu<V
SLV 16	746	-11966	-10662	-280547		1.92	222.5	1.22	7585			0.71	No, Vu<V
SLV 16	826	-8906	-7747	256997		1.43	222.5	1.12	6973			0.9	No, Vu<V
SLV 3	746	-8552	9113	59509		1.37	222.5	1.11	6902			0.76	No, Vu<V
SLV 3	826	-9512	7392	-485289		1.88	180.7	1.21	6119			0.83	No, Vu<V
SLV 15	746	-11966	-10662	-280547		1.92	222.5	1.22	7585			0.71	No, Vu<V
SLV 15	826	-8906	-7747	256997		1.43	222.5	1.12	6973			0.9	No, Vu<V
SLV 12	746	-7307	-5131	-181623		1.17	222.5	1.07	6653			1.3	Si
SLV 12	826	-6168	-1974	26545		0.99	222.5	1.03	6425			3.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.39	1.01	-6265	23137	80494	3.48	Si
SLV 8	14	0.39	1.01	-6265	23137	80494	3.48	Si
SLV 11	14	0.39	1.02	-6339	23137	81358	3.52	Si
SLV 12	14	0.39	1.02	-6339	23137	81358	3.52	Si
SLV 4	14	0.39	1.53	-9560	23137	117034	5.06	Si
SLV 3	14	0.39	1.53	-9560	23137	117034	5.06	Si
SLV 15	14	0.39	1.57	-9807	23137	119606	5.17	Si
SLV 16	14	0.39	1.57	-9807	23137	119606	5.17	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.39	2	-12458	23137	145872	6.3	Si
SLV 1	14	0.39	2	-12458	23137	145872	6.3	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 $W_a = 0.05 T_a = 0.0739$

Comb.	N top	N base	V orto	σ_0	M*	e*	a0*	aLim	Verifica
SLV 11	-5784	-3646	-115	0.035	9.061	0.913	55.826	1675.871	No
SLV 12	-5784	-3646	-115	0.035	9.061	0.913	55.826	1675.871	No
SLV 5	-12181	-15941	117	0.037	15.51	0.943	57.034	1675.871	No
SLV 6	-12181	-15941	117	0.037	15.51	0.943	57.034	1675.871	No
SLV 10	-12192	-15239	87	0.039	15.521	0.943	60.361	1675.871	No
SLV 9	-12192	-15239	87	0.039	15.521	0.943	60.361	1675.871	No
SLV 7	-5774	-4348	-84	0.039	9.05	0.913	62.102	1675.871	No
SLV 8	-5774	-4348	-84	0.039	9.05	0.913	62.102	1675.871	No
SLV 1	-9926	-12703	83	0.039	13.228	0.935	61.278	960.164	No
SLV 2	-9926	-12703	83	0.039	13.228	0.935	61.278	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.283	SLU 73	Si
V_SLU	8.291	SLU 52	Si
PF_SLV	1.908	SLV 3	Si
V_SLV	0.711	SLV 15	No
PFFP_SLV	3.479	SLV 7	Si
R_SLV	0.033	SLV 11	No

Maschio 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1826.3	-335.9	-1886.8	-335.9	L4	L5	60.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 31	746	-4414	1308	2.61	90810	69.401	Si
SLU 31	826	-3938	31296	2.32	85133	2.72	Si
SLU 82	746	-5757	3529	3.4	101493	28.757	Si
SLU 82	826	-5142	38206	3.04	97587	2.554	Si
SLU 81	746	-5995	5438	3.54	102561	18.86	Si
SLU 81	826	-5374	37296	3.17	99254	2.661	Si
SLU 65	746	-4777	2312	2.82	94475	40.86	Si
SLU 65	826	-4156	32779	2.45	87851	2.68	Si
SLU 61	746	-5240	2917	3.09	98317	33.7	Si
SLU 61	826	-4641	35155	2.74	93171	2.65	Si
SLU 84	746	-5868	4922	3.46	102021	20.727	Si
SLU 84	826	-5226	36513	3.09	98216	2.69	Si
SLU 75	746	-5703	4861	3.37	101217	20.822	Si
SLU 75	826	-5054	35638	2.98	96889	2.719	Si
SLU 73	746	-5352	2274	3.16	99104	43.591	Si
SLU 73	826	-4738	37002	2.8	94116	2.544	Si
SLU 76	746	-5463	3666	3.22	99828	27.229	Si
SLU 76	826	-4822	35309	2.85	94893	2.687	Si
SLU 52	746	-4835	1662	2.85	95010	57.18	Si
SLU 52	826	-4237	33952	2.5	88811	2.616	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 16	746	-868	-74873	0	0	0	No, e>/2
SLV 16	826	-3501	111231	0	0	0	No, e>/2
SLV 2	746	-7192	83033	4.25	141965	1.71	Si
SLV 2	826	-3599	-62061	2.12	89938	1.449	Si
SLD 14	746	-2975	-26997	1.76	77056	2.854	Si
SLD 14	826	-3325	58125	1.96	84417	1.452	Si
SLV 14	746	-1575	-68764	0	0	0	No, e>/2
SLV 14	826	-3009	102779	0	0	0	No, e>/2
SLV 1	746	-7192	83033	4.25	141965	1.71	Si
SLV 1	826	-3599	-62061	2.12	89938	1.449	Si
SLD 16	746	-2689	-29673	1.59	70766	2.385	Si
SLD 16	826	-3519	61421	2.08	88346	1.438	Si
SLD 13	746	-2975	-26997	1.76	77056	2.854	Si
SLD 13	826	-3325	58125	1.96	84417	1.452	Si
SLD 15	746	-2689	-29673	1.59	70766	2.385	Si
SLD 15	826	-3519	61421	2.08	88346	1.438	Si
SLV 15	746	-868	-74873	0	0	0	No, e>/2
SLV 15	826	-3501	111231	0	0	0	No, e>/2
SLV 13	746	-1575	-68764	0	0	0	No, e>/2
SLV 13	826	-3009	102779	0	0	0	No, e>/2



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 73	746	-5352	-289	2274		3.16	60.5	0.98	1655			5.73	Si
SLU 73	826	-4738	-166	37002		2.8	60.5	0.93	1573			9.45	Si
SLU 65	746	-4777	-254	2312		2.82	60.5	0.93	1578			6.21	Si
SLU 65	826	-4156	-118	32779		2.45	60.5	0.88	1495			12.68	Si
SLU 82	746	-5757	-260	3529		3.4	60.5	1.01	1709			6.57	Si
SLU 82	826	-5142	-194	38206		3.04	60.5	0.96	1627			8.4	Si
SLU 52	746	-4835	-280	1662		2.85	60.5	0.94	1586			5.66	Si
SLU 52	826	-4237	-140	33952		2.5	60.5	0.89	1506			10.79	Si
SLU 61	746	-5240	-252	2917		3.09	60.5	0.97	1640			6.52	Si
SLU 61	826	-4641	-167	35155		2.74	60.5	0.92	1560			9.36	Si
SLU 2	746	-3321	-216	735		1.96	60.5	0.82	1384			6.4	Si
SLU 2	826	-2854	-73	24023		1.68	60.5	0.78	1322			17.99	Si
SLU 23	746	-3838	-225	1347		2.27	60.5	0.86	1453			6.46	Si
SLU 23	826	-3356	-100	27073		1.98	60.5	0.82	1389			13.84	Si
SLU 44	746	-4260	-246	1700		2.51	60.5	0.89	1509			6.14	Si
SLU 44	826	-3654	-91	29729		2.16	60.5	0.84	1428			15.68	Si
SLU 31	746	-4414	-259	1308		2.61	60.5	0.9	1530			5.9	Si
SLU 31	826	-3938	-149	31296		2.32	60.5	0.87	1466			9.86	Si
SLU 10	746	-3897	-251	697		2.3	60.5	0.86	1461			5.82	Si
SLU 10	826	-3437	-122	28246		2.03	60.5	0.83	1399			11.48	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 10	746	-4366	-1876	-8506		2.58	60.5	1.35	2285			1.22	Si
SLV 10	826	-2642	369	35224		1.86	50.76	1.21	1713			4.64	Si
SLV 15	746	-868	-2818	-74873		0	0	0.83	0			0	No, Vu<V
SLV 15	826	-3501	-881	111231		0	0	0.83	0			0	No, Vu<V
SLV 1	746	-7192	2578	83033		4.58	56.11	1.63	2553			0.99	No, Vu<V
SLV 1	826	-3599	659	-62061		3.29	39.02	1.49	1630			2.47	Si
SLV 2	746	-7192	2578	83033		4.58	56.11	1.63	2553			0.99	No, Vu<V
SLV 2	826	-3599	659	-62061		3.29	39.02	1.49	1630			2.47	Si
SLV 16	746	-868	-2818	-74873		0	0	0.83	0			0	No, Vu<V
SLV 16	826	-3501	-881	111231		0	0	0.83	0			0	No, Vu<V
SLV 3	746	-6485	3099	76924		4.2	55.16	1.63	2510			0.81	No, Vu<V
SLV 3	826	-4090	268	-53609		2.84	51.43	1.4	2018			7.53	Si
SLV 9	746	-4366	-1876	-8506		2.58	60.5	1.35	2285			1.22	Si
SLV 9	826	-2642	369	35224		1.86	50.76	1.21	1713			4.64	Si
SLV 14	746	-1575	-3339	-68764		0	0	0.83	0			0	No, Vu<V
SLV 14	826	-3009	-490	102779		0	0	0.83	0			0	No, Vu<V
SLV 13	746	-1575	-3339	-68764		0	0	0.83	0			0	No, Vu<V
SLV 13	826	-3009	-490	102779		0	0	0.83	0			0	No, Vu<V
SLV 4	746	-6485	3099	76924		4.2	55.16	1.63	2510			0.81	No, Vu<V
SLV 4	826	-4090	268	-53609		2.84	51.43	1.4	2018			7.53	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.39	1.07	-1811	6291	23140	3.68	Si
SLV 12	14	0.39	1.07	-1811	6291	23140	3.68	Si
SLV 16	14	0.39	1.12	-1895	6291	24103	3.83	Si
SLV 15	14	0.39	1.12	-1895	6291	24103	3.83	Si
SLV 8	14	0.39	1.52	-2571	6291	31518	5.01	Si
SLV 7	14	0.39	1.52	-2571	6291	31518	5.01	Si
SLV 14	14	0.39	1.61	-2726	6291	33139	5.27	Si
SLV 13	14	0.39	1.61	-2726	6291	33139	5.27	Si
SLV 4	14	0.39	2.61	-4426	6291	48711	7.74	Si
SLV 3	14	0.39	2.61	-4426	6291	48711	7.74	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-2310	-1450	-10	0.044	3.204	0.929	68.602	1675.871	No
SLV 7	-2310	-1450	-10	0.044	3.204	0.929	68.602	1675.871	No
SLV 12	-1973	-1554	-7	0.045	2.865	0.922	71.597	1675.871	No
SLV 11	-1973	-1554	-7	0.045	2.865	0.922	71.597	1675.871	No
SLV 5	-1928	-4091	5	0.046	2.819	0.922	73.078	1675.871	No
SLV 6	-1928	-4091	5	0.046	2.819	0.922	73.078	1675.871	No
SLV 9	-1590	-4195	8	0.046	2.481	0.914	73.384	1675.871	No
SLV 10	-1590	-4195	8	0.046	2.481	0.914	73.384	1675.871	No
SLV 3	-2570	-2252	-8	0.044	3.466	0.933	68.83	960.164	No
SLV 4	-2570	-2252	-8	0.044	3.466	0.933	68.83	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.544	SLU 73	Si
V_SLU	5.657	SLU 52	Si
PF_SLV	0	SLV 13	No
V_SLV	0	SLV 13	No
PFFP_SLV	3.678	SLV 11	Si
R_SLV	0.041	SLV 7	No



Maschio 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s, sx	a.s, dx
-1961.8	104.6	-1961.8	581.1	L4	L5	476.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 8	546	-25219	-70363	3.78	3220177	45.765	Si
SLU 8	898	-21210	490788	3.18	3081093	6.278	Si
SLU 9	546	-25153	-72626	3.77	3219015	44.323	Si
SLU 9	898	-21198	476504	3.18	3080456	6.465	Si
SLU 30	546	-29086	-103901	4.36	3220814	30.999	Si
SLU 30	898	-24426	525052	3.66	3203833	6.102	Si
SLU 27	546	-29401	-112789	4.41	3215089	28.505	Si
SLU 27	898	-24305	476498	3.64	3200872	6.717	Si
SLU 71	546	-34370	-120735	5.15	3009667	24.928	Si
SLU 71	898	-27739	513081	4.16	3235470	6.306	Si
SLU 29	546	-29153	-101638	4.37	3219673	31.678	Si
SLU 29	898	-24438	539336	3.66	3204125	5.941	Si
SLU 28	546	-29334	-115052	4.4	3216375	27.956	Si
SLU 28	898	-24293	462214	3.64	3200566	6.924	Si
SLU 37	546	-32562	-148702	4.88	3109472	20.911	Si
SLU 37	898	-26280	454504	3.94	3233397	7.114	Si
SLU 50	546	-30437	-89461	4.56	3190126	35.659	Si
SLU 50	898	-24511	464533	3.67	3205863	6.901	Si
SLU 72	546	-34303	-122998	5.14	3013863	24.503	Si
SLU 72	898	-27727	498798	4.16	3235530	6.487	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	546	-22780	399279	3.41	3910761	9.795	Si
SLV 16	898	-14983	9466	2.25	2913648	307.811	Si
SLV 9	546	-19047	-334741	2.86	3477725	10.389	Si
SLV 9	898	-10981	-276033	1.65	2263848	8.201	Si
SLV 2	546	-25190	-642846	3.78	4147035	6.451	Si
SLV 2	898	-17298	-94262	2.59	3246797	34.444	Si
SLV 4	546	-27709	-439575	4.15	4357733	9.914	Si
SLV 4	898	-19947	42909	2.99	3589558	83.655	Si
SLV 1	546	-25190	-642846	3.78	4147035	6.451	Si
SLV 1	898	-17298	-94262	2.59	3246797	34.444	Si
SLV 5	546	-20526	-586397	3.08	3659000	6.24	Si
SLV 5	898	-12470	-266000	1.87	2516587	9.461	Si
SLV 6	546	-20526	-586397	3.08	3659000	6.24	Si
SLV 6	898	-12470	-266000	1.87	2516587	9.461	Si
SLV 3	546	-27709	-439575	4.15	4357733	9.914	Si
SLV 3	898	-19947	42909	2.99	3589558	83.655	Si
SLV 10	546	-19047	-334741	2.86	3477725	10.389	Si
SLV 10	898	-10981	-276033	1.65	2263848	8.201	Si
SLV 15	546	-22780	399279	3.41	3910761	9.795	Si
SLV 15	898	-14983	9466	2.25	2913648	307.811	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 39	546	-30691	879	-197910		4.6	476.52	1.08	7227			8.22	Si
SLU 39	898	-20551	369	-104671		3.08	476.52	0.97	6446			17.46	Si
SLU 61	546	-31909	699	-187996		4.78	476.52	1.08	7227			10.34	Si
SLU 61	898	-20612	138	-193757		3.09	476.52	0.97	6455			46.82	Si
SLU 81	546	-35909	914	-217008		5.38	476.52	1.08	7227			7.91	Si
SLU 81	898	-23852	315	-130925		3.58	476.52	1.03	6886			21.83	Si
SLU 40	546	-30625	818	-200173		4.59	476.52	1.08	7227			8.84	Si
SLU 40	898	-20539	291	-118954		3.08	476.52	0.97	6445			22.13	Si
SLU 60	546	-31976	760	-185733		4.79	476.52	1.08	7227			9.51	Si
SLU 60	898	-20624	216	-179474		3.09	476.52	0.97	6456			29.93	Si
SLU 18	546	-26758	725	-166636		4.01	476.52	1.08	7227			9.96	Si
SLU 18	898	-17323	269	-153219		2.6	476.52	0.9	6016			22.34	Si
SLU 41	546	-32357	693	-183391		4.85	476.52	1.08	7227			10.43	Si
SLU 41	898	-23810	203	-156739		3.57	476.52	1.03	6881			33.95	Si
SLU 83	546	-37575	728	-202489		5.63	476.52	1.08	7227			9.93	Si
SLU 83	898	-27111	149	-130484		4.06	476.52	1.08	7227			48.48	Si
SLU 82	546	-35842	853	-219271		5.37	476.52	1.08	7227			8.48	Si
SLU 82	898	-23840	238	-145209		3.57	476.52	1.03	6885			28.97	Si
SLU 73	546	-34336	682	-200609		5.15	476.52	1.08	7227			10.6	Si
SLU 73	898	-23042	85	-118375		3.45	476.52	1.02	6779			79.28	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	546	-27445	9851	342830		4.11	476.52	1.63	10841			1.1	Si
SLV 11	898	-19811	7908	181204		2.97	476.52	1.43	9522			1.2	Si
SLV 5	546	-20526	-9006	-586397		3.08	476.52	1.45	9665			1.07	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	898	-12470	-7846	-266000		1.87	476.52	1.21	8053			1.03	Si
SLV 6	546	-20526	-9006	-586397		3.08	476.52	1.45	9665			1.07	Si
SLV 6	898	-12470	-7846	-266000		1.87	476.52	1.21	8053			1.03	Si
SLV 13	546	-20261	-6806	196008		3.04	476.52	1.44	9612			1.41	Si
SLV 13	898	-12334	-7032	-127705		1.85	476.52	1.2	8026			1.14	Si
SLV 9	546	-19047	-11428	-334741		2.86	476.52	1.4	9369			0.82	No, Vu<V
SLV 9	898	-10981	-10433	-276033		1.65	476.52	1.16	7756			0.74	No, Vu<V
SLV 8	546	-28923	12273	91174		4.34	476.52	1.63	10841			0.88	No, Vu<V
SLV 8	898	-21300	10494	191237		3.19	476.52	1.47	9819			0.94	No, Vu<V
SLV 12	546	-27445	9851	342830		4.11	476.52	1.63	10841			1.1	Si
SLV 12	898	-19811	7908	181204		2.97	476.52	1.43	9522			1.2	Si
SLV 7	546	-28923	12273	91174		4.34	476.52	1.63	10841			0.88	No, Vu<V
SLV 7	898	-21300	10494	191237		3.19	476.52	1.47	9819			0.94	No, Vu<V
SLV 10	546	-19047	-11428	-334741		2.86	476.52	1.4	9369			0.82	No, Vu<V
SLV 10	898	-10981	-10433	-276033		1.65	476.52	1.16	7756			0.74	No, Vu<V
SLV 14	546	-20261	-6806	196008		3.04	476.52	1.44	9612			1.41	Si
SLV 14	898	-12334	-7032	-127705		1.85	476.52	1.2	8026			1.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.03 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.39	2.3	-15373	26504	87314	3.29	Si
SLV 10	14	0.39	2.3	-15373	26504	87314	3.29	Si
SLV 5	14	0.39	2.32	-15500	26504	87867	3.32	Si
SLV 6	14	0.39	2.32	-15500	26504	87867	3.32	Si
SLV 13	14	0.39	2.69	-17968	26504	98053	3.7	Si
SLV 14	14	0.39	2.69	-17968	26504	98053	3.7	Si
SLV 2	14	0.39	2.76	-18392	26504	99695	3.76	Si
SLV 1	14	0.39	2.76	-18392	26504	99695	3.76	Si
SLV 16	14	0.39	3.05	-20321	26504	106784	4.03	Si
SLV 15	14	0.39	3.05	-20321	26504	106784	4.03	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 2	-17298	-25190	-52	0.019	20.927	0.954	29.56	1675.871	No
SLV 1	-17298	-25190	-52	0.019	20.927	0.954	29.56	1675.871	No
SLV 15	-14983	-22780	51	0.019	18.576	0.949	29.649	1675.871	No
SLV 16	-14983	-22780	51	0.019	18.576	0.949	29.649	1675.871	No
SLV 3	-19947	-27709	-33	0.02	23.619	0.958	30.744	1675.871	No
SLV 4	-19947	-27709	-33	0.02	23.619	0.958	30.744	1675.871	No
SLV 13	-12334	-20261	33	0.021	15.889	0.941	31.662	1675.871	No
SLV 14	-12334	-20261	33	0.021	15.889	0.941	31.662	1675.871	No
SLV 11	-19811	-27445	43	0.02	23.481	0.958	30.119	1464.148	No
SLV 12	-19811	-27445	43	0.02	23.481	0.958	30.119	1464.148	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.941	SLU 29	Si
V_SLU	7.908	SLU 81	Si
PF_SLV	6.24	SLV 5	Si
V_SLV	0.743	SLV 9	No
PFFP_SLV	3.294	SLV 9	Si
R_SLV	0.018	SLV 1	No

Maschio 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-1961.8	666.1	L4	L5	71	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 39	546	-5670	-40628	2.85	130812	3.22	Si
SLU 39	898	-5148	20527	2.59	124654	6.073	Si
SLU 40	546	-5638	-40965	2.84	130467	3.185	Si
SLU 40	898	-5107	21100	2.57	124126	5.883	Si
SLU 19	546	-4911	-36473	2.47	121472	3.33	Si
SLU 19	898	-4215	20290	2.12	110688	5.455	Si
SLU 61	546	-5965	-42080	3	133762	3.179	Si
SLU 61	898	-5000	22629	2.51	122691	5.422	Si
SLU 60	546	-5998	-41743	3.02	134060	3.212	Si
SLU 60	898	-5040	22056	2.54	123237	5.587	Si
SLU 81	546	-6725	-46235	3.38	139593	3.019	Si
SLU 81	898	-5932	22867	2.98	133449	5.836	Si
SLU 52	546	-5765	-38610	2.9	131796	3.413	Si
SLU 52	898	-4786	19714	2.41	119694	6.072	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	546	-6692	-46572	3.37	139397	2.993	Si
SLU 82	898	-5892	23439	2.96	133061	5.677	Si
SLU 73	546	-6492	-43103	3.27	138071	3.203	Si
SLU 73	898	-5678	20524	2.86	130898	6.378	Si
SLU 18	546	-4943	-36136	2.49	121919	3.374	Si
SLU 18	898	-4256	19717	2.14	111374	5.649	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 4	546	397	-125640	0	0	0	No, Trazione
SLV 4	898	-8094	149655	4.07	191591	1.28	Si
SLV 3	546	397	-125640	0	0	0	No, Trazione
SLV 3	898	-8094	149655	4.07	191591	1.28	Si
SLV 12	546	-10127	46296	5.09	209625	4.528	Si
SLV 12	898	-3341	-135486	0	0	0	No, $e>/2$
SLD 1	546	-1590	-79861	0	0	0	No, $e>/2$
SLD 1	898	-5628	94879	2.83	153512	1.618	Si
SLV 5	546	781	-101436	0	0	0	No, Trazione
SLV 5	898	-4686	157794	2.36	134268	0.851	No, $M>Mu$
SLV 13	546	-9742	70500	4.9	207141	2.938	Si
SLV 13	898	67	-127347	0	0	0	No, Trazione
SLV 2	546	2562	-150105	0	0	0	No, Trazione
SLV 2	898	-7790	207503	3.92	187862	0.905	No, $M>Mu$
SLV 14	546	-9742	70500	4.9	207141	2.938	Si
SLV 14	898	67	-127347	0	0	0	No, Trazione
SLV 6	546	781	-101436	0	0	0	No, Trazione
SLV 6	898	-4686	157794	2.36	134268	0.851	No, $M>Mu$
SLV 11	546	-10127	46296	5.09	209625	4.528	Si
SLV 11	898	-3341	-135486	0	0	0	No, $e>/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 39	546	-5670	-753	-40628		2.85	71	0.94	1860			2.47	Si
SLU 39	898	-5148	-229	20527		2.59	71	0.9	1791			7.81	Si
SLU 82	546	-6692	-873	-46572		3.37	71	1	1997			2.29	Si
SLU 82	898	-5892	-259	23439		2.96	71	0.95	1890			7.29	Si
SLU 81	546	-6725	-867	-46235		3.38	71	1.01	2001			2.31	Si
SLU 81	898	-5932	-253	22867		2.98	71	0.95	1895			7.49	Si
SLU 60	546	-5998	-790	-41743		3.02	71	0.96	1904			2.41	Si
SLU 60	898	-5040	-233	22056		2.54	71	0.89	1776			7.63	Si
SLU 18	546	-4943	-676	-36136		2.49	71	0.89	1764			2.61	Si
SLU 18	898	-4256	-209	19717		2.14	71	0.84	1672			8	Si
SLU 52	546	-5765	-737	-38610		2.9	71	0.94	1873			2.54	Si
SLU 52	898	-4786	-211	19714		2.41	71	0.88	1743			8.25	Si
SLU 19	546	-4911	-682	-36473		2.47	71	0.88	1759			2.58	Si
SLU 19	898	-4215	-215	20290		2.12	71	0.84	1666			7.74	Si
SLU 73	546	-6492	-814	-43103		3.27	71	0.99	1970			2.42	Si
SLU 73	898	-5678	-232	20524		2.86	71	0.94	1862			8.04	Si
SLU 40	546	-5638	-759	-40965		2.84	71	0.93	1856			2.45	Si
SLU 40	898	-5107	-236	21100		2.57	71	0.9	1785			7.57	Si
SLU 61	546	-5965	-796	-42080		3	71	0.96	1900			2.39	Si
SLU 61	898	-5000	-239	22629		2.51	71	0.89	1771			7.41	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 14	546	-9742	1486	70500		4.9	71	1.63	3231			2.17	Si
SLV 14	898	67	1951	-127347		0	0	0.83	0			0	No, $Vu<V$
SLV 11	546	-10127	1948	46296		5.09	71	1.63	3231			1.66	Si
SLV 11	898	-3341	753	-135486		0	0	0.83	0			0	No, $Vu<V$
SLV 2	546	2562	-3581	-150105		0	0	0.83	0			0	No, $Vu<V$
SLV 2	898	-7790	-2352	207503		10.46	26.59	1.63	1210			0.51	No, $Vu<V$
SLV 12	546	-10127	1948	46296		5.09	71	1.63	3231			1.66	Si
SLV 12	898	-3341	753	-135486		0	0	0.83	0			0	No, $Vu<V$
SLV 13	546	-9742	1486	70500		4.9	71	1.63	3231			2.17	Si
SLV 13	898	67	1951	-127347		0	0	0.83	0			0	No, $Vu<V$
SLV 4	546	397	-2549	-125640		0	0	0.83	0			0	No, $Vu<V$
SLV 4	898	-8094	-2210	149655		5.66	51.03	1.63	2322			1.05	Si
SLV 5	546	781	-3011	-101436		0	0	0.83	0			0	No, $Vu<V$
SLV 5	898	-4686	-1012	157794		30.51	5.49	1.63	250			0.25	No, $Vu<V$
SLV 6	546	781	-3011	-101436		0	0	0.83	0			0	No, $Vu<V$
SLV 6	898	-4686	-1012	157794		30.51	5.49	1.63	250			0.25	No, $Vu<V$
SLD 1	546	-1590	-1824	-79861		0	0	0.83	0			0	No, $Vu<V$
SLD 1	898	-5628	-1071	94879		3.59	55.93	1.55	2431			2.27	Si
SLV 3	546	397	-2549	-125640		0	0	0.83	0			0	No, $Vu<V$
SLV 3	898	-8094	-2210	149655		5.66	51.03	1.63	2322			1.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.39	1.29	-2557	7555	32034	4.24	Si
SLV 6	14	0.39	1.29	-2557	7555	32034	4.24	Si
SLV 9	14	0.39	1.45	-2886	7555	35605	4.71	Si
SLV 10	14	0.39	1.45	-2886	7555	35605	4.71	Si
SLV 1	14	0.39	1.69	-3362	7555	40554	5.37	Si
SLV 2	14	0.39	1.69	-3362	7555	40554	5.37	Si
SLV 3	14	0.39	2.2	-4381	7555	50269	6.65	Si
SLV 4	14	0.39	2.2	-4381	7555	50269	6.65	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.39	2.24	-4458	7555	50958	6.75	Si
SLV 14	14	0.39	2.24	-4458	7555	50958	6.75	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 4	-8094	397	227	0	0	0	0	960.164	No, Trazione
SLV 10	-2329	-2910	-315	0	3.376	0.923	0	1675.871	No
SLV 5	-4686	781	-226	0	0	0	0	1675.871	No, Trazione
SLV 8	-5698	-6435	310	0	6.788	0.957	0	1675.871	No
SLV 1	-7790	2562	66	0	0	0	0	960.164	No, Trazione
SLV 3	-8094	397	227	0	0	0	0	960.164	No, Trazione
SLV 2	-7790	2562	66	0	0	0	0	960.164	No, Trazione
SLV 9	-2329	-2910	-315	0	3.376	0.923	0	1675.871	No
SLV 6	-4686	781	-226	0	0	0	0	1675.871	No, Trazione
SLV 7	-5698	-6435	310	0	6.788	0.957	0	1675.871	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.993	SLU 82	Si
V_SLU	2.288	SLU 82	Si
PF_SLV	0	SLV 14	No
V_SLV	0	SLV 1	No
PFFP_SLV	4.24	SLV 5	Si
R_SLV	0	SLV 14	No

Maschio 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1633.3	-335.9	-1736.3	-335.9	L4	L5	103	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 82	636	-11277	-70206	3.91	301984	4.301	Si
SLU 82	816	-9595	122901	3.33	292325	2.379	Si
SLU 61	636	-10479	-65174	3.63	298948	4.587	Si
SLU 61	816	-8736	113690	3.03	282603	2.486	Si
SLU 52	636	-9993	-69121	3.47	295731	4.278	Si
SLU 52	816	-8123	110147	2.82	273688	2.485	Si
SLU 73	636	-10791	-74153	3.74	300467	4.052	Si
SLU 73	816	-8982	119358	3.11	285719	2.394	Si
SLU 81	636	-11401	-60416	3.95	302205	5.002	Si
SLU 81	816	-9841	120614	3.41	294509	2.442	Si
SLU 84	636	-11518	-59785	3.99	302353	5.057	Si
SLU 84	816	-9567	116266	3.32	292057	2.512	Si
SLU 76	636	-11032	-63732	3.83	301349	4.728	Si
SLU 76	816	-8954	112723	3.1	285375	2.532	Si
SLU 75	636	-11215	-60409	3.89	301849	4.997	Si
SLU 75	816	-9284	114555	3.22	289174	2.524	Si
SLU 60	636	-10603	-55384	3.68	299600	5.41	Si
SLU 60	816	-8982	111403	3.11	285713	2.565	Si
SLU 65	636	-9850	-68133	3.42	294582	4.324	Si
SLU 65	816	-7934	107534	2.75	270605	2.516	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 11	636	-6908	19689	2.4	286031	14.528	Si
SLV 11	816	-78	3512	0.03	4016	1.143	Si
SLV 7	636	-7812	193032	2.71	313123	1.622	Si
SLV 7	816	1236	-105323	0	0	0	No, Trazione
SLV 13	636	-6464	-373428	0	0	0	No, e>/2
SLV 13	816	-10851	302147	3.76	386748	1.28	Si
SLV 12	636	-6908	19689	2.4	286031	14.528	Si
SLV 12	816	-78	3512	0.03	4016	1.143	Si
SLV 8	636	-7812	193032	2.71	313123	1.622	Si
SLV 8	816	1236	-105323	0	0	0	No, Trazione
SLV 3	636	-9194	292483	3.19	349953	1.196	Si
SLV 3	816	-2206	-139865	0	0	0	No, e>/2
SLV 14	636	-6464	-373428	0	0	0	No, e>/2
SLV 14	816	-10851	302147	3.76	386748	1.28	Si
SLV 16	636	-6182	-285328	2.14	262532	0.92	No, M>Mu
SLV 16	816	-6586	222919	2.28	275803	1.237	Si
SLV 4	636	-9194	292483	3.19	349953	1.196	Si
SLV 4	816	-2206	-139865	0	0	0	No, e>/2
SLV 15	636	-6182	-285328	2.14	262532	0.92	No, M>Mu
SLV 15	816	-6586	222919	2.28	275803	1.237	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 2	636	-7126	-870	-53632		2.47	103	0.88	2552			2.93	Si
SLU 2	816	-5574	-408	-78942		1.93	103	0.81	2345			5.76	Si
SLU 73	636	-10791	-1152	-74153		3.74	103	1.05	3041			2.64	Si
SLU 73	816	-8982	-472	-119358		3.11	103	0.97	2800			5.93	Si
SLU 23	636	-7924	-947	-58664		2.75	103	0.92	2659			2.81	Si
SLU 23	816	-6433	-376	-88153		2.23	103	0.85	2460			6.54	Si
SLU 10	636	-8067	-932	-59652		2.8	103	0.93	2678			2.87	Si
SLU 10	816	-6623	-416	-90766		2.3	103	0.86	2485			5.97	Si
SLU 31	636	-8865	-1009	-64684		3.07	103	0.97	2784			2.76	Si
SLU 31	816	-7482	-385	-99977		2.59	103	0.9	2600			6.75	Si
SLU 61	636	-10479	-980	-65174		3.63	103	1.04	2999			3.06	Si
SLU 61	816	-8736	-446	-113690		3.03	103	0.96	2767			6.21	Si
SLU 44	636	-9052	-1013	-63101		3.14	103	0.97	2809			2.77	Si
SLU 44	816	-7075	-495	-98323		2.45	103	0.88	2546			5.15	Si
SLU 82	636	-11277	-1056	-70206		3.91	103	1.08	3106			2.94	Si
SLU 82	816	-9595	-415	-122901		3.33	103	1	2882			6.95	Si
SLU 65	636	-9850	-1090	-68133		3.42	103	1.01	2916			2.67	Si
SLU 65	816	-7934	-463	-107534		2.75	103	0.92	2660			5.74	Si
SLU 52	636	-9993	-1075	-69121		3.47	103	1.02	2935			2.73	Si
SLU 52	816	-8123	-503	-110147		2.82	103	0.93	2685			5.34	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 7	636	-7812	2441	193032		3.47	80.37	1.53	3438			1.41	Si
SLV 7	816	1236	1484	-105323		0	0	0.83	0			0	No, Vu<V
SLV 14	636	-6464	-6403	-373428		0	0	0.83	0			0	No, Vu<V
SLV 14	816	-10851	-2314	302147		5.46	70.96	1.63	3229			1.4	Si
SLV 13	636	-6464	-6403	-373428		0	0	0.83	0			0	No, Vu<V
SLV 13	816	-10851	-2314	302147		5.46	70.96	1.63	3229			1.4	Si
SLV 8	636	-7812	2441	193032		3.47	80.37	1.53	3438			1.41	Si
SLV 8	816	1236	1484	-105323		0	0	0.83	0			0	No, Vu<V
SLV 10	636	-7846	-3649	-273977		5.63	49.74	1.63	2263			0.62	No, Vu<V
SLV 10	816	-14293	-1980	267605		5.19	98.33	1.63	4474			2.26	Si
SLV 4	636	-9194	5195	292483		5.56	59.06	1.63	2687			0.52	No, Vu<V
SLV 4	816	-2206	1818	-139865		0	0	0.83	0			0	No, Vu<V
SLV 9	636	-7846	-3649	-273977		5.63	49.74	1.63	2263			0.62	No, Vu<V
SLV 9	816	-14293	-1980	267605		5.19	98.33	1.63	4474			2.26	Si
SLV 15	636	-6182	-5542	-285328		13.76	16.04	1.63	730			0.13	No, Vu<V
SLV 15	816	-6586	-1581	222919		4.44	52.96	1.63	2410			1.52	Si
SLV 16	636	-6182	-5542	-285328		13.76	16.04	1.63	730			0.13	No, Vu<V
SLV 16	816	-6586	-1581	222919		4.44	52.96	1.63	2410			1.52	Si
SLV 3	636	-9194	5195	292483		5.56	59.06	1.63	2687			0.52	No, Vu<V
SLV 3	816	-2206	1818	-139865		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.39	0.68	-1968	10710	26009	2.43	Si
SLV 12	14	0.39	0.68	-1968	10710	26009	2.43	Si
SLV 15	14	0.39	1.11	-3188	10710	40592	3.79	Si
SLV 16	14	0.39	1.11	-3188	10710	40592	3.79	Si
SLV 7	14	0.39	1.29	-3710	10710	46468	4.34	Si
SLV 8	14	0.39	1.29	-3710	10710	46468	4.34	Si
SLV 13	14	0.39	2.07	-5976	10710	69473	6.49	Si
SLV 14	14	0.39	2.07	-5976	10710	69473	6.49	Si
SLV 3	14	0.39	3.12	-8994	10710	93782	8.76	Si
SLV 4	14	0.39	3.12	-8994	10710	93782	8.76	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-351	-7382	-87	0	2.018	0.909	0	1675.871	No
SLV 8	987	-5211	-71	0	0	0	0	1675.871	No, Trazione
SLV 12	-351	-7382	-87	0	2.018	0.909	0	1675.871	No
SLV 7	987	-5211	-71	0	0	0	0	1675.871	No, Trazione
SLV 6	-9556	-7978	88	0.035	11.16	0.962	52.686	1675.871	No
SLV 5	-9556	-7978	88	0.035	11.16	0.962	52.686	1675.871	No
SLV 10	-10895	-10149	72	0.037	12.521	0.966	55.366	1675.871	No
SLV 9	-10895	-10149	72	0.037	12.521	0.966	55.366	1675.871	No
SLV 2	-4305	-4477	51	0.037	5.83	0.933	57.596	960.164	No
SLV 1	-4305	-4477	51	0.037	5.83	0.933	57.596	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.379	SLV 82	Si
V_SLV	2.639	SLV 73	Si
PF_SLV	0	SLV 8	No
V_SLV	0	SLV 3	No
PFFP_SLV	2.428	SLV 11	Si
R_SLV	0	SLV 8	No



Maschio 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1844.8	-335.9	-1844.8	104.6	L4	L5	440.6	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 73	546	-24437	328109	3.96	2764899	8.427	Si
SLU 73	898	-17488	469403	2.84	2511445	5.35	Si
SLU 68	546	-22339	304655	3.62	2733017	8.971	Si
SLU 68	898	-16160	443244	2.62	2414806	5.448	Si
SLU 75	546	-24992	393813	4.05	2766880	7.026	Si
SLU 75	898	-18406	472653	2.98	2569207	5.436	Si
SLU 76	546	-24930	365116	4.04	2766793	7.578	Si
SLU 76	898	-18007	494174	2.92	2545031	5.15	Si
SLU 78	546	-25485	430820	4.13	2766376	6.421	Si
SLU 78	898	-18925	497425	3.07	2598611	5.224	Si
SLU 34	546	-21253	325817	3.45	2701336	8.291	Si
SLU 34	898	-15289	444656	2.48	2343079	5.269	Si
SLU 80	546	-25175	426275	4.08	2766942	6.491	Si
SLU 80	898	-18580	488926	3.01	2579318	5.275	Si
SLU 84	546	-25792	415180	4.18	2764984	6.66	Si
SLU 84	898	-18852	485981	3.06	2594619	5.339	Si
SLU 36	546	-21808	391521	3.54	2718804	6.944	Si
SLU 36	898	-16207	447906	2.63	2418540	5.4	Si
SLU 38	546	-21498	386977	3.49	2709373	7.001	Si
SLU 38	898	-15862	439407	2.57	2391013	5.441	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 13	546	-14344	157288	2.33	2558348	16.265	Si
SLV 13	898	-10242	469374	1.66	1949601	4.154	Si
SLV 16	546	-13415	352094	2.17	2429122	6.899	Si
SLV 16	898	-9839	387025	1.6	1884382	4.869	Si
SLV 11	546	-14183	578483	2.3	2536352	4.384	Si
SLV 11	898	-10915	177068	1.77	2056246	11.613	Si
SLV 8	546	-15770	577724	2.56	2747003	4.755	Si
SLV 8	898	-12242	79453	1.98	2258665	28.428	Si
SLV 12	546	-14183	578483	2.3	2536352	4.384	Si
SLV 12	898	-10915	177068	1.77	2056246	11.613	Si
SLV 9	546	-17279	-70871	2.8	2933602	41.393	Si
SLV 9	898	-12261	451564	1.99	2261471	5.008	Si
SLV 15	546	-13415	352094	2.17	2429122	6.899	Si
SLV 15	898	-9839	387025	1.6	1884382	4.869	Si
SLV 14	546	-14344	157288	2.33	2558348	16.265	Si
SLV 14	898	-10242	469374	1.66	1949601	4.154	Si
SLV 7	546	-15770	577724	2.56	2747003	4.755	Si
SLV 7	898	-12242	79453	1.98	2258665	28.428	Si
SLV 10	546	-17279	-70871	2.8	2933602	41.393	Si
SLV 10	898	-12261	451564	1.99	2261471	5.008	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	546	-24802	1262	462504		4.02	440.57	1.08	6682			5.3	Si
SLU 79	898	-18660	1250	443896		3.03	440.57	0.96	5915			4.73	Si
SLU 29	546	-18534	1206	362744		3	440.57	0.96	5898			4.89	Si
SLU 29	898	-14094	1197	343447		2.29	440.57	0.86	5306			4.43	Si
SLU 27	546	-18844	1138	367289		3.06	440.57	0.96	5939			5.22	Si
SLU 27	898	-14439	1130	351946		2.34	440.57	0.87	5352			4.74	Si
SLU 71	546	-22211	1267	402042		3.6	440.57	1.04	6388			5.04	Si
SLU 71	898	-16812	1257	392966		2.73	440.57	0.92	5668			4.51	Si
SLU 2	546	-15700	-1317	154739		2.55	440.57	0.89	5520			4.19	Si
SLU 2	898	-11058	-617	308828		1.79	440.57	0.79	4901			7.94	Si
SLU 69	546	-22521	1200	406587		3.65	440.57	1.04	6430			5.36	Si
SLU 69	898	-17157	1190	401465		2.78	440.57	0.93	5714			4.8	Si
SLU 44	546	-19377	-1255	194038		3.14	440.57	0.97	6010			4.79	Si
SLU 44	898	-13776	-558	358347		2.23	440.57	0.85	5263			9.44	Si
SLU 37	546	-21125	1200	423205		3.42	440.57	1.01	6243			5.2	Si
SLU 37	898	-15942	1190	394377		2.58	440.57	0.9	5552			4.67	Si
SLU 8	546	-16065	1069	289134		2.6	440.57	0.9	5569			5.21	Si
SLU 8	898	-12230	1061	283321		1.98	440.57	0.82	5057			4.77	Si
SLU 10	546	-18291	-1323	215201		2.97	440.57	0.95	5865			4.43	Si
SLU 10	898	-12905	-625	359758		2.09	440.57	0.83	5147			8.24	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	546	-18866	-9970	-71630		3.06	440.57	1.45	8913			0.89	No, Vu<V
SLV 6	898	-13587	-8075	353949		2.2	440.57	1.27	7857			0.97	No, Vu<V
SLV 12	546	-14183	10769	578483		2.3	440.57	1.29	7977			0.74	No, Vu<V



Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	898	-10915	8857	177068		1.77	440.57	1.19	7323			0.83	No, Vu<V
SLV 8	546	-15770	11106	577724		2.56	440.57	1.34	8294			0.75	No, Vu<V
SLV 8	898	-12242	9324	79453		1.98	440.57	1.23	7588			0.81	No, Vu<V
SLV 10	546	-17279	-10308	-70871		2.8	440.57	1.39	8596			0.83	No, Vu<V
SLV 10	898	-12261	-8542	451564		1.99	440.57	1.23	7592			0.89	No, Vu<V
SLV 11	546	-14183	10769	578483		2.3	440.57	1.29	7977			0.74	No, Vu<V
SLV 11	898	-10915	8857	177068		1.77	440.57	1.19	7323			0.83	No, Vu<V
SLV 7	546	-15770	11106	577724		2.56	440.57	1.34	8294			0.75	No, Vu<V
SLV 7	898	-12242	9324	79453		1.98	440.57	1.23	7588			0.81	No, Vu<V
SLD 7	546	-16210	4869	388358		2.63	440.57	1.36	8382			1.72	Si
SLD 7	898	-12256	4124	187323		1.99	440.57	1.23	7591			1.84	Si
SLV 9	546	-17279	-10308	-70871		2.8	440.57	1.39	8596			0.83	No, Vu<V
SLV 9	898	-12261	-8542	451564		1.99	440.57	1.23	7592			0.89	No, Vu<V
SLV 5	546	-18866	-9970	-71630		3.06	440.57	1.45	8913			0.89	No, Vu<V
SLV 5	898	-13587	-8075	353949		2.2	440.57	1.27	7857			0.97	No, Vu<V
SLD 8	546	-16210	4869	388358		2.63	440.57	1.36	8382			1.72	Si
SLD 8	898	-12256	4124	187323		1.99	440.57	1.23	7591			1.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.03 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.39	1.81	-11171	24504	66608	2.72	Si
SLV 16	14	0.39	1.81	-11171	24504	66608	2.72	Si
SLV 14	14	0.39	1.94	-11987	24504	70565	2.88	Si
SLV 13	14	0.39	1.94	-11987	24504	70565	2.88	Si
SLV 11	14	0.39	2.07	-12770	24504	74245	3.03	Si
SLV 12	14	0.39	2.07	-12770	24504	74245	3.03	Si
SLV 7	14	0.39	2.42	-14957	24504	83921	3.42	Si
SLV 8	14	0.39	2.42	-14957	24504	83921	3.42	Si
SLV 10	14	0.39	2.51	-15491	24504	86147	3.52	Si
SLV 9	14	0.39	2.51	-15491	24504	86147	3.52	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-14664	-19634	23	0.021	17.998	0.951	31.851	1675.871	No
SLV 1	-14664	-19634	23	0.021	17.998	0.951	31.851	1675.871	No
SLV 3	-14260	-18705	23	0.021	17.588	0.95	31.912	1675.871	No
SLV 4	-14260	-18705	23	0.021	17.588	0.95	31.912	1675.871	No
SLV 14	-10242	-14344	-23	0.021	13.515	0.937	32.834	1675.871	No
SLV 13	-10242	-14344	-23	0.021	13.515	0.937	32.834	1675.871	No
SLV 15	-9839	-13415	-23	0.021	13.107	0.935	32.971	1675.871	No
SLV 16	-9839	-13415	-23	0.021	13.107	0.935	32.971	1675.871	No
SLV 5	-13587	-18866	7	0.022	16.905	0.948	33.655	1464.148	No
SLV 6	-13587	-18866	7	0.022	16.905	0.948	33.655	1464.148	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.15	SLU 76	Si
V_SLU	4.191	SLU 2	Si
PF_SLV	4.154	SLV 13	Si
V_SLV	0.741	SLV 11	No
PFFP_SLV	2.718	SLV 15	Si
R_SLV	0.019	SLV 1	No

Maschio 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1389.3	-335.9	-1543.3	-335.9	L4	L5	154	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 40	546	-11638	-68702	2.7	599205	8.722	Si
SLU 40	756	-12533	142960	2.91	620710	4.342	Si
SLU 31	546	-11177	-70777	2.59	586764	8.29	Si
SLU 31	756	-11975	141925	2.78	607711	4.282	Si
SLU 52	546	-13019	-68448	3.02	630910	9.217	Si
SLU 52	756	-13289	141472	3.08	636128	4.496	Si
SLU 65	546	-12695	-69726	2.94	624206	8.952	Si
SLU 65	756	-12889	145606	2.99	628271	4.315	Si
SLU 76	546	-14011	-67840	3.25	648502	9.559	Si
SLU 76	756	-14392	149172	3.34	654118	4.385	Si
SLU 82	546	-14211	-76443	3.3	651530	8.523	Si
SLU 82	756	-14929	162988	3.46	660951	4.055	Si
SLU 73	546	-13750	-78517	3.19	644291	8.206	Si
SLU 73	756	-14371	161953	3.33	653818	4.037	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 81	546	-14224	-67679	3.3	651720	9.63	Si
SLU 81	756	-14814	154031	3.44	659599	4.282	Si
SLU 75	546	-14107	-64855	3.27	649983	10.022	Si
SLU 75	756	-14490	149017	3.36	655464	4.399	Si
SLU 84	546	-14472	-65765	3.36	655214	9.963	Si
SLU 84	756	-14951	150207	3.47	661198	4.402	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 11	546	-6525	-244144	1.51	440213	1.803	Si
SLV 11	756	-12449	321361	2.89	732068	2.278	Si
SLV 3	546	-10915	286056	2.53	666351	2.329	Si
SLV 3	756	-5814	-233530	1.35	398274	1.705	Si
SLV 15	546	-7224	-428052	1.68	479968	1.121	Si
SLV 15	756	-14783	501189	3.43	818897	1.634	Si
SLV 1	546	-12621	342653	2.93	739040	2.157	Si
SLV 1	756	-5124	-299808	1.19	356168	1.188	Si
SLV 4	546	-10915	286056	2.53	666351	2.329	Si
SLV 4	756	-5814	-233530	1.35	398274	1.705	Si
SLV 13	546	-8930	-371455	2.07	571067	1.537	Si
SLV 13	756	-14093	434911	3.27	794881	1.828	Si
SLV 16	546	-7224	-428052	1.68	479968	1.121	Si
SLV 16	756	-14783	501189	3.43	818897	1.634	Si
SLV 14	546	-8930	-371455	2.07	571067	1.537	Si
SLV 14	756	-14093	434911	3.27	794881	1.828	Si
SLV 12	546	-6525	-244144	1.51	440213	1.803	Si
SLV 12	756	-12449	321361	2.89	732068	2.278	Si
SLV 2	546	-12621	342653	2.93	739040	2.157	Si
SLV 2	756	-5124	-299808	1.19	356168	1.188	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	546	-14472	-1784	-65765		3.36	154	1	4325			2.42	Si
SLU 84	756	-14951	-2399	150207		3.47	154	1.02	4389			1.83	Si
SLU 82	546	-14211	-1973	-76443		3.3	154	0.99	4290			2.17	Si
SLU 82	756	-14929	-2650	162988		3.46	154	1.02	4386			1.65	Si
SLU 61	546	-13480	-1706	-66373		3.13	154	0.97	4193			2.46	Si
SLU 61	756	-13848	-2363	142507		3.21	154	0.98	4242			1.79	Si
SLU 73	546	-13750	-1973	-78517		3.19	154	0.98	4229			2.14	Si
SLU 73	756	-14371	-2532	161953		3.33	154	1	4312			1.7	Si
SLU 60	546	-13493	-1572	-57610		3.13	154	0.97	4195			2.67	Si
SLU 60	756	-13733	-2268	133550		3.18	154	0.98	4227			1.86	Si
SLU 31	546	-11177	-1749	-70777		2.59	154	0.9	3886			2.22	Si
SLU 31	756	-11975	-2224	141925		2.78	154	0.93	3992			1.8	Si
SLU 81	546	-14224	-1839	-67679		3.3	154	1	4292			2.33	Si
SLU 81	756	-14814	-2555	154031		3.44	154	1.01	4371			1.71	Si
SLU 39	546	-11651	-1615	-59939		2.7	154	0.92	3949			2.44	Si
SLU 39	756	-12419	-2248	134003		2.88	154	0.94	4051			1.8	Si
SLU 40	546	-11638	-1749	-68702		2.7	154	0.92	3947			2.26	Si
SLU 40	756	-12533	-2342	142960		2.91	154	0.94	4067			1.74	Si
SLU 52	546	-13019	-1706	-68448		3.02	154	0.96	4131			2.42	Si
SLU 52	756	-13289	-2245	141472		3.08	154	0.97	4167			1.86	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 15	546	-8780	-3922	-206663		2.04	154	1.24	5349			1.36	Si
SLD 15	756	-12017	-3926	271598		2.79	154	1.39	5997			1.53	Si
SLV 11	546	-6525	-4791	-244144		1.96	118.75	1.23	4076			0.85	No, Vu<V
SLV 11	756	-12449	-5422	321361		2.9	153.56	1.41	6073			1.12	Si
SLV 14	546	-8930	-6500	-371455		3	106.21	1.43	4264			0.66	No, Vu<V
SLV 14	756	-14093	-5682	434911		3.64	138.42	1.56	6048			1.06	Si
SLV 16	546	-7224	-7607	-428052		4.85	53.23	1.63	2422			0.32	No, Vu<V
SLV 16	756	-14783	-7128	501189		4.08	129.29	1.63	5883			0.83	No, Vu<V
SLV 2	546	-12621	5234	342653		3.01	149.55	1.44	6014			1.15	Si
SLV 2	756	-5124	4013	-299808		3.3	55.46	1.49	2319			0.58	No, Vu<V
SLD 16	546	-8780	-3922	-206663		2.04	154	1.24	5349			1.36	Si
SLD 16	756	-12017	-3926	271598		2.79	154	1.39	5997			1.53	Si
SLV 13	546	-8930	-6500	-371455		3	106.21	1.43	4264			0.66	No, Vu<V
SLV 13	756	-14093	-5682	434911		3.64	138.42	1.56	6048			1.06	Si
SLV 12	546	-6525	-4791	-244144		1.96	118.75	1.23	4076			0.85	No, Vu<V
SLV 12	756	-12449	-5422	321361		2.9	153.56	1.41	6073			1.12	Si
SLV 1	546	-12621	5234	342653		3.01	149.55	1.44	6014			1.15	Si
SLV 1	756	-5124	4013	-299808		3.3	55.46	1.49	2319			0.58	No, Vu<V
SLV 15	546	-7224	-7607	-428052		4.85	53.23	1.63	2422			0.32	No, Vu<V
SLV 15	756	-14783	-7128	501189		4.08	129.29	1.63	5883			0.83	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.39	1.22	-5262	16014	66310	4.14	Si
SLV 1	14	0.39	1.22	-5262	16014	66310	4.14	Si
SLV 3	14	0.39	1.31	-5641	16014	70522	4.4	Si
SLV 4	14	0.39	1.31	-5641	16014	70522	4.4	Si
SLV 5	14	0.39	1.83	-7884	16014	93863	5.86	Si
SLV 6	14	0.39	1.83	-7884	16014	93863	5.86	Si
SLV 7	14	0.39	2.12	-9149	16014	105844	6.61	Si
SLV 8	14	0.39	2.12	-9149	16014	105844	6.61	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.39	2.44	-10512	16014	117801	7.36	Si
SLV 10	14	0.39	2.44	-10512	16014	117801	7.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 $W_a = 0.05 T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 10	-2587	-12213	271	0	4.871	0.898	0	1675.871	No
SLV 6	-2865	-13320	331	0	5.143	0.901	0	1675.871	No
SLV 9	-2587	-12213	271	0	4.871	0.898	0	1675.871	No
SLV 5	-2865	-13320	331	0	5.143	0.901	0	1675.871	No
SLV 12	-13008	-6525	-304	0.022	15.383	0.959	33.922	1675.871	No
SLV 11	-13008	-6525	-304	0.022	15.383	0.959	33.922	1675.871	No
SLV 8	-13286	-7633	-244	0.027	15.666	0.959	40.614	1675.871	No
SLV 7	-13286	-7633	-244	0.027	15.666	0.959	40.614	1675.871	No
SLV 1	-6838	-12621	200	0.022	9.122	0.935	34.202	960.164	No
SLV 2	-6838	-12621	200	0.022	9.122	0.935	34.202	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.037	SLU 73	Si
V_SLU	1.655	SLU 82	Si
PF_SLV	1.121	SLV 15	Si
V_SLV	0.318	SLV 15	No
PFFP_SLV	4.141	SLV 1	Si
R_SLV	0	SLV 5	No

Maschio 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.8	220.1	-1505.8	666.1	L4	L5	446	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 73	546	-36091	-509605	5.78	2337330	4.587	Si
SLU 73	898	-20050	-208561	3.21	2708623	12.987	Si
SLU 75	546	-36222	-447327	5.8	2325088	5.198	Si
SLU 75	898	-20323	-179955	3.25	2721150	15.121	Si
SLU 84	546	-37086	-439669	5.94	2239990	5.095	Si
SLU 84	898	-20762	-182627	3.33	2739996	15.003	Si
SLU 81	546	-37645	-524461	6.03	2181562	4.16	Si
SLU 81	898	-20956	-217832	3.36	2747771	12.614	Si
SLU 52	546	-32775	-490156	5.25	2599121	5.303	Si
SLU 52	898	-18071	-193092	2.89	2598050	13.455	Si
SLU 60	546	-34328	-505012	5.5	2488523	4.928	Si
SLU 60	898	-18977	-202363	3.04	2652922	13.11	Si
SLU 83	546	-37079	-436836	5.94	2240771	5.13	Si
SLU 83	898	-20759	-181126	3.32	2739866	15.127	Si
SLU 74	546	-36214	-444494	5.8	2325811	5.232	Si
SLU 74	898	-20319	-178455	3.25	2721008	15.248	Si
SLU 61	546	-34336	-507845	5.5	2487926	4.899	Si
SLU 61	898	-18980	-203863	3.04	2653101	13.014	Si
SLU 82	546	-37652	-527294	6.03	2180743	4.136	Si
SLU 82	898	-20959	-219333	3.36	2747895	12.528	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLD 9	546	-25801	-650202	4.13	3807821	5.856	Si
SLD 9	898	-13857	-199632	2.22	2528824	12.667	Si
SLV 5	546	-29050	-1196200	4.65	4011460	3.354	Si
SLV 5	898	-15273	-314206	2.45	2724097	8.67	Si
SLV 1	546	-29984	-831897	4.8	4058618	4.879	Si
SLV 1	898	-16643	-252911	2.67	2901745	11.473	Si
SLV 6	546	-29050	-1196200	4.65	4011460	3.354	Si
SLV 6	898	-15273	-314206	2.45	2724097	8.67	Si
SLD 10	546	-25801	-650202	4.13	3807821	5.856	Si
SLD 10	898	-13857	-199632	2.22	2528824	12.667	Si
SLD 5	546	-26802	-711413	4.29	3877179	5.45	Si
SLD 5	898	-14498	-216252	2.32	2618628	12.109	Si
SLV 2	546	-29984	-831897	4.8	4058618	4.879	Si
SLV 2	898	-16643	-252911	2.67	2901745	11.473	Si
SLV 9	546	-26683	-1051388	4.27	3869229	3.68	Si
SLV 9	898	-13762	-275061	2.2	2515391	9.145	Si
SLD 6	546	-26802	-711413	4.29	3877179	5.45	Si
SLD 6	898	-14498	-216252	2.32	2618628	12.109	Si
SLV 10	546	-26683	-1051388	4.27	3869229	3.68	Si
SLV 10	898	-13762	-275061	2.2	2515391	9.145	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 72	546	-31300	803	-286783		5.01	446	1.08	6764			8.42	Si
SLU 72	898	-17528	820	-106683		2.81	446	0.93	5806			7.08	Si
SLU 9	546	-22141	728	-170982		3.55	446	1.03	6421			8.82	Si
SLU 9	898	-12392	743	-57649		1.98	446	0.82	5121			6.89	Si
SLU 8	546	-22134	730	-168149		3.54	446	1.03	6420			8.8	Si
SLU 8	898	-12389	744	-56148		1.98	446	0.82	5121			6.88	Si
SLU 71	546	-31293	804	-283950		5.01	446	1.08	6764			8.41	Si
SLU 71	898	-17525	822	-105182		2.81	446	0.93	5805			7.07	Si
SLU 28	546	-26159	776	-217667		4.19	446	1.08	6764			8.72	Si
SLU 28	898	-14843	792	-82218		2.38	446	0.87	5448			6.88	Si
SLU 30	546	-25458	837	-190431		4.08	446	1.08	6764			8.08	Si
SLU 30	898	-14371	854	-73118		2.3	446	0.86	5385			6.31	Si
SLU 38	546	-29112	773	-236113		4.66	446	1.08	6764			8.75	Si
SLU 38	898	-16498	790	-100585		2.64	446	0.91	5669			7.17	Si
SLU 29	546	-25450	838	-187598		4.08	446	1.08	6764			8.07	Si
SLU 29	898	-14368	855	-71618		2.3	446	0.86	5385			6.3	Si
SLU 37	546	-29104	775	-233280		4.66	446	1.08	6764			8.73	Si
SLU 37	898	-16494	792	-99085		2.64	446	0.91	5668			7.16	Si
SLU 27	546	-26151	777	-214834		4.19	446	1.08	6764			8.7	Si
SLU 27	898	-14840	793	-80718		2.38	446	0.87	5448			6.87	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 5	546	-29050	-7382	-1196200		4.65	446	1.63	10146			1.37	Si
SLV 5	898	-15273	-5583	-314206		2.45	446	1.32	8258			1.48	Si
SLV 6	546	-29050	-7382	-1196200		4.65	446	1.63	10146			1.37	Si
SLV 6	898	-15273	-5583	-314206		2.45	446	1.32	8258			1.48	Si
SLD 11	546	-23712	3125	-12605		3.8	446	1.59	9946			3.18	Si
SLD 11	898	-13415	2394	-67402		2.15	446	1.26	7886			3.29	Si
SLV 9	546	-26683	-6960	-1051388		4.27	446	1.63	10146			1.46	Si
SLV 9	898	-13762	-5339	-275061		2.2	446	1.27	7956			1.49	Si
SLV 8	546	-23832	7008	327370		3.82	446	1.6	9970			1.42	Si
SLV 8	898	-14150	5397	-8594		2.27	446	1.29	8033			1.49	Si
SLV 7	546	-23832	7008	327370		3.82	446	1.6	9970			1.42	Si
SLV 7	898	-14150	5397	-8594		2.27	446	1.29	8033			1.49	Si
SLV 11	546	-21465	7429	472182		3.44	446	1.52	9496			1.28	Si
SLV 11	898	-12639	5641	30551		2.02	446	1.24	7731			1.37	Si
SLD 12	546	-23712	3125	-12605		3.8	446	1.59	9946			3.18	Si
SLD 12	898	-13415	2394	-67402		2.15	446	1.26	7886			3.29	Si
SLV 12	546	-21465	7429	472182		3.44	446	1.52	9496			1.28	Si
SLV 12	898	-12639	5641	30551		2.02	446	1.24	7731			1.37	Si
SLV 10	546	-26683	-6960	-1051388		4.27	446	1.63	10146			1.46	Si
SLV 10	898	-13762	-5339	-275061		2.2	446	1.27	7956			1.49	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.39	2.41	-15059	24806	84606	3.41	Si
SLV 16	14	0.39	2.41	-15059	24806	84606	3.41	Si
SLV 14	14	0.39	2.49	-15578	24806	86782	3.5	Si
SLV 13	14	0.39	2.49	-15578	24806	86782	3.5	Si
SLV 11	14	0.39	2.68	-16727	24806	91420	3.69	Si
SLV 12	14	0.39	2.68	-16727	24806	91420	3.69	Si
SLV 10	14	0.39	2.96	-18459	24806	97950	3.95	Si
SLV 9	14	0.39	2.96	-18459	24806	97950	3.95	Si
SLV 7	14	0.39	2.99	-18677	24806	98733	3.98	Si
SLV 8	14	0.39	2.99	-18677	24806	98733	3.98	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 4	-16306	-28419	5	0.022	19.704	0.954	33.168	1675.871	No
SLV 3	-16306	-28419	5	0.022	19.704	0.954	33.168	1675.871	No
SLV 2	-16643	-29984	-3	0.022	20.046	0.955	33.284	1675.871	No
SLV 1	-16643	-29984	-3	0.022	20.046	0.955	33.284	1675.871	No
SLV 14	-11606	-22096	-4	0.022	14.935	0.941	34.734	1675.871	No
SLV 13	-11606	-22096	-4	0.022	14.935	0.941	34.734	1675.871	No
SLV 15	-11269	-20530	4	0.023	14.594	0.94	34.913	1675.871	No
SLV 16	-11269	-20530	4	0.023	14.594	0.94	34.913	1675.871	No
SLV 5	-15273	-29050	-12	0.021	18.655	0.952	32.825	1464.148	No
SLV 6	-15273	-29050	-12	0.021	18.655	0.952	32.825	1464.148	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.136	SLU 82	Si
V_SLV	6.298	SLU 29	Si
PF_SLV	3.354	SLV 5	Si
V_SLV	1.278	SLV 11	Si
PFFP_SLV	3.411	SLV 15	Si
R_SLV	0.02	SLV 3	No



Maschio 115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1375.3	-35.4	-1375.3	-22.8	L4	L5	12.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 58	546	-984	-238	2.79	4061	17.063	Si
SLU 58	756	-686	-11791	0	0	0	No, e>l/2
SLU 55	546	-1049	272	2.98	4180	15.388	Si
SLU 55	756	-619	-10856	0	0	0	No, e>l/2
SLU 56	546	-1001	-225	2.84	4094	18.23	Si
SLU 56	756	-691	-11861	0	0	0	No, e>l/2
SLU 57	546	-1022	-94	2.9	4134	43.918	Si
SLU 57	756	-678	-11693	0	0	0	No, e>l/2
SLU 59	546	-1005	-108	2.86	4102	38.151	Si
SLU 59	756	-674	-11623	0	0	0	No, e>l/2
SLU 1	546	-769	-529	2.18	3535	6.689	Si
SLU 1	756	-420	-7308	0	0	0	No, e>l/2
SLU 54	546	-1052	198	2.99	4185	21.133	Si
SLU 54	756	-631	-11037	0	0	0	No, e>l/2
SLU 53	546	-1030	68	2.93	4149	61.39	Si
SLU 53	756	-644	-11205	0	0	0	No, e>l/2
SLU 61	546	-1091	894	3.1	4248	4.75	Si
SLU 61	756	-611	-10914	0	0	0	No, e>l/2
SLU 60	546	-1070	764	3.04	4215	5.517	Si
SLU 60	756	-624	-11082	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 8	546	-1934	5794	5.5	6689	1.154	Si
SLV 8	756	162	125	0	0	0	No, Trazione
SLV 14	546	-856	21	2.43	4310	201.196	Si
SLV 14	756	-381	-6909	0	0	0	No, e>l/2
SLV 6	546	587	-7810	0	0	0	No, Trazione
SLV 6	756	-1268	-18641	0	0	0	No, e>l/2
SLD 1	546	-460	-2169	1.31	2580	1.189	Si
SLD 1	756	-681	-10953	0	0	0	No, e>l/2
SLV 9	546	328	-6393	0	0	0	No, Trazione
SLV 9	756	-1089	-16257	0	0	0	No, e>l/2
SLV 13	546	-856	21	2.43	4310	201.196	Si
SLV 13	756	-381	-6909	0	0	0	No, e>l/2
SLV 7	546	-1934	5794	5.5	6689	1.154	Si
SLV 7	756	162	125	0	0	0	No, Trazione
SLV 11	546	-2193	7211	6.23	6754	0.937	No, M>Mu
SLV 11	756	340	2509	0	0	0	No, Trazione
SLV 12	546	-2193	7211	6.23	6754	0.937	No, M>Mu
SLV 12	756	340	2509	0	0	0	No, Trazione
SLV 10	546	328	-6393	0	0	0	No, Trazione
SLV 10	756	-1089	-16257	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 56	546	-1001	72	-225		2.84	12.57	0.93	329			4.55	Si
SLU 56	756	-691	-251	-11861		0	0	0.56	0			0	No, Vu<V
SLU 59	546	-1005	81	-108		2.86	12.57	0.94	330			4.07	Si
SLU 59	756	-674	-237	-11623		0	0	0.56	0			0	No, Vu<V
SLU 57	546	-1022	84	-94		2.9	12.57	0.94	332			3.95	Si
SLU 57	756	-678	-239	-11693		0	0	0.56	0			0	No, Vu<V
SLU 1	546	-769	50	-529		2.18	12.57	0.85	298			6	Si
SLU 1	756	-420	-136	-7308		0	0	0.56	0			0	No, Vu<V
SLU 53	546	-1030	96	68		2.93	12.57	0.95	333			3.48	Si
SLU 53	756	-644	-210	-11205		0	0	0.56	0			0	No, Vu<V
SLU 58	546	-984	69	-238		2.79	12.57	0.93	327			4.71	Si
SLU 58	756	-686	-249	-11791		0	0	0.56	0			0	No, Vu<V
SLU 55	546	-1049	112	272		2.98	12.57	0.95	335			3	Si
SLU 55	756	-619	-188	-10856		0	0	0.56	0			0	No, Vu<V
SLU 60	546	-1070	137	764		3.04	12.57	0.96	338			2.47	Si
SLU 60	756	-624	-170	-11082		0	0	0.56	0			0	No, Vu<V
SLU 54	546	-1052	107	198		2.99	12.57	0.95	336			3.13	Si
SLU 54	756	-631	-198	-11037		0	0	0.56	0			0	No, Vu<V
SLU 61	546	-1091	148	894		3.1	12.57	0.97	341			2.3	Si
SLU 61	756	-611	-158	-10914		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	546	328	-485	-6393		0	0	0.83	0			0	No, Vu<V
SLV 9	756	-1089	-772	-16257		0	0	0.83	0			0	No, Vu<V
SLV 8	546	-1934	608	5794		7	9.87	1.63	449			0.74	No, Vu<V

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Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	756	162	469	125		0	0	0.83	0			0	No, Vu<V
SLV 7	546	-1934	608	5794		7	9.87	1.63	449			0.74	No, Vu<V
SLV 7	756	162	469	125		0	0	0.83	0			0	No, Vu<V
SLV 6	546	587	-622	-7810		0	0	0.83	0			0	No, Vu<V
SLV 6	756	-1268	-943	-18641		0	0	0.83	0			0	No, Vu<V
SLV 11	546	-2193	744	7211		8.71	8.99	1.63	409			0.55	No, Vu<V
SLV 11	756	340	639	2509		0	0	0.83	0			0	No, Vu<V
SLD 1	546	-460	-114	-2169		3.5	4.7	1.53	201			1.77	Si
SLD 1	756	-681	-362	-10953		0	0	0.83	0			0	No, Vu<V
SLV 12	546	-2193	744	7211		8.71	8.99	1.63	409			0.55	No, Vu<V
SLV 12	756	340	639	2509		0	0	0.83	0			0	No, Vu<V
SLV 13	546	-856	104	21		2.43	12.57	1.32	465			4.47	Si
SLV 13	756	-381	-80	-6909		0	0	0.83	0			0	No, Vu<V
SLV 14	546	-856	104	21		2.43	12.57	1.32	465			4.47	Si
SLV 14	756	-381	-80	-6909		0	0	0.83	0			0	No, Vu<V
SLV 10	546	328	-485	-6393		0	0	0.83	0			0	No, Vu<V
SLV 10	756	-1089	-772	-16257		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.39	0	-34	1337	0	0	No, e>t/2
SLV 12	14	0.39	0	290	1337	0	0	No, Trazione
SLV 11	14	0.39	0	290	1337	0	0	No, Trazione
SLV 8	14	0.39	0	-34	1337	0	0	No, e>t/2
SLV 15	14	0.39	0.48	-168	1337	2257	1.69	Si
SLV 16	14	0.39	0.48	-168	1337	2257	1.69	Si
SLV 14	14	0.39	2.51	-885	1337	9836	7.35	Si
SLV 13	14	0.39	2.51	-885	1337	9836	7.35	Si
SLV 3	14	0.39	3.55	-1248	1337	12403	9.27	Si
SLV 4	14	0.39	3.55	-1248	1337	12403	9.27	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-1871	6	140	0	0	0	0	960.164	No, Trazione
SLV 6	-2469	587	81	0	0	0	0	1675.871	No, Trazione
SLV 7	-18	-1934	31	0	0.232	0.943	0	1675.871	No
SLV 5	-2469	587	81	0	0	0	0	1675.871	No, Trazione
SLV 3	-1136	-750	125	0	1.331	0.961	0	960.164	No
SLV 10	-2246	328	16	0	0	0	0	1675.871	No, Trazione
SLV 9	-2246	328	16	0	0	0	0	1675.871	No, Trazione
SLV 8	-18	-1934	31	0	0.232	0.943	0	1675.871	No
SLV 2	-1871	6	140	0	0	0	0	960.164	No, Trazione
SLV 4	-1136	-750	125	0	1.331	0.961	0	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 12	No

Maschio 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	67.2	-1375.3	104.6	L4	L5	37.4	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 74	546	-6453	-21543	6.16	29482	1.369	Si
SLU 74	756	-4376	7309	4.18	39920	5.462	Si
SLU 71	546	-6083	-23454	5.8	32726	1.395	Si
SLU 71	756	-3730	10395	3.56	39310	3.782	Si
SLU 69	546	-6162	-23525	5.88	32089	1.364	Si
SLU 69	756	-3809	10379	3.63	39482	3.804	Si
SLU 78	546	-6701	-23363	6.39	26977	1.155	Si
SLU 78	756	-4445	8690	4.24	39876	4.589	Si
SLU 83	546	-6635	-21837	6.33	27668	1.267	Si
SLU 83	756	-4547	6989	4.34	39775	5.691	Si
SLU 84	546	-6567	-20824	6.27	28366	1.362	Si
SLU 84	756	-4601	6083	4.39	39703	6.527	Si
SLU 80	546	-6622	-23292	6.32	27800	1.194	Si
SLU 80	756	-4367	8705	4.17	39924	4.586	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 77	546	-6769	-24375	6.46	26239	1.076	Si
SLU 77	756	-4391	9596	4.19	39912	4.159	Si
SLU 79	546	-6691	-24304	6.38	27085	1.114	Si
SLU 79	756	-4313	9611	4.11	39941	4.156	Si
SLU 70	546	-6094	-22513	5.81	32645	1.45	Si
SLU 70	756	-3863	9473	3.69	39584	4.179	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 6	546	-7820	-83243	7.46	56981	0.685	No, M>Mu
SLV 6	756	704	49807	0	0	0	No, Trazione
SLV 12	546	-574	57336	0	0	0	No, e>1/2
SLV 12	756	-6593	-42545	6.29	59864	1.407	Si
SLV 7	546	-1266	37812	0	0	0	No, e>1/2
SLV 7	756	-5833	-35800	5.57	59442	1.66	Si
SLV 11	546	-574	57336	0	0	0	No, e>1/2
SLV 11	756	-6593	-42545	6.29	59864	1.407	Si
SLV 5	546	-7820	-83243	7.46	56981	0.685	No, M>Mu
SLV 5	756	704	49807	0	0	0	No, Trazione
SLV 8	546	-1266	37812	0	0	0	No, e>1/2
SLV 8	756	-5833	-35800	5.57	59442	1.66	Si
SLV 9	546	-7128	-63720	6.8	59149	0.928	No, M>Mu
SLV 9	756	-57	43062	0	0	0	No, e>1/2
SLV 2	546	-6334	-63651	6.04	59910	0.941	No, M>Mu
SLV 2	756	-697	27713	0	0	0	No, e>1/2
SLV 10	546	-7128	-63720	6.8	59149	0.928	No, M>Mu
SLV 10	756	-57	43062	0	0	0	No, e>1/2
SLV 1	546	-6334	-63651	6.04	59910	0.941	No, M>Mu
SLV 1	756	-697	27713	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	546	-5139	-291	-20527		4.9	37.43	1.08	1135			3.9	Si
SLU 30	756	-3082	-288	9549		2.94	37.43	0.95	993			3.44	Si
SLU 28	546	-5218	-291	-20598		4.98	37.43	1.08	1135			3.9	Si
SLU 28	756	-3161	-289	9533		3.02	37.43	0.96	1004			3.48	Si
SLU 29	546	-5208	-310	-21540		4.97	37.43	1.08	1135			3.66	Si
SLU 29	756	-3028	-309	10454		2.89	37.43	0.94	986			3.19	Si
SLU 79	546	-6691	-327	-24304		6.38	37.43	1.08	1135			3.47	Si
SLU 79	756	-4313	-325	9611		4.11	37.43	1.08	1135			3.5	Si
SLU 69	546	-6162	-324	-23525		5.88	37.43	1.08	1135			3.5	Si
SLU 69	756	-3809	-323	10379		3.63	37.43	1.04	1090			3.38	Si
SLU 27	546	-5286	-310	-21611		5.04	37.43	1.08	1135			3.66	Si
SLU 27	756	-3107	-310	10439		2.96	37.43	0.95	997			3.22	Si
SLU 77	546	-6769	-327	-24375		6.46	37.43	1.08	1135			3.47	Si
SLU 77	756	-4391	-325	9596		4.19	37.43	1.08	1135			3.49	Si
SLU 35	546	-5893	-313	-22461		5.62	37.43	1.08	1135			3.63	Si
SLU 35	756	-3689	-312	9655		3.52	37.43	1.02	1074			3.45	Si
SLU 71	546	-6083	-324	-23454		5.8	37.43	1.08	1135			3.5	Si
SLU 71	756	-3730	-323	10395		3.56	37.43	1.03	1080			3.35	Si
SLU 37	546	-5815	-313	-22390		5.55	37.43	1.08	1135			3.63	Si
SLU 37	756	-3611	-311	9671		3.45	37.43	1.01	1064			3.42	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	546	-574	1483	57336		0	0	0.83	0			0	No, Vu<V
SLV 11	756	-6593	655	-42545		6.4	36.79	1.63	1674			2.56	Si
SLV 12	546	-574	1483	57336		0	0	0.83	0			0	No, Vu<V
SLV 12	756	-6593	655	-42545		6.4	36.79	1.63	1674			2.56	Si
SLV 8	546	-1266	1232	37812		0	0	0.83	0			0	No, Vu<V
SLV 8	756	-5833	907	-35800		5.57	37.43	1.63	1703			1.88	Si
SLV 6	546	-7820	-1793	-83243		11.54	24.21	1.63	1102			0.61	No, Vu<V
SLV 6	756	704	-961	49807		0	0	0.83	0			0	No, Vu<V
SLV 1	546	-6334	-1027	-63651		8.7	26	1.63	1183			1.15	Si
SLV 1	756	-697	-13	27713		0	0	0.83	0			0	No, Vu<V
SLV 5	546	-7820	-1793	-83243		11.54	24.21	1.63	1102			0.61	No, Vu<V
SLV 5	756	704	-961	49807		0	0	0.83	0			0	No, Vu<V
SLV 2	546	-6334	-1027	-63651		8.7	26	1.63	1183			1.15	Si
SLV 2	756	-697	-13	27713		0	0	0.83	0			0	No, Vu<V
SLV 7	546	-1266	1232	37812		0	0	0.83	0			0	No, Vu<V
SLV 7	756	-5833	907	-35800		5.57	37.43	1.63	1703			1.88	Si
SLV 10	546	-7128	-1542	-63720		8.68	29.33	1.63	1334			0.87	No, Vu<V
SLV 10	756	-57	-1213	43062		0	0	0.83	0			0	No, Vu<V
SLV 9	546	-7128	-1542	-63720		8.68	29.33	1.63	1334			0.87	No, Vu<V
SLV 9	756	-57	-1213	43062		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.39	0.39	-407	3983	5519	1.39	Si
SLV 6	14	0.39	0.39	-407	3983	5519	1.39	Si
SLV 9	14	0.39	1.11	-1160	3983	14767	3.71	Si
SLV 10	14	0.39	1.11	-1160	3983	14767	3.71	Si
SLV 2	14	0.39	1.15	-1200	3983	15230	3.82	Si
SLV 1	14	0.39	1.15	-1200	3983	15230	3.82	Si
SLV 4	14	0.39	2.51	-2633	3983	29282	7.35	Si
SLV 3	14	0.39	2.51	-2633	3983	29282	7.35	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.39	3.54	-3709	3983	36888	9.26	Si
SLV 14	14	0.39	3.54	-3709	3983	36888	9.26	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	σ_0	M*	e*	a0*	aLim	Verifica
SLV 11	113	-574	7	0	0	0	0	1675.871	No, Trazione
SLV 12	113	-574	7	0	0	0	0	1675.871	No, Trazione
SLV 6	-5157	-7820	-10	0.04	5.77	0.972	60.374	1675.871	No
SLV 5	-5157	-7820	-10	0.04	5.77	0.972	60.374	1675.871	No
SLV 9	-4561	-7128	-1	0.042	5.163	0.969	63.304	1675.871	No
SLV 10	-4561	-7128	-1	0.042	5.163	0.969	63.304	1675.871	No
SLV 8	-483	-1266	-2	0.054	1.043	0.892	88.075	1675.871	No
SLV 7	-483	-1266	-2	0.054	1.043	0.892	88.075	1675.871	No
SLV 1	-4216	-6334	-17	0.039	4.812	0.967	58.533	960.164	No
SLV 2	-4216	-6334	-17	0.039	4.812	0.967	58.533	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.076	SLU 77	Si
V_SLU	3.188	SLU 29	Si
PF_SLV	0	SLV 6	No
V_SLV	0	SLV 1	No
PFFP_SLV	1.386	SLV 5	Si
R_SLV	0	SLV 12	No

Maschio 117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1239.3	333.1	-1239.3	104.6	L4	L5	228.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 50	546	-11900	8009	3.72	738703	92.229	Si
SLU 50	898	-6457	137741	2.02	554922	4.029	Si
SLU 77	546	-15525	-7845	4.85	716994	91.4	Si
SLU 77	898	-8448	159837	2.64	652285	4.081	Si
SLU 78	546	-15529	-8037	4.85	716901	89.205	Si
SLU 78	898	-8434	159306	2.64	651722	4.091	Si
SLU 70	546	-13722	2914	4.29	742191	254.719	Si
SLU 70	898	-7538	151765	2.36	612084	4.033	Si
SLU 72	546	-13390	7102	4.19	743727	104.719	Si
SLU 72	898	-7307	150726	2.28	600721	3.986	Si
SLU 71	546	-13386	7294	4.18	743740	101.965	Si
SLU 71	898	-7321	151257	2.29	601422	3.976	Si
SLU 79	546	-15192	-3656	4.75	723783	197.96	Si
SLU 79	898	-8217	158798	2.57	642767	4.048	Si
SLU 51	546	-11904	7817	3.72	738745	94.5	Si
SLU 51	898	-6443	137210	2.01	554114	4.038	Si
SLU 69	546	-13718	3106	4.29	742217	238.983	Si
SLU 69	898	-7552	152296	2.36	612756	4.023	Si
SLU 80	546	-15197	-3848	4.75	723702	188.064	Si
SLU 80	898	-8203	158267	2.56	642176	4.058	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 12	546	-9077	39524	2.84	796210	20.145	Si
SLD 12	898	-4823	160721	1.51	482995	3.005	Si
SLV 4	546	-8088	4355	2.53	732871	168.269	Si
SLV 4	898	-4727	232655	1.48	474787	2.041	Si
SLD 8	546	-8737	36289	2.73	775077	21.359	Si
SLD 8	898	-4756	182208	1.49	477260	2.619	Si
SLV 7	546	-6067	131268	1.9	585600	4.461	Si
SLV 7	898	-3791	302220	1.19	391158	1.294	Si
SLV 8	546	-6067	131268	1.9	585600	4.461	Si
SLV 8	898	-3791	302220	1.19	391158	1.294	Si
SLV 12	546	-6872	138957	2.15	647081	4.657	Si
SLV 12	898	-3949	251750	1.23	405621	1.611	Si
SLV 3	546	-8088	4355	2.53	732871	168.269	Si
SLV 3	898	-4727	232655	1.48	474787	2.041	Si
SLD 11	546	-9077	39524	2.84	796210	20.145	Si
SLD 11	898	-4823	160721	1.51	482995	3.005	Si
SLD 7	546	-8737	36289	2.73	775077	21.359	Si
SLD 7	898	-4756	182208	1.49	477260	2.619	Si
SLV 11	546	-6872	138957	2.15	647081	4.657	Si
SLV 11	898	-3949	251750	1.23	405621	1.611	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 52	546	-13988	125	-50083		4.37	228.5	1.08	3466			27.82	Si
SLU 52	898	-7035	85	115736		2.2	228.5	0.85	2715			31.83	Si
SLU 61	546	-14760	128	-54648		4.61	228.5	1.08	3466			27.09	Si
SLU 61	898	-7428	84	119322		2.32	228.5	0.87	2768			33.04	Si
SLU 1	546	-9757	108	-30044		3.05	228.5	0.96	3078			28.59	Si
SLU 1	898	-4968	81	87473		1.55	228.5	0.76	2440			30.12	Si
SLU 64	546	-13660	130	-39528		4.27	228.5	1.08	3466			26.68	Si
SLU 64	898	-7026	95	122597		2.2	228.5	0.85	2714			28.51	Si
SLU 60	546	-14755	137	-54456		4.61	228.5	1.08	3466			25.33	Si
SLU 60	898	-7442	91	119853		2.33	228.5	0.87	2770			30.59	Si
SLU 44	546	-12181	130	-39132		3.81	228.5	1.06	3401			26.08	Si
SLU 44	898	-6139	99	108195		1.92	228.5	0.81	2596			26.13	Si
SLU 43	546	-12174	145	-38812		3.81	228.5	1.06	3400			23.42	Si
SLU 43	898	-6162	111	109080		1.93	228.5	0.81	2599			23.5	Si
SLU 45	546	-12369	126	-19590		3.87	228.5	1.07	3426			27.29	Si
SLU 45	898	-6541	94	124449		2.04	228.5	0.83	2649			28.22	Si
SLU 81	546	-16241	121	-55171		5.08	228.5	1.08	3466			28.53	Si
SLU 81	898	-8306	75	133369		2.6	228.5	0.9	2885			38.4	Si
SLU 53	546	-14176	120	-30540		4.43	228.5	1.08	3466			28.95	Si
SLU 53	898	-7437	80	131990		2.32	228.5	0.87	2769			34.68	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 12	546	-6872	-5259	138957		2.15	228.5	1.26	4040			0.77	No, Vu<V
SLV 12	898	-3949	-3900	251750		1.86	151.51	1.21	2558			0.66	No, Vu<V
SLV 10	546	-15327	6475	-198023		4.79	228.5	1.63	5198			0.8	No, Vu<V
SLV 10	898	-7150	5454	-115242		2.23	228.5	1.28	4096			0.75	No, Vu<V
SLV 8	546	-6067	-6272	131268		1.9	228.5	1.21	3879			0.62	No, Vu<V
SLV 8	898	-3791	-5309	302220		2.61	103.62	1.36	1967			0.37	No, Vu<V
SLV 4	546	-8088	-3347	4355		2.53	228.5	1.34	4283			1.28	Si
SLV 4	898	-4727	-3679	232655		1.73	195.11	1.18	3222			0.88	No, Vu<V
SLV 5	546	-14523	5462	-205712		4.54	228.5	1.63	5198			0.95	No, Vu<V
SLV 5	898	-6992	4045	-64772		2.19	228.5	1.27	4064			1	Si
SLV 6	546	-14523	5462	-205712		4.54	228.5	1.63	5198			0.95	No, Vu<V
SLV 6	898	-6992	4045	-64772		2.19	228.5	1.27	4064			1	Si
SLV 9	546	-15327	6475	-198023		4.79	228.5	1.63	5198			0.8	No, Vu<V
SLV 9	898	-7150	5454	-115242		2.23	228.5	1.28	4096			0.75	No, Vu<V
SLV 7	546	-6067	-6272	131268		1.9	228.5	1.21	3879			0.62	No, Vu<V
SLV 7	898	-3791	-5309	302220		2.61	103.62	1.36	1967			0.37	No, Vu<V
SLV 11	546	-6872	-5259	138957		2.15	228.5	1.26	4040			0.77	No, Vu<V
SLV 11	898	-3949	-3900	251750		1.86	151.51	1.21	2558			0.66	No, Vu<V
SLV 3	546	-8088	-3347	4355		2.53	228.5	1.34	4283			1.28	Si
SLV 3	898	-4727	-3679	232655		1.73	195.11	1.18	3222			0.88	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.39	1.7	-5431	11604	32733	2.82	Si
SLV 12	14	0.39	1.7	-5431	11604	32733	2.82	Si
SLV 7	14	0.39	1.7	-5436	11604	32762	2.82	Si
SLV 8	14	0.39	1.7	-5436	11604	32762	2.82	Si
SLV 15	14	0.39	2.13	-6799	11604	39316	3.39	Si
SLV 16	14	0.39	2.13	-6799	11604	39316	3.39	Si
SLV 3	14	0.39	2.13	-6818	11604	39402	3.4	Si
SLV 4	14	0.39	2.13	-6818	11604	39402	3.4	Si
SLV 14	14	0.39	2.49	-7978	11604	44448	3.83	Si
SLV 13	14	0.39	2.49	-7978	11604	44448	3.83	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 13	-6214	-13306	6	0.022	7.923	0.943	33.684	1675.871	No
SLV 14	-6214	-13306	6	0.022	7.923	0.943	33.684	1675.871	No
SLV 1	-5688	-10625	4	0.022	7.39	0.94	34.498	1675.871	No
SLV 2	-5688	-10625	4	0.022	7.39	0.94	34.498	1675.871	No
SLV 3	-4727	-8088	-7	0.022	6.419	0.932	34.669	1675.871	No
SLV 4	-4727	-8088	-7	0.022	6.419	0.932	34.669	1675.871	No
SLV 15	-5254	-10770	-5	0.022	6.95	0.937	34.688	1675.871	No
SLV 16	-5254	-10770	-5	0.022	6.95	0.937	34.688	1675.871	No
SLV 10	-7150	-15327	18	0.02	8.872	0.948	30.958	1464.148	No
SLV 9	-7150	-15327	18	0.02	8.872	0.948	30.958	1464.148	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.976	SLV 71	Si
V_SLV	23.419	SLV 43	Si
PF_SLV	1.294	SLV 7	Si
V_SLV	0.371	SLV 7	No
PFFP_SLV	2.821	SLV 11	Si
R_SLV	0.02	SLV 13	No



Maschio 118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1505.8	333.1	-1074.8	333.1	L4	L5	431	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 51	546	-2724	-156410	0.45	554424	3.545	Si
SLU 51	736	-5304	-853266	0.88	1019698	1.195	Si
SLU 7	546	-2205	-127929	0.37	453899	3.548	Si
SLU 7	736	-4433	-703166	0.73	869215	1.236	Si
SLU 48	546	-2817	-159855	0.47	572308	3.58	Si
SLU 48	736	-5554	-872652	0.92	1061719	1.217	Si
SLU 6	546	-2204	-127729	0.37	453690	3.552	Si
SLU 6	736	-4431	-702146	0.73	868862	1.237	Si
SLU 49	546	-2818	-160055	0.47	572511	3.577	Si
SLU 49	736	-5556	-873672	0.92	1062052	1.216	Si
SLU 9	546	-2111	-124283	0.35	435304	3.503	Si
SLU 9	736	-4181	-682760	0.69	824375	1.207	Si
SLU 8	546	-2110	-124083	0.35	435094	3.506	Si
SLU 8	736	-4179	-681740	0.69	824018	1.209	Si
SLU 72	546	-3056	-174307	0.51	617628	3.543	Si
SLU 72	736	-6323	-961119	1.05	1187310	1.235	Si
SLU 71	546	-3055	-174106	0.51	617427	3.546	Si
SLU 71	736	-6321	-960098	1.05	1186990	1.236	Si
SLU 50	546	-2723	-156209	0.45	554220	3.548	Si
SLU 50	736	-5302	-852246	0.88	1019360	1.196	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLD 8	546	-1556	-177993	0.26	328201	1.844	Si
SLD 8	736	-2104	-1034579	0	0	0	No, e>1/2
SLV 7	546	-81	-231373	0	0	0	No, e>1/2
SLV 7	736	2584	-1409683	0	0	0	No, Trazione
SLD 7	546	-1556	-177993	0.26	328201	1.844	Si
SLD 7	736	-2104	-1034579	0	0	0	No, e>1/2
SLV 11	546	194	-193960	0	0	0	No, Trazione
SLV 11	736	1603	-1163584	0	0	0	No, Trazione
SLD 3	546	-2490	-173140	0.41	518554	2.995	Si
SLD 3	736	-3899	-998142	0	0	0	No, e>1/2
SLV 8	546	-81	-231373	0	0	0	No, e>1/2
SLV 8	736	2584	-1409683	0	0	0	No, Trazione
SLV 12	546	194	-193960	0	0	0	No, Trazione
SLV 12	736	1603	-1163584	0	0	0	No, Trazione
SLD 4	546	-2490	-173140	0.41	518554	2.995	Si
SLD 4	736	-3899	-998142	0	0	0	No, e>1/2
SLD 12	546	-1442	-162598	0.24	304575	1.873	Si
SLD 12	736	-2521	-930118	0	0	0	No, e>1/2
SLD 11	546	-1442	-162598	0.24	304575	1.873	Si
SLD 11	736	-2521	-930118	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 54	546	-3413	-3	-179463		0.57	431	0.63	3807			1000	Si
SLU 54	736	-7227	-1	-996788		2.22	232.71	0.85	2774			1000	Si
SLU 56	546	-3255	-3	-177533		0.54	431	0.63	3786			1000	Si
SLU 56	736	-6860	-1	-990830		2.3	213.21	0.86	2573			1000	Si
SLU 57	546	-3256	-3	-177734		0.54	431	0.63	3786			1000	Si
SLU 57	736	-6862	-1	-991850		2.3	212.89	0.86	2571			1000	Si
SLU 60	546	-3661	-3	-184922		0.61	431	0.64	3840			1000	Si
SLU 60	736	-7897	-1	-1030947		2.21	254.83	0.85	3035			1000	Si
SLU 53	546	-3412	-3	-179262		0.57	431	0.63	3807			1000	Si
SLU 53	736	-7225	-1	-995768		2.21	233.02	0.85	2776			1000	Si
SLU 61	546	-3662	-3	-185123		0.61	431	0.64	3841			1000	Si
SLU 61	736	-7899	-1	-1031967		2.22	254.54	0.85	3033			1000	Si
SLU 55	546	-3319	-3	-175951		0.55	431	0.63	3795			1000	Si
SLU 55	736	-6976	-1	-977062		2.2	226.3	0.85	2690			1000	Si
SLU 59	546	-3161	-3	-174088		0.52	431	0.63	3774			1000	Si
SLU 59	736	-6610	-1	-971444		2.3	205.6	0.86	2480			1000	Si
SLU 1	546	-2423	-2	-127541		0.4	431	0.61	3675			1000	Si
SLU 1	736	-4908	-1	-691616		1.57	223.75	0.76	2395			1000	Si
SLU 58	546	-3160	-3	-173888		0.52	431	0.63	3774			1000	Si
SLU 58	736	-6608	-1	-970424		2.29	205.93	0.86	2483			1000	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 11	546	-1442	95	-162598		0.33	308.11	0.9	3883			40.74	Si
SLD 11	736	-2521	-41	-930118		0	0	0.83	0			0	No, Vu<V
SLV 7	546	-81	-528	-231373		0	0	0.83	0			0	No, Vu<V

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scor.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	736	2584	53	-1409683		0	0	0.83	0			0	No, Vu<V
SLV 3	546	-2293	-1304	-222548		0.46	355.35	0.93	4604			3.53	Si
SLV 3	736	-1637	258	-1325491		0	0	0.83	0			0	No, Vu<V
SLD 4	546	-2490	-546	-173140		0.41	431	0.92	5526			10.12	Si
SLD 4	736	-3899	113	-998142		0	0	0.83	0			0	No, Vu<V
SLV 11	546	194	226	-193960		0	0	0.83	0			0	No, Vu<V
SLV 11	736	1603	-106	-1163584		0	0	0.83	0			0	No, Vu<V
SLD 8	546	-1556	-220	-177993		0.37	303.28	0.91	3849			17.49	Si
SLD 8	736	-2104	28	-1034579		0	0	0.83	0			0	No, Vu<V
SLV 8	546	-81	-528	-231373		0	0	0.83	0			0	No, Vu<V
SLV 8	736	2584	53	-1409683		0	0	0.83	0			0	No, Vu<V
SLD 12	546	-1442	95	-162598		0.33	308.11	0.9	3883			40.74	Si
SLD 12	736	-2521	-41	-930118		0	0	0.83	0			0	No, Vu<V
SLV 12	546	194	226	-193960		0	0	0.83	0			0	No, Vu<V
SLV 12	736	1603	-106	-1163584		0	0	0.83	0			0	No, Vu<V
SLV 4	546	-2293	-1304	-222548		0.46	355.35	0.93	4604			3.53	Si
SLV 4	736	-1637	258	-1325491		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.39	0	1531	21887	0	0	No, Trazione
SLV 4	14	0.39	0	-1828	21887	0	0	No, e>t/2
SLV 8	14	0.39	0	2464	21887	0	0	No, Trazione
SLV 12	14	0.39	0	1531	21887	0	0	No, Trazione
SLV 3	14	0.39	0	-1828	21887	0	0	No, e>t/2
SLV 7	14	0.39	0	2464	21887	0	0	No, Trazione
SLV 15	14	0.39	0.82	-4940	21887	32261	1.47	Si
SLV 16	14	0.39	0.82	-4940	21887	32261	1.47	Si
SLV 2	14	0.39	1.07	-6441	21887	41148	1.88	Si
SLV 1	14	0.39	1.07	-6441	21887	41148	1.88	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-3992	-81	299	0	7.181	0.901	0	1464.148	No
SLV 12	-4400	194	316	0	0	0	0	1464.148	No, Trazione
SLV 7	-3992	-81	299	0	7.181	0.901	0	1464.148	No
SLV 11	-4400	194	316	0	0	0	0	1464.148	No, Trazione
SLV 5	-12889	-5481	-316	0.001	16.129	0.947	1.644	1464.148	No
SLV 6	-12889	-5481	-316	0.001	16.129	0.947	1.644	1464.148	No
SLV 10	-13297	-5205	-299	0.003	16.542	0.948	4.197	1464.148	No
SLV 9	-13297	-5205	-299	0.003	16.542	0.948	4.197	1464.148	No
SLV 16	-7989	-1374	122	0.011	11.171	0.928	17.925	1675.871	No
SLV 15	-7989	-1374	122	0.011	11.171	0.928	17.925	1675.871	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.195	SLU 51	Si
V_SLU	1000	SLU 1	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 3	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 12	No

Maschio 119

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-994.8	333.1	-972.8	333.1	L4	L5	22	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 29	546	-296	3117	0.96	2874	0.922	No, M>Mu
SLU 29	736	-353	3962	0	0	0	No, e>l/2
SLU 57	546	-407	4291	1.32	3753	0.875	No, M>Mu
SLU 57	736	-475	5306	0	0	0	No, e>l/2
SLU 56	546	-407	4283	1.32	3747	0.875	No, M>Mu
SLU 56	736	-474	5300	0	0	0	No, e>l/2
SLU 59	546	-395	4159	1.28	3659	0.88	No, M>Mu
SLU 59	736	-459	5161	0	0	0	No, e>l/2
SLU 28	546	-309	3256	1	2984	0.916	No, M>Mu
SLU 28	736	-371	4112	0	0	0	No, e>l/2
SLU 1	546	-303	3202	0.99	2934	0.916	No, M>Mu
SLU 1	736	-335	3844	0	0	0	No, e>l/2
SLU 62	546	-437	4606	1.42	3969	0.862	No, M>Mu
SLU 62	736	-512	5634	0	0	0	No, e>l/2

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 27	546	-309	3249	1	2978	0.917	No, M>Mu
SLU 27	736	-370	4106	0	0	0	No, e>l/2
SLU 30	546	-297	3124	0.96	2880	0.922	No, M>Mu
SLU 30	736	-354	3968	0	0	0	No, e>l/2
SLU 58	546	-394	4151	1.28	3654	0.88	No, M>Mu
SLU 58	736	-458	5155	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 2	546	229	800	0	0	0	No, Trazione
SLV 2	736	2102	21035	0	0	0	No, Trazione
SLV 9	546	-774	5792	2.51	6763	1.168	Si
SLV 9	736	-450	12834	0	0	0	No, e>l/2
SLV 11	546	-262	2978	0	0	0	No, e>l/2
SLV 11	736	-1676	-12326	5.44	10225	0.83	No, M>Mu
SLV 10	546	-774	5792	2.51	6763	1.168	Si
SLV 10	736	-450	12834	0	0	0	No, e>l/2
SLV 8	546	118	1128	0	0	0	No, Trazione
SLV 8	736	-300	-4476	0	0	0	No, e>l/2
SLV 1	546	229	800	0	0	0	No, Trazione
SLV 1	736	2102	21035	0	0	0	No, Trazione
SLV 7	546	118	1128	0	0	0	No, Trazione
SLV 7	736	-300	-4476	0	0	0	No, e>l/2
SLD 1	546	-102	2366	0	0	0	No, e>l/2
SLD 1	736	609	10841	0	0	0	No, Trazione
SLV 3	546	383	-44	0	0	0	No, Trazione
SLV 3	736	1734	13487	0	0	0	No, Trazione
SLV 4	546	383	-44	0	0	0	No, Trazione
SLV 4	736	1734	13487	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 66	546	-409	12	4308		21.24	1.37	1.08	21			1.69	Si
SLU 66	736	-470	3	5277		0	0	0.56	0			0	No, Vu<V
SLU 64	546	-417	12	4395		22	1.35	1.08	21			1.66	Si
SLU 64	736	-474	3	5315		0	0	0.56	0			0	No, Vu<V
SLU 1	546	-303	9	3202		16.24	1.33	1.08	20			2.28	Si
SLU 1	736	-335	2	3844		0	0	0.56	0			0	No, Vu<V
SLU 65	546	-418	12	4407		22	1.36	1.08	21			1.66	Si
SLU 65	736	-475	3	5324		0	0	0.56	0			0	No, Vu<V
SLU 63	546	-438	13	4613		22.67	1.38	1.08	21			1.58	Si
SLU 63	736	-513	4	5640		0	0	0.56	0			0	No, Vu<V
SLU 61	546	-458	14	4832		24.14	1.36	1.08	21			1.51	Si
SLU 61	736	-533	4	5822		0	0	0.56	0			0	No, Vu<V
SLU 68	546	-397	12	4188		20.53	1.38	1.08	21			1.74	Si
SLU 68	736	-456	3	5142		0	0	0.56	0			0	No, Vu<V
SLU 69	546	-388	12	4088		19.79	1.4	1.08	21			1.78	Si
SLU 69	736	-451	3	5094		0	0	0.56	0			0	No, Vu<V
SLU 67	546	-409	12	4315		21.25	1.38	1.08	21			1.69	Si
SLU 67	736	-471	3	5282		0	0	0.56	0			0	No, Vu<V
SLU 62	546	-437	13	4606		22.67	1.38	1.08	21			1.58	Si
SLU 62	736	-512	4	5634		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	546	-262	50	2978		0	0	0.83	0			0	No, Vu<V
SLV 11	736	-1676	-59	-12326		10.95	10.93	1.63	249			4.21	Si
SLV 7	546	118	-100	1128		0	0	0.83	0			0	No, Vu<V
SLV 7	736	-300	-141	-4476		0	0	0.83	0			0	No, Vu<V
SLV 1	546	229	-229	800		0	0	0.83	0			0	No, Vu<V
SLV 1	736	2102	-103	21035		0	0	0.83	0			0	No, Vu<V
SLV 5	546	-394	-30	3942		9.5	2.96	1.63	67			2.23	Si
SLV 5	736	926	64	20684		0	0	0.83	0			0	No, Vu<V
SLV 6	546	-394	-30	3942		9.5	2.96	1.63	67			2.23	Si
SLV 6	736	926	64	20684		0	0	0.83	0			0	No, Vu<V
SLV 2	546	229	-229	800		0	0	0.83	0			0	No, Vu<V
SLV 2	736	2102	-103	21035		0	0	0.83	0			0	No, Vu<V
SLV 8	546	118	-100	1128		0	0	0.83	0			0	No, Vu<V
SLV 8	736	-300	-141	-4476		0	0	0.83	0			0	No, Vu<V
SLD 1	546	-102	-86	2366		0	0	0.83	0			0	No, Vu<V
SLD 1	736	609	-39	10841		0	0	0.83	0			0	No, Vu<V
SLV 4	546	383	-250	-44		0	0	0.83	0			0	No, Vu<V
SLV 4	736	1734	-164	13487		0	0	0.83	0			0	No, Vu<V
SLV 3	546	383	-250	-44		0	0	0.83	0			0	No, Vu<V
SLV 3	736	1734	-164	13487		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.39	0	1734	1117	0	0	No, Trazione
SLV 5	14	0.39	0	926	1117	0	0	No, Trazione
SLV 4	14	0.39	0	1734	1117	0	0	No, Trazione
SLV 1	14	0.39	0	2102	1117	0	0	No, Trazione
SLV 6	14	0.39	0	926	1117	0	0	No, Trazione
SLV 2	14	0.39	0	2102	1117	0	0	No, Trazione
SLV 7	14	0.39	0.97	-300	1117	1932	1.73	Si
SLV 8	14	0.39	0.97	-300	1117	1932	1.73	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.39	1.46	-450	1117	2771	2.48	Si
SLV 9	14	0.39	1.46	-450	1117	2771	2.48	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-233	383	0	0	0	0	0	1675.871	No, Trazione
SLV 1	-277	229	-5	0	0	0	0	1675.871	No, Trazione
SLV 12	-216	-262	8	0	0.379	0.903	0	1464.148	No
SLV 7	-201	118	7	0	0	0	0	1464.148	No, Trazione
SLV 11	-216	-262	8	0	0.379	0.903	0	1464.148	No
SLV 4	-233	383	0	0	0	0	0	1675.871	No, Trazione
SLV 8	-201	118	7	0	0	0	0	1464.148	No, Trazione
SLV 2	-277	229	-5	0	0	0	0	1675.871	No, Trazione
SLV 5	-346	-394	-8	0.006	0.508	0.921	8.727	1464.148	No
SLV 6	-346	-394	-8	0.006	0.508	0.921	8.727	1464.148	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 8	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 6	No
R_SLV	0	SLV 8	No

Maschio 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1975.8	666.1	-1771.8	666.1	L4	L5	204	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 61	636	-19414	27534	3.4	1153989	41.911	Si
SLU 61	816	-16942	182048	2.97	1098865	6.036	Si
SLU 75	636	-20581	34226	3.6	1170702	34.205	Si
SLU 75	816	-18079	183939	3.17	1127553	6.13	Si
SLU 84	636	-21096	31025	3.69	1176184	37.911	Si
SLU 84	816	-18595	191699	3.26	1138689	5.94	Si
SLU 81	636	-21382	27395	3.74	1178724	43.026	Si
SLU 81	816	-18881	200786	3.31	1144365	5.699	Si
SLU 82	636	-21364	26047	3.74	1178570	45.248	Si
SLU 82	816	-18862	202033	3.3	1144009	5.662	Si
SLU 60	636	-19433	28882	3.4	1154300	39.966	Si
SLU 60	816	-16961	180801	2.97	1099377	6.081	Si
SLU 73	636	-20383	28183	3.57	1168285	41.453	Si
SLU 73	816	-17881	190112	3.13	1122965	5.907	Si
SLU 74	636	-20599	35574	3.61	1170919	32.915	Si
SLU 74	816	-18098	182691	3.17	1127973	6.174	Si
SLU 83	636	-21115	32373	3.7	1176359	36.337	Si
SLU 83	816	-18613	190451	3.26	1139066	5.981	Si
SLU 40	636	-18139	16655	3.18	1128895	67.779	Si
SLU 40	816	-16200	175391	2.84	1077084	6.141	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 1	636	-20317	-590094	3.56	1469070	2.49	Si
SLV 1	816	-18720	661504	3.28	1397313	2.112	Si
SLV 13	636	-5167	656578	0	0	0	No, e>l/2
SLV 13	816	-3655	-429661	0	0	0	No, e>l/2
SLV 15	636	-8046	644411	1.41	726072	1.127	Si
SLV 15	816	-5807	-409784	1.02	543029	1.325	Si
SLV 3	636	-23196	-602261	4.06	1579653	2.623	Si
SLV 3	816	-20872	681382	3.65	1492283	2.19	Si
SLV 2	636	-20317	-590094	3.56	1469070	2.49	Si
SLV 2	816	-18720	661504	3.28	1397313	2.112	Si
SLV 9	636	-7110	234437	1.24	651357	2.778	Si
SLV 9	816	-6418	-70944	1.12	594417	8.379	Si
SLV 10	636	-7110	234437	1.24	651357	2.778	Si
SLV 10	816	-6418	-70944	1.12	594417	8.379	Si
SLV 16	636	-8046	644411	1.41	726072	1.127	Si
SLV 16	816	-5807	-409784	1.02	543029	1.325	Si
SLV 4	636	-23196	-602261	4.06	1579653	2.623	Si
SLV 4	816	-20872	681382	3.65	1492283	2.19	Si
SLV 14	636	-5167	656578	0	0	0	No, e>l/2
SLV 14	816	-3655	-429661	0	0	0	No, e>l/2



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	α_0	α_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 81	636	-21382	-976	27395		3.74	204	1.05	6024			6.17	Si
SLU 81	816	-18881	-976	200786		3.31	204	1	5691			5.83	Si
SLU 60	636	-19433	-858	28882		3.4	204	1.01	5764			6.72	Si
SLU 60	816	-16961	-858	180801		2.97	204	0.95	5435			6.34	Si
SLU 40	636	-18139	-892	16655		3.18	204	0.98	5592			6.27	Si
SLU 40	816	-16200	-892	175391		2.84	204	0.93	5333			5.98	Si
SLU 31	636	-17158	-814	18791		3	204	0.96	5461			6.71	Si
SLU 31	816	-15219	-814	163470		2.66	204	0.91	5203			6.4	Si
SLU 61	636	-19414	-872	27534		3.4	204	1.01	5762			6.61	Si
SLU 61	816	-16942	-872	182048		2.97	204	0.95	5432			6.23	Si
SLU 39	636	-18157	-877	18004		3.18	204	0.98	5594			6.38	Si
SLU 39	816	-16219	-877	174143		2.84	204	0.93	5336			6.08	Si
SLU 84	636	-21096	-906	31025		3.69	204	1.05	5986			6.61	Si
SLU 84	816	-18595	-906	191699		3.26	204	0.99	5653			6.24	Si
SLU 82	636	-21364	-991	26047		3.74	204	1.05	6022			6.08	Si
SLU 82	816	-18862	-991	202033		3.3	204	1	5688			5.74	Si
SLU 73	636	-20383	-913	28183		3.57	204	1.03	5891			6.45	Si
SLU 73	816	-17881	-913	190112		3.13	204	0.97	5558			6.09	Si
SLU 83	636	-21115	-891	32373		3.7	204	1.05	5989			6.72	Si
SLU 83	816	-18613	-891	190451		3.26	204	0.99	5655			6.35	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	α_0	α_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 16	636	-8046	6478	644411		4.37	65.72	1.63	2990			0.46	No, Vu<V
SLV 16	816	-5807	5811	-409784		2.2	94.3	1.27	3362			0.58	No, Vu<V
SLV 15	636	-8046	6478	644411		4.37	65.72	1.63	2990			0.46	No, Vu<V
SLV 15	816	-5807	5811	-409784		2.2	94.3	1.27	3362			0.58	No, Vu<V
SLV 6	636	-11655	-4034	-139564		2.04	204	1.24	7091			1.76	Si
SLV 6	816	-10937	-3164	256405		1.91	204	1.22	6947			2.2	Si
SLV 3	636	-23196	-6695	-602261		4.06	204	1.63	9282			1.39	Si
SLV 3	816	-20872	-6471	681382		3.65	204	1.56	8934			1.38	Si
SLV 14	636	-5167	5578	656578		0	0	0.83	0			0	No, Vu<V
SLV 14	816	-3655	5354	-429661		0	0	0.83	0			0	No, Vu<V
SLV 13	636	-5167	5578	656578		0	0	0.83	0			0	No, Vu<V
SLV 13	816	-3655	5354	-429661		0	0	0.83	0			0	No, Vu<V
SLV 5	636	-11655	-4034	-139564		2.04	204	1.24	7091			1.76	Si
SLV 5	816	-10937	-3164	256405		1.91	204	1.22	6947			2.2	Si
SLV 2	636	-20317	-7595	-590094		3.56	204	1.54	8823			1.16	Si
SLV 2	816	-18720	-6928	661504		3.34	199.99	1.5	8411			1.21	Si
SLV 1	636	-20317	-7595	-590094		3.56	204	1.54	8823			1.16	Si
SLV 1	816	-18720	-6928	661504		3.34	199.99	1.5	8411			1.21	Si
SLV 4	636	-23196	-6695	-602261		4.06	204	1.63	9282			1.39	Si
SLV 4	816	-20872	-6471	681382		3.65	204	1.56	8934			1.38	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	α_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.39	0.77	-4390	21213	57595	2.72	Si
SLV 13	14	0.39	0.77	-4390	21213	57595	2.72	Si
SLV 16	14	0.39	1.13	-6465	21213	82124	3.87	Si
SLV 15	14	0.39	1.13	-6465	21213	82124	3.87	Si
SLV 10	14	0.39	1.3	-7414	21213	92775	4.37	Si
SLV 9	14	0.39	1.3	-7414	21213	92775	4.37	Si
SLV 6	14	0.39	2.12	-12082	21213	139863	6.59	Si
SLV 5	14	0.39	2.12	-12082	21213	139863	6.59	Si
SLV 11	14	0.39	2.51	-14330	21213	159432	7.52	Si
SLV 12	14	0.39	2.51	-14330	21213	159432	7.52	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-5088	-7296	584	0	8.092	0.912	0	1675.871	No
SLV 6	-6596	-14495	546	0	9.602	0.922	0	1675.871	No
SLV 5	-6596	-14495	546	0	9.602	0.922	0	1675.871	No
SLV 10	-5088	-7296	584	0	8.092	0.912	0	1675.871	No
SLV 12	-11241	-13059	-555	0.003	14.295	0.944	4.245	1675.871	No
SLV 11	-11241	-13059	-555	0.003	14.295	0.944	4.245	1675.871	No
SLV 7	-12750	-20258	-593	0.004	15.825	0.948	6.098	1675.871	No
SLV 8	-12750	-20258	-593	0.004	15.825	0.948	6.098	1675.871	No
SLV 14	-5481	-915	230	0.018	8.485	0.915	28.762	960.164	No
SLV 13	-5481	-915	230	0.018	8.485	0.915	28.762	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.662	SLV 82	Si
V_SLV	5.741	SLV 82	Si
PF_SLV	0	SLV 13	No
V_SLV	0	SLV 13	No
PFFP_SLV	2.715	SLV 13	Si
R_SLV	0	SLV 5	No



Maschio 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1681.8	666.1	-1283.8	666.1	L4	L5	398	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 81	636	-41376	-174522	3.71	4480869	25.675	Si
SLU 81	816	-37785	-103701	3.39	4389410	42.328	Si
SLU 60	636	-37513	-160139	3.37	4380178	27.352	Si
SLU 60	816	-33859	-87182	3.04	4224752	48.459	Si
SLU 52	636	-35828	-149952	3.22	4315792	28.781	Si
SLU 52	816	-32050	-67040	2.88	4126134	61.548	Si
SLU 40	636	-34943	-152086	3.14	4276957	28.122	Si
SLU 40	816	-32305	-101196	2.9	4140880	40.919	Si
SLU 82	636	-41336	-175788	3.71	4480161	25.486	Si
SLU 82	816	-37744	-102721	3.39	4388044	42.718	Si
SLU 61	636	-37472	-161405	3.36	4378792	27.129	Si
SLU 61	816	-33818	-86202	3.03	4222682	48.986	Si
SLU 84	636	-42086	-155618	3.78	4492248	28.867	Si
SLU 84	816	-38278	-52487	3.43	4405334	83.931	Si
SLU 83	636	-42126	-154352	3.78	4492824	29.108	Si
SLU 83	816	-38319	-53467	3.44	4406604	82.417	Si
SLU 39	636	-34983	-150820	3.14	4278787	28.37	Si
SLU 39	816	-32345	-102176	2.9	4143221	40.55	Si
SLU 73	636	-39692	-164335	3.56	4445015	27.049	Si
SLU 73	816	-35976	-83559	3.23	4321927	51.723	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	636	-27891	1533085	2.5	4413470	2.879	Si
SLV 15	816	-23182	-1302444	2.08	3827768	2.939	Si
SLV 4	636	-33246	-1752442	2.98	5000642	2.854	Si
SLV 4	816	-29990	1239173	2.69	4653524	3.755	Si
SLV 1	636	-27927	-1748590	2.51	4417647	2.526	Si
SLV 1	816	-26617	1220403	2.39	4261355	3.492	Si
SLV 16	636	-27891	1533085	2.5	4413470	2.879	Si
SLV 16	816	-23182	-1302444	2.08	3827768	2.939	Si
SLV 2	636	-27927	-1748590	2.51	4417647	2.526	Si
SLV 2	816	-26617	1220403	2.39	4261355	3.492	Si
SLV 13	636	-22572	1536937	2.03	3747215	2.438	Si
SLV 13	816	-19809	-1321214	1.78	3368483	2.55	Si
SLD 2	636	-27931	-808722	2.51	4418146	5.463	Si
SLD 2	816	-25637	497536	2.3	4141155	8.323	Si
SLD 1	636	-27931	-808722	2.51	4418146	5.463	Si
SLD 1	816	-25637	497536	2.3	4141155	8.323	Si
SLV 3	636	-33246	-1752442	2.98	5000642	2.854	Si
SLV 3	816	-29990	1239173	2.69	4653524	3.755	Si
SLV 14	636	-22572	1536937	2.03	3747215	2.438	Si
SLV 14	816	-19809	-1321214	1.78	3368483	2.55	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 9	636	-27186	-724	-56371	2.44	398	0.88	9816				13.55	Si
SLU 9	816	-23645	-724	77485	2.12	398	0.84	9344				12.9	Si
SLU 59	636	-37354	-809	-108767	3.35	398	1	11172				13.8	Si
SLU 59	816	-33146	-809	32774	2.97	398	0.95	10611				13.12	Si
SLU 49	636	-34180	-831	-86367	3.07	398	0.96	10748				12.93	Si
SLU 49	816	-29737	-831	64569	2.67	398	0.91	10156				12.22	Si
SLU 51	636	-33579	-853	-80073	3.01	398	0.96	10668				12.5	Si
SLU 51	816	-29084	-853	75960	2.61	398	0.9	10069				11.81	Si
SLU 72	636	-37443	-857	-94456	3.36	398	1	11183				13.06	Si
SLU 72	816	-33010	-856	59441	2.96	398	0.95	10592				12.37	Si
SLU 69	636	-38084	-823	-99483	3.42	398	1.01	11269				13.7	Si
SLU 69	816	-33703	-822	47070	3.02	398	0.96	10685				13	Si
SLU 70	636	-38044	-835	-100750	3.41	398	1.01	11264				13.49	Si
SLU 70	816	-33663	-835	48050	3.02	398	0.96	10679				12.8	Si
SLU 48	636	-34220	-819	-85101	3.07	398	0.96	10754				13.13	Si
SLU 48	816	-29778	-819	63589	2.67	398	0.91	10161				12.41	Si
SLU 50	636	-33619	-841	-78806	3.02	398	0.96	10674				12.69	Si
SLU 50	816	-29125	-840	74980	2.61	398	0.9	10074				11.99	Si
SLU 71	636	-37483	-844	-93189	3.36	398	1	11189				13.25	Si
SLU 71	816	-33051	-844	58461	2.97	398	0.95	10598				12.56	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 1	636	-27931	-7663	-808722	2.51	398	1.33	14873				1.94	Si
SLD 1	816	-25637	-7184	497536	2.3	398	1.29	14414				2.01	Si
SLV 4	636	-33246	-17027	-1752442	2.98	398	1.43	15936				0.94	No, Vu<Vc



Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	816	-29990	-16219	1239173		2.69	398	1.37	15285			0.94	No, Vu<V
SLV 16	636	-27891	16536	1533085		2.5	398	1.33	14865			0.9	No, Vu<V
SLV 16	816	-23182	15413	-1302444		2.08	398	1.25	13923			0.9	No, Vu<V
SLV 3	636	-33246	-17027	-1752442		2.98	398	1.43	15936			0.94	No, Vu<V
SLV 3	816	-29990	-16219	1239173		2.69	398	1.37	15285			0.94	No, Vu<V
SLV 14	636	-22572	16184	1536937		2.05	392.73	1.24	13678			0.85	No, Vu<V
SLV 14	816	-19809	15376	-1321214		1.78	396.9	1.19	13223			0.86	No, Vu<V
SLV 15	636	-27891	16536	1533085		2.5	398	1.33	14865			0.9	No, Vu<V
SLV 15	816	-23182	15413	-1302444		2.08	398	1.25	13923			0.9	No, Vu<V
SLV 13	636	-22572	16184	1536937		2.05	392.73	1.24	13678			0.85	No, Vu<V
SLV 13	816	-19809	15376	-1321214		1.78	396.9	1.19	13223			0.86	No, Vu<V
SLD 2	636	-27931	-7663	-808722		2.51	398	1.33	14873			1.94	Si
SLD 2	816	-25637	-7184	497536		2.3	398	1.29	14414			2.01	Si
SLV 2	636	-27927	-17379	-1748590		2.51	398	1.33	14872			0.86	No, Vu<V
SLV 2	816	-26617	-16256	1220403		2.39	398	1.31	14610			0.9	No, Vu<V
SLV 1	636	-27927	-17379	-1748590		2.51	398	1.33	14872			0.86	No, Vu<V
SLV 1	816	-26617	-16256	1220403		2.39	398	1.31	14610			0.9	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.39	1.64	-18270	41386	221457	5.35	Si
SLV 9	14	0.39	1.64	-18270	41386	221457	5.35	Si
SLV 5	14	0.39	1.81	-20145	41386	240308	5.81	Si
SLV 6	14	0.39	1.81	-20145	41386	240308	5.81	Si
SLV 14	14	0.39	1.9	-21199	41386	250578	6.05	Si
SLV 13	14	0.39	1.9	-21199	41386	250578	6.05	Si
SLV 16	14	0.39	2.3	-25585	41386	290888	7.03	Si
SLV 15	14	0.39	2.3	-25585	41386	290888	7.03	Si
SLV 2	14	0.39	2.46	-27451	41386	306835	7.41	Si
SLV 1	14	0.39	2.46	-27451	41386	306835	7.41	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-24864	-35643	-48	0.043	30.863	0.948	65.936	1675.871	No
SLV 7	-24864	-35643	-48	0.043	30.863	0.948	65.936	1675.871	No
SLV 11	-23478	-34565	-25	0.044	29.456	0.946	67.632	1675.871	No
SLV 12	-23478	-34565	-25	0.044	29.456	0.946	67.632	1675.871	No
SLV 10	-15102	-15905	43	0.045	20.981	0.929	70.439	1675.871	No
SLV 9	-15102	-15905	43	0.045	20.981	0.929	70.439	1675.871	No
SLV 5	-16488	-16983	20	0.046	22.379	0.932	71.368	1675.871	No
SLV 6	-16488	-16983	20	0.046	22.379	0.932	71.368	1675.871	No
SLV 3	-23549	-30370	-51	0.043	29.529	0.946	66.17	960.164	No
SLV 4	-23549	-30370	-51	0.043	29.529	0.946	66.17	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	25.486	SLU 82	Si
V_SLU	11.807	SLU 51	Si
PF_SLV	2.438	SLV 13	Si
V_SLV	0.845	SLV 13	No
PFFP_SLV	5.351	SLV 9	Si
R_SLV	0.039	SLV 7	No

Maschio 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1193.8	666.1	-795.8	666.1	L4	L5	398	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 77	636	-43422	292954	3.9	4507684	15.387	Si
SLU 77	816	-39061	116402	3.51	4428382	38.044	Si
SLU 79	636	-42909	294069	3.85	4502691	15.312	Si
SLU 79	816	-38491	109850	3.45	4411868	40.163	Si
SLU 80	636	-42857	294834	3.85	4502119	15.27	Si
SLU 80	816	-38441	108374	3.45	4410340	40.696	Si
SLU 37	636	-36499	264446	3.28	4342929	16.423	Si
SLU 37	816	-33081	103749	2.97	4184122	40.329	Si
SLU 35	636	-37011	263331	3.32	4362323	16.566	Si
SLU 35	816	-33651	110301	3.02	4214146	38.206	Si
SLU 83	636	-43224	280179	3.88	4505890	16.082	Si
SLU 83	816	-39187	147214	3.52	4431841	30.105	Si
SLU 78	636	-43370	293719	3.89	4507230	15.345	Si
SLU 78	816	-39010	114926	3.5	4426980	38.52	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 38	636	-36447	265211	3.27	4340895	16.368	Si
SLU 38	816	-33031	102273	2.96	4181402	40.885	Si
SLU 84	636	-43172	280944	3.87	4505390	16.037	Si
SLU 84	816	-39136	145738	3.51	4430467	30.4	Si
SLU 36	636	-36959	264097	3.32	4360406	16.511	Si
SLU 36	816	-33601	108825	3.02	4211551	38.7	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 16	636	-34563	1835764	3.1	5132159	2.796	Si
SLV 16	816	-30713	-1190582	2.76	4733274	3.976	Si
SLV 9	636	-20715	723440	1.86	3495159	4.831	Si
SLV 9	816	-20575	-317450	1.85	3475760	10.949	Si
SLV 2	636	-21952	-1513806	1.97	3664121	2.42	Si
SLV 2	816	-19510	1350025	1.75	3326268	2.464	Si
SLV 13	636	-29370	1868805	2.64	4583965	2.453	Si
SLV 13	816	-27291	-1199434	2.45	4342366	3.62	Si
SLV 3	636	-27144	-1546848	2.44	4324914	2.796	Si
SLV 3	816	-22933	1358876	2.06	3794995	2.793	Si
SLV 1	636	-21952	-1513806	1.97	3664121	2.42	Si
SLV 1	816	-19510	1350025	1.75	3326268	2.464	Si
SLV 14	636	-29370	1868805	2.64	4583965	2.453	Si
SLV 14	816	-27291	-1199434	2.45	4342366	3.62	Si
SLV 4	636	-27144	-1546848	2.44	4324914	2.796	Si
SLV 4	816	-22933	1358876	2.06	3794995	2.793	Si
SLV 10	636	-20715	723440	1.86	3495159	4.831	Si
SLV 10	816	-20575	-317450	1.85	3475760	10.949	Si
SLV 15	636	-34563	1835764	3.1	5132159	2.796	Si
SLV 15	816	-30713	-1190582	2.76	4733274	3.976	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 49	636	-35509	983	225195	3.19	398	0.98	10926				11.12	Si
SLU 49	816	-30795	983	34682	2.76	398	0.92	10297				10.47	Si
SLU 48	636	-35561	970	224430	3.19	398	0.98	10933				11.27	Si
SLU 48	816	-30845	970	36158	2.77	398	0.92	10304				10.62	Si
SLU 69	636	-39624	1017	261755	3.56	398	1.03	11474				11.28	Si
SLU 69	816	-34986	1018	68058	3.14	398	0.97	10856				10.67	Si
SLU 51	636	-34997	1018	226310	3.14	398	0.97	10857				10.66	Si
SLU 51	816	-30225	1019	28130	2.71	398	0.92	10221				10.03	Si
SLU 9	636	-28586	897	196687	2.57	398	0.9	10003				11.16	Si
SLU 9	816	-24816	897	22029	2.23	398	0.85	9500				10.59	Si
SLU 50	636	-35049	1006	225544	3.15	398	0.97	10864				10.8	Si
SLU 50	816	-30275	1006	29606	2.72	398	0.92	10228				10.17	Si
SLU 72	636	-39059	1066	263635	3.5	398	1.02	11399				10.7	Si
SLU 72	816	-34366	1066	60030	3.08	398	0.97	10773				10.11	Si
SLU 70	636	-39572	1030	262521	3.55	398	1.03	11467				11.13	Si
SLU 70	816	-34935	1030	66582	3.13	398	0.97	10849				10.53	Si
SLU 71	636	-39111	1053	262870	3.51	398	1.02	11406				10.83	Si
SLU 71	816	-34416	1053	61506	3.09	398	0.97	10780				10.23	Si
SLU 30	636	-32649	944	234013	2.93	398	0.95	10544				11.17	Si
SLU 30	816	-28956	944	53929	2.6	398	0.9	10052				10.65	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	636	-29370	17643	1868805	2.64	398	1.36	15161				0.86	No, Vu<V
SLV 14	816	-27291	16628	-1199434	2.45	398	1.32	14745				0.89	No, Vu<V
SLV 13	636	-29370	17643	1868805	2.64	398	1.36	15161				0.86	No, Vu<V
SLV 13	816	-27291	16628	-1199434	2.45	398	1.32	14745				0.89	No, Vu<V
SLV 3	636	-27144	-16731	-1546848	2.44	398	1.32	14716				0.88	No, Vu<V
SLV 3	816	-22933	-15715	1358876	2.06	398	1.24	13873				0.88	No, Vu<V
SLV 4	636	-27144	-16731	-1546848	2.44	398	1.32	14716				0.88	No, Vu<V
SLV 4	816	-22933	-15715	1358876	2.06	398	1.24	13873				0.88	No, Vu<V
SLV 1	636	-21952	-16222	-1513806	2.01	390.12	1.24	13493				0.83	No, Vu<V
SLV 1	816	-19510	-15384	1350025	1.79	389.42	1.19	12988				0.84	No, Vu<V
SLV 2	636	-21952	-16222	-1513806	2.01	390.12	1.24	13493				0.83	No, Vu<V
SLV 2	816	-19510	-15384	1350025	1.79	389.42	1.19	12988				0.84	No, Vu<V
SLD 13	636	-28744	7795	890064	2.58	398	1.35	15035				1.93	Si
SLD 13	816	-26047	7362	-466586	2.34	398	1.3	14496				1.97	Si
SLV 16	636	-34563	17134	1835764	3.1	398	1.45	16199				0.95	No, Vu<V
SLV 16	816	-30713	16297	-1190582	2.76	398	1.38	15429				0.95	No, Vu<V
SLV 15	636	-34563	17134	1835764	3.1	398	1.45	16199				0.95	No, Vu<V
SLV 15	816	-30713	16297	-1190582	2.76	398	1.38	15429				0.95	No, Vu<V
SLD 14	636	-28744	7795	890064	2.58	398	1.35	15035				1.93	Si
SLD 14	816	-26047	7362	-466586	2.34	398	1.3	14496				1.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 W_a 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.39	1.67	-18600	41386	224832	5.43	Si
SLV 6	14	0.39	1.67	-18600	41386	224832	5.43	Si
SLV 1	14	0.39	1.87	-20872	41386	247415	5.98	Si
SLV 2	14	0.39	1.87	-20872	41386	247415	5.98	Si
SLV 9	14	0.39	1.87	-20876	41386	247459	5.98	Si
SLV 10	14	0.39	1.87	-20876	41386	247459	5.98	Si
SLV 4	14	0.39	2.25	-25095	41386	286581	6.92	Si
SLV 3	14	0.39	2.25	-25095	41386	286581	6.92	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.39	2.55	-28459	41386	315153	7.62	Si
SLV 14	14	0.39	2.55	-28459	41386	315153	7.62	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 $W_a = 0.05 T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-15350	-16304	227	0.035	21.231	0.929	55.003	1675.871	No
SLV 5	-15350	-16304	227	0.035	21.231	0.929	55.003	1675.871	No
SLV 12	-24984	-36628	-233	0.037	30.985	0.949	55.984	1675.871	No
SLV 11	-24984	-36628	-233	0.037	30.985	0.949	55.984	1675.871	No
SLV 8	-23339	-34673	-188	0.038	29.315	0.946	58.37	1675.871	No
SLV 7	-23339	-34673	-188	0.038	29.315	0.946	58.37	1675.871	No
SLV 9	-16995	-18259	183	0.038	22.892	0.934	58.701	1675.871	No
SLV 10	-16995	-18259	183	0.038	22.892	0.934	58.701	1675.871	No
SLV 16	-24107	-32478	-139	0.04	30.095	0.947	61.1	960.164	No
SLV 15	-24107	-32478	-139	0.04	30.095	0.947	61.1	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.27	SLU 80	Si
V_SLU	10.034	SLU 51	Si
PF_SLV	2.42	SLV 1	Si
V_SLV	0.832	SLV 1	No
PFFP_SLV	5.433	SLV 5	Si
R_SLV	0.033	SLV 5	No

Maschio 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-705.8	666.1	-501.8	666.1	L4	L5	204	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvd0	fmedio	$\tau 0$	fvd0	μ	ϕ	fvlm	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 83	636	-22573	-67215	3.95	1185441	17.637	Si
SLU 83	816	-19964	-220893	3.5	1162612	5.263	Si
SLU 73	636	-20972	-67152	3.67	1174965	17.497	Si
SLU 73	816	-18363	-210892	3.21	1133818	5.376	Si
SLU 78	636	-22478	-65664	3.94	1185135	18.049	Si
SLU 78	816	-19869	-211448	3.48	1161222	5.492	Si
SLU 76	636	-21558	-64810	3.77	1180103	18.209	Si
SLU 76	816	-18949	-209830	3.32	1145659	5.46	Si
SLU 75	636	-21892	-68006	3.83	1182362	17.386	Si
SLU 75	816	-19283	-212510	3.38	1151747	5.42	Si
SLU 82	636	-21962	-67835	3.84	1182768	17.436	Si
SLU 82	816	-19353	-223493	3.39	1152944	5.159	Si
SLU 81	636	-21987	-69557	3.85	1182912	17.006	Si
SLU 81	816	-19378	-221955	3.39	1153380	5.196	Si
SLU 84	636	-22548	-65493	3.95	1185363	18.099	Si
SLU 84	816	-19939	-222431	3.49	1162241	5.225	Si
SLU 77	636	-22504	-67386	3.94	1185221	17.588	Si
SLU 77	816	-19895	-209910	3.48	1161600	5.534	Si
SLU 74	636	-21918	-69728	3.84	1182514	16.959	Si
SLU 74	816	-19309	-210972	3.38	1152190	5.461	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 1	636	-5180	-659133	0	0	0	No, $e > l/2$
SLV 1	816	-3435	414496	0	0	0	No, $e > l/2$
SLD 2	636	-10562	-312543	1.85	914305	2.925	Si
SLD 2	816	-8671	97207	1.52	774534	7.968	Si
SLV 14	636	-21749	565923	3.81	1527105	2.698	Si
SLV 14	816	-19841	-689276	3.47	1448452	2.101	Si
SLV 13	636	-21749	565923	3.81	1527105	2.698	Si
SLV 13	816	-19841	-689276	3.47	1448452	2.101	Si
SLV 16	636	-23947	551284	4.19	1604509	2.91	Si
SLV 16	816	-21691	-693502	3.8	1524878	2.199	Si
SLV 15	636	-23947	551284	4.19	1604509	2.91	Si
SLV 15	816	-21691	-693502	3.8	1524878	2.199	Si
SLV 3	636	-7378	-673773	1.29	673026	0.999	No, $M > Mu$
SLV 3	816	-5285	410270	0.93	498290	1.215	Si
SLV 4	636	-7378	-673773	1.29	673026	0.999	No, $M > Mu$
SLV 4	816	-5285	410270	0.93	498290	1.215	Si
SLD 1	636	-10562	-312543	1.85	914305	2.925	Si
SLD 1	816	-8671	97207	1.52	774534	7.968	Si
SLV 2	636	-5180	-659133	0	0	0	No, $e > l/2$
SLV 2	816	-3435	414496	0	0	0	No, $e > l/2$



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 39	636	-18794	785	-54192		3.29	204	0.99	5679			7.23	Si
SLU 39	816	-16773	785	-193313		2.94	204	0.95	5410			6.89	Si
SLU 73	636	-20972	815	-67152		3.67	204	1.05	5970			7.33	Si
SLU 73	816	-18363	815	-210892		3.21	204	0.98	5622			6.9	Si
SLU 41	636	-19380	792	-51850		3.39	204	1.01	5757			7.27	Si
SLU 41	816	-17359	792	-192251		3.04	204	0.96	5488			6.93	Si
SLU 82	636	-21962	881	-67835		3.84	204	1.07	6102			6.93	Si
SLU 82	816	-19353	881	-223493		3.39	204	1.01	5754			6.53	Si
SLU 40	636	-18769	803	-52470		3.29	204	0.99	5676			7.06	Si
SLU 40	816	-16748	803	-194851		2.93	204	0.95	5406			6.73	Si
SLU 83	636	-22573	870	-67215		3.95	204	1.08	6183			7.11	Si
SLU 83	816	-19964	870	-220893		3.5	204	1.02	5835			6.71	Si
SLU 76	636	-21558	822	-64810		3.77	204	1.06	6048			7.36	Si
SLU 76	816	-18949	822	-209830		3.32	204	1	5700			6.94	Si
SLU 84	636	-22548	888	-65493		3.95	204	1.08	6180			6.96	Si
SLU 84	816	-19939	888	-222431		3.49	204	1.02	5832			6.57	Si
SLU 81	636	-21987	863	-69557		3.85	204	1.07	6105			7.08	Si
SLU 81	816	-19378	863	-221955		3.39	204	1.01	5757			6.67	Si
SLU 42	636	-19355	811	-50127		3.39	204	1.01	5754			7.1	Si
SLU 42	816	-17334	811	-193789		3.03	204	0.96	5484			6.77	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 16	636	-23947	6761	551284		4.19	204	1.63	9282			1.37	Si
SLV 16	816	-21691	6264	-693502		3.8	204	1.59	9098			1.45	Si
SLV 1	636	-5180	-5785	-659133		0	0	0.83	0			0	No, Vu<V
SLV 1	816	-3435	-5288	414496		0	0	0.83	0			0	No, Vu<V
SLV 10	636	-13386	3829	154233		2.34	204	1.3	7437			1.94	Si
SLV 10	816	-11940	3752	-298025		2.09	204	1.25	7148			1.91	Si
SLV 15	636	-23947	6761	551284		4.19	204	1.63	9282			1.37	Si
SLV 15	816	-21691	6264	-693502		3.8	204	1.59	9098			1.45	Si
SLV 9	636	-13386	3829	154233		2.34	204	1.3	7437			1.94	Si
SLV 9	816	-11940	3752	-298025		2.09	204	1.25	7148			1.91	Si
SLV 4	636	-7378	-6588	-673773		8.22	32.05	1.63	1458			0.22	No, Vu<V
SLV 4	816	-5285	-6131	410270		2.58	73.13	1.35	2764			0.45	No, Vu<V
SLV 2	636	-5180	-5785	-659133		0	0	0.83	0			0	No, Vu<V
SLV 2	816	-3435	-5288	414496		0	0	0.83	0			0	No, Vu<V
SLV 13	636	-21749	7564	565923		3.81	204	1.59	9110			1.2	Si
SLV 13	816	-19841	7107	-689276		3.51	201.78	1.54	8676			1.22	Si
SLV 3	636	-7378	-6588	-673773		8.22	32.05	1.63	1458			0.22	No, Vu<V
SLV 3	816	-5285	-6131	410270		2.58	73.13	1.35	2764			0.45	No, Vu<V
SLV 14	636	-21749	7564	565923		3.81	204	1.59	9110			1.2	Si
SLV 14	816	-19841	7107	-689276		3.51	201.78	1.54	8676			1.22	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.39	0.78	-4433	21213	58122	2.74	Si
SLV 2	14	0.39	0.78	-4433	21213	58122	2.74	Si
SLV 4	14	0.39	1.1	-6270	21213	79897	3.77	Si
SLV 3	14	0.39	1.1	-6270	21213	79897	3.77	Si
SLV 6	14	0.39	1.42	-8106	21213	100300	4.73	Si
SLV 5	14	0.39	1.42	-8106	21213	100300	4.73	Si
SLV 9	14	0.39	2.29	-13091	21213	148895	7.02	Si
SLV 10	14	0.39	2.29	-13091	21213	148895	7.02	Si
SLV 7	14	0.39	2.49	-14229	21213	158596	7.48	Si
SLV 8	14	0.39	2.49	-14229	21213	158596	7.48	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-5963	-8202	330	0.007	8.967	0.918	10.355	1675.871	No
SLV 6	-5963	-8202	330	0.007	8.967	0.918	10.355	1675.871	No
SLV 9	-7684	-15975	275	0.018	10.696	0.928	28.79	1675.871	No
SLV 10	-7684	-15975	275	0.018	10.696	0.928	28.79	1675.871	No
SLV 11	-12648	-20235	-339	0.021	15.721	0.948	32.631	1675.871	No
SLV 12	-12648	-20235	-339	0.021	15.721	0.948	32.631	1675.871	No
SLV 7	-10927	-12462	-284	0.023	13.976	0.943	35.666	1675.871	No
SLV 8	-10927	-12462	-284	0.023	13.976	0.943	35.666	1675.871	No
SLV 1	-5692	-624	180	0.025	8.696	0.916	40.289	960.164	No
SLV 2	-5692	-624	180	0.025	8.696	0.916	40.289	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.159	SLU 82	Si
V_SLU	6.531	SLU 82	Si
PF_SLV	0	SLV 5	No
V_SLV	0	SLV 1	No
PFFP_SLV	2.74	SLV 1	Si
R_SLV	0.006	SLV 5	No



Maschio 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2066.8	104.6	-2467.8	104.6	L4	L5	401	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 79	546	-54942	-450471	4.89	4398513	9.764	Si
SLU 79	756	-50458	-856067	4.49	4535518	5.298	Si
SLU 81	546	-54603	-492923	4.86	4411945	8.951	Si
SLU 81	756	-50412	-823734	4.49	4536466	5.507	Si
SLU 74	546	-54552	-459654	4.86	4413926	9.603	Si
SLU 74	756	-50081	-827507	4.46	4543016	5.49	Si
SLU 83	546	-55700	-494004	4.96	4366631	8.839	Si
SLU 83	756	-51547	-870782	4.59	4510350	5.18	Si
SLU 84	546	-55844	-505712	4.97	4360277	8.622	Si
SLU 84	756	-51728	-840446	4.61	4505660	5.361	Si
SLU 78	546	-55793	-472442	4.97	4362537	9.234	Si
SLU 78	756	-51397	-844218	4.58	4514118	5.347	Si
SLU 35	546	-46804	-421522	4.17	4581976	10.87	Si
SLU 35	756	-43921	-803583	3.91	4577326	5.696	Si
SLU 77	546	-55649	-460735	4.96	4368858	9.482	Si
SLU 77	756	-51216	-874555	4.56	4518545	5.167	Si
SLU 75	546	-54696	-471361	4.87	4408299	9.352	Si
SLU 75	756	-50262	-797171	4.48	4539489	5.694	Si
SLU 80	546	-55086	-462178	4.91	4392638	9.504	Si
SLU 80	756	-50639	-825731	4.51	4531692	5.488	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 3	546	-47864	998131	4.26	6248579	6.26	Si
SLV 3	756	-46483	-1654697	4.14	6162093	3.724	Si
SLV 16	546	-28153	-1584692	2.51	4486346	2.831	Si
SLV 16	756	-20691	540458	1.84	3522809	6.518	Si
SLV 2	546	-46740	1031406	4.16	6178662	5.991	Si
SLV 2	756	-46091	-1509708	4.1	6136548	4.065	Si
SLV 8	546	-42276	55323	3.77	5864306	106.001	Si
SLV 8	756	-37912	-1055546	3.38	5500814	5.211	Si
SLV 13	546	-27030	-1551418	2.41	4351710	2.805	Si
SLV 13	756	-20299	685447	1.81	3467732	5.059	Si
SLV 7	546	-42276	55323	3.77	5864306	106.001	Si
SLV 7	756	-37912	-1055546	3.38	5500814	5.211	Si
SLV 1	546	-46740	1031406	4.16	6178662	5.991	Si
SLV 1	756	-46091	-1509708	4.1	6136548	4.065	Si
SLV 14	546	-27030	-1551418	2.41	4351710	2.805	Si
SLV 14	756	-20299	685447	1.81	3467732	5.059	Si
SLV 15	546	-28153	-1584692	2.51	4486346	2.831	Si
SLV 15	756	-20691	540458	1.84	3522809	6.518	Si
SLV 4	546	-47864	998131	4.26	6248579	6.26	Si
SLV 4	756	-46483	-1654697	4.14	6162093	3.724	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	546	-54942	3079	-450471		4.89	401	1.08	12164			3.95	Si
SLU 79	756	-50458	3196	-856067		4.49	401	1.08	12164			3.81	Si
SLU 41	546	-46856	3381	-454791		4.17	401	1.08	12164			3.6	Si
SLU 41	756	-44252	3481	-799811		3.94	401	1.08	12138			3.49	Si
SLU 84	546	-55844	3084	-505712		4.97	401	1.08	12164			3.94	Si
SLU 84	756	-51728	3221	-840446		4.61	401	1.08	12164			3.78	Si
SLU 39	546	-45758	3127	-453710		4.08	401	1.08	12164			3.89	Si
SLU 39	756	-43117	3225	-752763		3.84	401	1.07	11987			3.72	Si
SLU 83	546	-55700	3256	-494004		4.96	401	1.08	12164			3.74	Si
SLU 83	756	-51547	3375	-870782		4.59	401	1.08	12164			3.6	Si
SLU 35	546	-46804	3291	-421522		4.17	401	1.08	12164			3.7	Si
SLU 35	756	-43921	3390	-803583		3.91	401	1.08	12094			3.57	Si
SLU 37	546	-46097	3204	-411258		4.11	401	1.08	12164			3.8	Si
SLU 37	756	-43163	3302	-785096		3.84	401	1.07	11993			3.63	Si
SLU 42	546	-47000	3209	-466499		4.19	401	1.08	12164			3.79	Si
SLU 42	756	-44433	3327	-769474		3.96	401	1.08	12162			3.66	Si
SLU 36	546	-46949	3120	-433229		4.18	401	1.08	12164			3.9	Si
SLU 36	756	-44102	3236	-773247		3.93	401	1.08	12118			3.74	Si
SLU 77	546	-55649	3166	-460735		4.96	401	1.08	12164			3.84	Si
SLU 77	756	-51216	3284	-874555		4.56	401	1.08	12164			3.7	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	546	-27030	-14981	-1551418		2.41	401	1.31	14763			0.99	No, Vu<V
SLV 14	756	-20299	-13483	685447		1.81	401	1.19	13416			1	No, Vu<V
SLV 16	546	-28153	-15600	-1584692		2.51	401	1.33	14987			0.96	No, Vu<V

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Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	756	-20691	-14364	540458		1.84	401	1.2	13495			0.94	No, Vu<V
SLV 4	546	-47864	17535	998131		4.26	401	1.63	18245			1.04	Si
SLV 4	756	-46483	16198	-1654697		4.14	401	1.63	18245			1.13	Si
SLV 3	546	-47864	17535	998131		4.26	401	1.63	18245			1.04	Si
SLV 3	756	-46483	16198	-1654697		4.14	401	1.63	18245			1.13	Si
SLD 2	546	-41362	8458	276868		3.68	401	1.57	17629			2.08	Si
SLD 2	756	-38834	8064	-923434		3.46	401	1.53	17123			2.12	Si
SLV 1	546	-46740	18154	1031406		4.16	401	1.63	18245			1.01	Si
SLV 1	756	-46091	17079	-1509708		4.1	401	1.63	18245			1.07	Si
SLV 2	546	-46740	18154	1031406		4.16	401	1.63	18245			1.01	Si
SLV 2	756	-46091	17079	-1509708		4.1	401	1.63	18245			1.07	Si
SLV 15	546	-28153	-15600	-1584692		2.51	401	1.33	14987			0.96	No, Vu<V
SLV 15	756	-20691	-14364	540458		1.84	401	1.2	13495			0.94	No, Vu<V
SLV 13	546	-27030	-14981	-1551418		2.41	401	1.31	14763			0.99	No, Vu<V
SLV 13	756	-20299	-13483	685447		1.81	401	1.19	13416			1	No, Vu<V
SLD 1	546	-41362	8458	276868		3.68	401	1.57	17629			2.08	Si
SLD 1	756	-38834	8064	-923434		3.46	401	1.53	17123			2.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.39	1.87	-21035	42667	249340	5.84	Si
SLV 13	14	0.39	1.87	-21035	42667	249340	5.84	Si
SLV 15	14	0.39	1.91	-21411	42667	252972	5.93	Si
SLV 16	14	0.39	1.91	-21411	42667	252972	5.93	Si
SLV 9	14	0.39	2.64	-29612	42667	325086	7.62	Si
SLV 10	14	0.39	2.64	-29612	42667	325086	7.62	Si
SLV 12	14	0.39	2.75	-30864	42667	334890	7.85	Si
SLV 11	14	0.39	2.75	-30864	42667	334890	7.85	Si
SLV 6	14	0.39	3.33	-37339	42667	380473	8.92	Si
SLV 5	14	0.39	3.33	-37339	42667	380473	8.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-27039	-36362	-593	0.025	33.114	0.951	38.212	1675.871	No
SLV 12	-27039	-36362	-593	0.025	33.114	0.951	38.212	1675.871	No
SLV 5	-29773	-38531	594	0.026	35.891	0.955	39.867	1675.871	No
SLV 6	-29773	-38531	594	0.026	35.891	0.955	39.867	1675.871	No
SLV 10	-25511	-32618	485	0.028	31.562	0.949	42.826	1675.871	No
SLV 9	-25511	-32618	485	0.028	31.562	0.949	42.826	1675.871	No
SLV 7	-31302	-42276	-483	0.03	37.444	0.956	45.539	1675.871	No
SLV 8	-31302	-42276	-483	0.03	37.444	0.956	45.539	1675.871	No
SLV 15	-21531	-28153	-344	0.032	27.526	0.943	48.875	960.164	No
SLV 16	-21531	-28153	-344	0.032	27.526	0.943	48.875	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.167	SLU 77	Si
V_SLU	3.487	SLU 41	Si
PF_SLV	2.805	SLV 13	Si
V_SLV	0.939	SLV 15	No
PFFP_SLV	5.844	SLV 13	Si
R_SLV	0.023	SLV 11	No

Maschio 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1228.3	104.6	-1986.8	104.6	L4	L5	758.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 74	546	-107242	1325577	5.05	15459551	11.663	Si
SLU 74	796	-96574	-180747	4.55	16180209	89.519	Si
SLU 81	546	-106694	1319117	5.02	15508731	11.757	Si
SLU 81	796	-96411	-109726	4.54	16187374	147.525	Si
SLU 83	546	-110078	1371760	5.18	15184049	11.069	Si
SLU 83	796	-99658	-133339	4.69	16023181	120.169	Si
SLU 80	546	-109077	1359546	5.14	15285298	11.243	Si
SLU 80	796	-98419	-122536	4.63	16091263	131.319	Si
SLU 82	546	-106661	1305439	5.02	15511669	11.882	Si
SLU 82	796	-96625	-51522	4.55	16177965	313.999	Si
SLU 77	546	-110626	1378220	5.21	15126739	10.976	Si
SLU 77	796	-99821	-204359	4.7	16013687	78.361	Si
SLU 79	546	-109111	1373224	5.14	15282008	11.129	Si
SLU 79	796	-98205	-180740	4.62	16102357	89.091	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 75	546	-107209	1311899	5.05	15462569	11.786	Si
SLU 75	796	-96789	-122543	4.56	16170646	131.959	Si
SLU 84	546	-110045	1358082	5.18	15187481	11.183	Si
SLU 84	796	-99872	-75135	4.7	16010722	213.093	Si
SLU 78	546	-110593	1364543	5.21	15130250	11.088	Si
SLU 78	796	-100036	-146155	4.71	16001075	109.48	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 1	546	-67881	7085272	3.2	19009699	2.683	Si
SLV 1	796	-62429	60001	2.94	17980266	299.666	Si
SLV 15	546	-75188	-5336888	3.54	20253141	3.795	Si
SLV 15	796	-63261	-357528	2.98	18143134	50.746	Si
SLV 4	546	-73256	6897866	3.45	19939605	2.891	Si
SLV 4	796	-66999	-360966	3.15	18849018	52.218	Si
SLD 2	546	-70031	3525556	3.3	19391780	5.5	Si
SLD 2	796	-62692	-58866	2.95	18032044	306.325	Si
SLV 13	546	-69813	-5149483	3.29	19353587	3.758	Si
SLV 13	796	-58691	63439	2.76	17224462	271.51	Si
SLV 14	546	-69813	-5149483	3.29	19353587	3.758	Si
SLV 14	796	-58691	63439	2.76	17224462	271.51	Si
SLV 3	546	-73256	6897866	3.45	19939605	2.891	Si
SLV 3	796	-66999	-360966	3.15	18849018	52.218	Si
SLV 2	546	-67881	7085272	3.2	19009699	2.683	Si
SLV 2	796	-62429	60001	2.94	17980266	299.666	Si
SLD 1	546	-70031	3525556	3.3	19391780	5.5	Si
SLD 1	796	-62692	-58866	2.95	18032044	306.325	Si
SLV 16	546	-75188	-5336888	3.54	20253141	3.795	Si
SLV 16	796	-63261	-357528	2.98	18143134	50.746	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 63	546	-99662	2864	1160598		4.69	758.5	1.08	23008			8.03	Si
SLU 63	796	-88953	2391	-162592		4.19	758.5	1.08	23008			9.62	Si
SLU 73	546	-102288	2949	1245141		4.82	758.5	1.08	23008			7.8	Si
SLU 73	796	-92068	2545	-36508		4.34	758.5	1.08	23008			9.04	Si
SLU 81	546	-106694	3118	1319117		5.02	758.5	1.08	23008			7.38	Si
SLU 81	796	-96411	2567	-109726		4.54	758.5	1.08	23008			8.96	Si
SLU 84	546	-110045	2786	1358082		5.18	758.5	1.08	23008			8.26	Si
SLU 84	796	-99872	2170	-75135		4.7	758.5	1.08	23008			10.6	Si
SLU 60	546	-96311	3197	1121632		4.53	758.5	1.08	23008			7.2	Si
SLU 60	796	-85491	2789	-197184		4.03	758.5	1.08	23008			8.25	Si
SLU 62	546	-99695	2822	1174276		4.69	758.5	1.08	23008			8.15	Si
SLU 62	796	-88738	2278	-220796		4.18	758.5	1.08	23008			10.1	Si
SLU 61	546	-96278	3239	1107955		4.53	758.5	1.08	23008			7.1	Si
SLU 61	796	-85706	2902	-138980		4.04	758.5	1.08	23008			7.93	Si
SLU 82	546	-106661	3161	1305439		5.02	758.5	1.08	23008			7.28	Si
SLU 82	796	-96625	2680	-51522		4.55	758.5	1.08	23008			8.58	Si
SLU 54	546	-96826	2805	1114415		4.56	758.5	1.08	23008			8.2	Si
SLU 54	796	-85869	2351	-210000		4.04	758.5	1.08	23008			9.79	Si
SLU 52	546	-91905	3028	1047657		4.33	758.5	1.08	23008			7.6	Si
SLU 52	796	-81149	2767	-123965		3.82	758.5	1.07	22619			8.17	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	546	-73256	47689	6897866		3.45	758.5	1.52	32350			0.68	No, Vu<V
SLV 4	796	-66999	41317	-360966		3.15	758.5	1.46	31098			0.75	No, Vu<V
SLV 16	546	-75188	-41082	-5336888		3.54	758.5	1.54	32736			0.8	No, Vu<V
SLV 16	796	-63261	-34947	-357528		2.98	758.5	1.43	30351			0.87	No, Vu<V
SLV 14	546	-69813	-43767	-5149483		3.29	758.5	1.49	31661			0.72	No, Vu<V
SLV 14	796	-58691	-38067	63439		2.76	758.5	1.39	29437			0.77	No, Vu<V
SLV 1	546	-67881	45004	7085272		3.2	758.5	1.47	31274			0.69	No, Vu<V
SLV 1	796	-62429	38197	60001		2.94	758.5	1.42	30184			0.79	No, Vu<V
SLD 4	546	-72237	21481	3444262		3.4	758.5	1.51	32146			1.5	Si
SLD 4	796	-64590	18568	-239810		3.04	758.5	1.44	30616			1.65	Si
SLD 3	546	-72237	21481	3444262		3.4	758.5	1.51	32146			1.5	Si
SLD 3	796	-64590	18568	-239810		3.04	758.5	1.44	30616			1.65	Si
SLV 3	546	-73256	47689	6897866		3.45	758.5	1.52	32350			0.68	No, Vu<V
SLV 3	796	-66999	41317	-360966		3.15	758.5	1.46	31098			0.75	No, Vu<V
SLV 13	546	-69813	-43767	-5149483		3.29	758.5	1.49	31661			0.72	No, Vu<V
SLV 13	796	-58691	-38067	63439		2.76	758.5	1.39	29437			0.77	No, Vu<V
SLV 2	546	-67881	45004	7085272		3.2	758.5	1.47	31274			0.69	No, Vu<V
SLV 2	796	-62429	38197	60001		2.94	758.5	1.42	30184			0.79	No, Vu<V
SLV 15	546	-75188	-41082	-5336888		3.54	758.5	1.54	32736			0.8	No, Vu<V
SLV 15	796	-63261	-34947	-357528		2.98	758.5	1.43	30351			0.87	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore $8 \gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.39	2.8	-59394	80706	641203	7.94	Si
SLV 6	14	0.39	2.8	-59394	80706	641203	7.94	Si
SLV 9	14	0.39	2.84	-60352	80706	648421	8.03	Si
SLV 10	14	0.39	2.84	-60352	80706	648421	8.03	Si
SLV 2	14	0.39	2.95	-62590	80706	664916	8.24	Si
SLV 1	14	0.39	2.95	-62590	80706	664916	8.24	Si
SLV 14	14	0.39	3.1	-65781	80706	687490	8.52	Si
SLV 13	14	0.39	3.1	-65781	80706	687490	8.52	Si



Comb.	fd	Sa	α_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.39	3.12	-66287	80706	690968	8.56	Si
SLV 3	14	0.39	3.12	-66287	80706	690968	8.56	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	Verto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	-51898	-62865	776	0.031	63.4	0.952	47.496	1675.871	No
SLV 9	-51898	-62865	776	0.031	63.4	0.952	47.496	1675.871	No
SLV 5	-53496	-62285	715	0.032	65.023	0.953	49.328	1675.871	No
SLV 6	-53496	-62285	715	0.032	65.023	0.953	49.328	1675.871	No
SLV 8	-66534	-80204	-781	0.033	78.276	0.96	49.614	1675.871	No
SLV 7	-66534	-80204	-781	0.033	78.276	0.96	49.614	1675.871	No
SLV 12	-64937	-80784	-720	0.033	76.651	0.959	50.698	1675.871	No
SLV 11	-64937	-80784	-720	0.033	76.651	0.959	50.698	1675.871	No
SLV 4	-63835	-73256	-328	0.039	75.531	0.959	59.007	960.164	No
SLV 3	-63835	-73256	-328	0.039	75.531	0.959	59.007	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.976	SLU 77	Si
V_SLU	7.103	SLU 61	Si
PF_SLV	2.683	SLV 1	Si
V_SLV	0.678	SLV 3	No
PFFP_SLV	7.945	SLV 5	Si
R_SLV	0.028	SLV 9	No

Maschio 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1046.6	104.6	-1116.3	104.6	L4	L5	69.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvkD	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	α_0	Mu	c.s.	Verifica
SLU 49	546	-9895	-21876	5.07	129890	5.938	Si
SLU 49	796	-8777	14549	4.5	136726	9.398	Si
SLU 47	546	-9548	-21906	4.9	132600	6.053	Si
SLU 47	796	-8216	15018	4.21	138091	9.195	Si
SLU 46	546	-9744	-21484	5	131136	6.104	Si
SLU 46	796	-8417	14371	4.32	137760	9.586	Si
SLU 55	546	-10861	-19587	5.57	119571	6.105	Si
SLU 55	796	-9556	11690	4.9	132542	11.338	Si
SLU 44	546	-9396	-21515	4.82	133615	6.21	Si
SLU 44	796	-7856	14840	4.03	138239	9.315	Si
SLU 59	546	-10985	-18963	5.63	117949	6.22	Si
SLU 59	796	-9944	10772	5.1	129463	12.019	Si
SLU 51	546	-9672	-21282	4.96	131692	6.188	Si
SLU 51	796	-8604	14099	4.41	137293	9.738	Si
SLU 52	546	-10710	-19196	5.49	121457	6.327	Si
SLU 52	796	-9196	11513	4.72	134806	11.709	Si
SLU 57	546	-11208	-19557	5.75	114862	5.873	Si
SLU 57	796	-10117	11222	5.19	127879	11.396	Si
SLU 54	546	-11057	-19165	5.67	116979	6.104	Si
SLU 54	796	-9757	11044	5	131030	11.864	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	α_0	Mu	c.s.	Verifica
SLD 15	546	-9619	-119664	4.93	199700	1.669	Si
SLD 15	796	-7167	118937	3.68	174473	1.467	Si
SLD 16	546	-9619	-119664	4.93	199700	1.669	Si
SLD 16	796	-7167	118937	3.68	174473	1.467	Si
SLV 16	546	-11655	-265635	5.98	207287	0.78	No, M>Mu
SLV 16	796	-7116	272670	0	0	0	No, e>1/2
SLV 15	546	-11655	-265635	5.98	207287	0.78	No, M>Mu
SLV 15	796	-7116	272670	0	0	0	No, e>1/2
SLV 13	546	-9420	-268371	4.83	198309	0.739	No, M>Mu
SLV 13	796	-7107	259306	0	0	0	No, e>1/2
SLV 1	546	-4575	243315	0	0	0	No, e>1/2
SLV 1	796	-7295	-263540	0	0	0	No, e>1/2
SLV 4	546	-6810	246050	0	0	0	No, e>1/2
SLV 4	796	-7304	-250177	3.75	176351	0.705	No, M>Mu
SLV 3	546	-6810	246050	0	0	0	No, e>1/2
SLV 3	796	-7304	-250177	3.75	176351	0.705	No, M>Mu
SLV 2	546	-4575	243315	0	0	0	No, e>1/2
SLV 2	796	-7295	-263540	0	0	0	No, e>1/2
SLV 14	546	-9420	-268371	4.83	198309	0.739	No, M>Mu
SLV 14	796	-7107	259306	0	0	0	No, e>1/2



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 2	546	-7515	-120	-15804		3.85	69.64	1.07	2085			17.32	Si
SLU 2	796	-6375	-121	10228		3.27	69.64	0.99	1933			15.99	Si
SLU 55	546	-10861	-120	-19587		5.57	69.64	1.08	2112			17.57	Si
SLU 55	796	-9556	-138	11690		4.9	69.64	1.08	2112			15.31	Si
SLU 45	546	-9703	-134	-19961		4.98	69.64	1.08	2112			15.72	Si
SLU 45	796	-8459	-135	12727		4.34	69.64	1.08	2112			15.65	Si
SLU 52	546	-10710	-134	-19196		5.49	69.64	1.08	2112			15.78	Si
SLU 52	796	-9196	-152	11513		4.72	69.64	1.08	2112			13.9	Si
SLU 44	546	-9396	-172	-21515		4.82	69.64	1.08	2112			12.28	Si
SLU 44	796	-7856	-172	14840		4.03	69.64	1.08	2112			12.25	Si
SLU 47	546	-9548	-158	-21906		4.9	69.64	1.08	2112			13.34	Si
SLU 47	796	-8216	-158	15018		4.21	69.64	1.08	2112			13.33	Si
SLU 43	546	-9328	-140	-18976		4.78	69.64	1.08	2112			15.1	Si
SLU 43	796	-7926	-141	12099		4.07	69.64	1.08	2112			14.98	Si
SLU 49	546	-9895	-140	-21876		5.07	69.64	1.08	2112			15.09	Si
SLU 49	796	-8777	-140	14549		4.5	69.64	1.08	2112			15.1	Si
SLU 46	546	-9744	-154	-21484		5	69.64	1.08	2112			13.75	Si
SLU 46	796	-8417	-154	14371		4.32	69.64	1.08	2112			13.73	Si
SLU 54	546	-11057	-115	-19165		5.67	69.64	1.08	2112			18.3	Si
SLU 54	796	-9757	-133	11044		5	69.64	1.08	2112			15.84	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	546	-11655	-2537	-265635		11.54	36.08	1.63	1642			0.65	No, Vu<V
SLV 16	796	-7116	-2336	272670		0	0	0.83	0			0	No, Vu<V
SLV 14	546	-9420	-2411	-268371		17.72	18.99	1.63	864			0.36	No, Vu<V
SLV 14	796	-7107	-2161	259306		0	0	0.83	0			0	No, Vu<V
SLV 6	546	-3664	880	61033		2.4	54.48	1.31	2004			2.28	Si
SLV 6	796	-7219	885	-96135		4	64.51	1.63	2935			3.32	Si
SLV 13	546	-9420	-2411	-268371		17.72	18.99	1.63	864			0.36	No, Vu<V
SLV 13	796	-7107	-2161	259306		0	0	0.83	0			0	No, Vu<V
SLV 5	546	-3664	880	61033		2.4	54.48	1.31	2004			2.28	Si
SLV 5	796	-7219	885	-96135		4	64.51	1.63	2935			3.32	Si
SLV 4	546	-6810	2298	246050		0	0	0.83	0			0	No, Vu<V
SLV 4	796	-7304	2035	-250177		153.24	1.7	1.63	77			0.04	No, Vu<V
SLV 3	546	-6810	2298	246050		0	0	0.83	0			0	No, Vu<V
SLV 3	796	-7304	2035	-250177		153.24	1.7	1.63	77			0.04	No, Vu<V
SLV 2	546	-4575	2425	243315		0	0	0.83	0			0	No, Vu<V
SLV 2	796	-7295	2210	-263540		0	0	0.83	0			0	No, Vu<V
SLV 15	546	-11655	-2537	-265635		11.54	36.08	1.63	1642			0.65	No, Vu<V
SLV 15	796	-7116	-2336	272670		0	0	0.83	0			0	No, Vu<V
SLV 1	546	-4575	2425	243315		0	0	0.83	0			0	No, Vu<V
SLV 1	796	-7295	2210	-263540		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.39	3.4	-6625	7410	66956	9.04	Si
SLV 9	14	0.39	3.4	-6625	7410	66956	9.04	Si
SLV 5	14	0.39	3.44	-6706	7410	67460	9.1	Si
SLV 6	14	0.39	3.44	-6706	7410	67460	9.1	Si
SLV 14	14	0.39	3.57	-6955	7410	68947	9.31	Si
SLV 13	14	0.39	3.57	-6955	7410	68947	9.31	Si
SLV 2	14	0.39	3.71	-7228	7410	70492	9.51	Si
SLV 1	14	0.39	3.71	-7228	7410	70492	9.51	Si
SLV 15	14	0.39	3.75	-7321	7410	70997	9.58	Si
SLV 16	14	0.39	3.75	-7321	7410	70997	9.58	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-3357	-5117	188	0	4.393	0.938	0	1675.871	No
SLV 10	-3357	-5117	188	0	4.393	0.938	0	1675.871	No
SLV 5	-2636	-3664	154	0	3.665	0.929	0.04	1675.871	No
SLV 6	-2636	-3664	154	0	3.665	0.929	0.04	1675.871	No
SLV 8	-4947	-11113	-188	0.01	6.006	0.953	15.884	1675.871	No
SLV 7	-4947	-11113	-188	0.01	6.006	0.953	15.884	1675.871	No
SLV 11	-5667	-12566	-154	0.019	6.738	0.958	29.12	1675.871	No
SLV 12	-5667	-12566	-154	0.019	6.738	0.958	29.12	1675.871	No
SLV 4	-3298	-6810	-108	0.018	4.333	0.938	28.647	960.164	No
SLV 3	-3298	-6810	-108	0.018	4.333	0.938	28.647	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.873	SLV 57	Si
V_SLV	12.251	SLV 44	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	9.036	SLV 9	Si
R_SLV	0	SLV 9	No



Maschio 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-727.8	104.6	-938.6	104.6	L4	L5	210.9	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 80	546	-37652	-43082	6.38	861941	20.007	Si
SLU 80	796	-31758	312163	5.38	1137322	3.643	Si
SLU 76	546	-36618	-66599	6.2	921264	13.833	Si
SLU 76	796	-30877	316609	5.23	1165411	3.681	Si
SLU 78	546	-38198	-47439	6.47	828706	17.469	Si
SLU 78	796	-32288	319187	5.47	1118788	3.505	Si
SLU 77	546	-38200	-27825	6.47	828584	29.779	Si
SLU 77	796	-32221	311917	5.46	1121221	3.595	Si
SLU 74	546	-37167	-38266	6.3	890318	23.267	Si
SLU 74	796	-31294	311517	5.3	1152533	3.7	Si
SLU 84	546	-38406	-59014	6.5	815714	13.822	Si
SLU 84	796	-32532	331276	5.51	1109858	3.35	Si
SLU 82	546	-37373	-69455	6.33	878379	12.647	Si
SLU 82	796	-31605	330875	5.35	1142434	3.453	Si
SLU 75	546	-37165	-57880	6.29	890430	15.384	Si
SLU 75	796	-31362	318786	5.31	1150375	3.609	Si
SLU 81	546	-37375	-49841	6.33	878265	17.621	Si
SLU 81	796	-31538	323605	5.34	1144665	3.537	Si
SLU 83	546	-38408	-39400	6.51	815591	20.7	Si
SLU 83	796	-32464	324006	5.5	1112363	3.433	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 2	546	-27796	1227339	4.71	1801433	1.468	Si
SLV 2	796	-18748	-345528	3.18	1462962	4.234	Si
SLD 16	546	-22989	-567250	3.89	1651387	2.911	Si
SLD 16	796	-20802	440981	3.52	1560778	3.539	Si
SLV 14	546	-19699	-1210263	3.34	1509786	1.247	Si
SLV 14	796	-20090	682843	3.4	1528275	2.238	Si
SLV 16	546	-21071	-1288390	3.57	1572668	1.221	Si
SLV 16	796	-21640	757278	3.67	1597143	2.109	Si
SLV 1	546	-27796	1227339	4.71	1801433	1.468	Si
SLV 1	796	-18748	-345528	3.18	1462962	4.234	Si
SLV 3	546	-29168	1149213	4.94	1831855	1.594	Si
SLV 3	796	-20298	-271093	3.44	1537908	5.673	Si
SLD 15	546	-22989	-567250	3.89	1651387	2.911	Si
SLD 15	796	-20802	440981	3.52	1560778	3.539	Si
SLV 13	546	-19699	-1210263	3.34	1509786	1.247	Si
SLV 13	796	-20090	682843	3.4	1528275	2.238	Si
SLV 15	546	-21071	-1288390	3.57	1572668	1.221	Si
SLV 15	796	-21640	757278	3.67	1597143	2.109	Si
SLV 4	546	-29168	1149213	4.94	1831855	1.594	Si
SLV 4	796	-20298	-271093	3.44	1537908	5.673	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	546	-37373	-716	-69455	6.33	210.86	210.86	1.08	6396			8.93	Si
SLU 82	796	-31605	-419	330875	5.35	210.86	210.86	1.08	6396			15.25	Si
SLU 63	546	-34190	-693	-70862	5.79	210.86	210.86	1.08	6396			9.23	Si
SLU 63	796	-28707	-428	303851	4.86	210.86	210.86	1.08	6396			14.95	Si
SLU 73	546	-35585	-743	-77040	6.03	210.86	210.86	1.08	6396			8.61	Si
SLU 73	796	-29951	-456	316208	5.07	210.86	210.86	1.08	6396			14.02	Si
SLU 54	546	-32950	-665	-69729	5.58	210.86	210.86	1.08	6396			9.62	Si
SLU 54	796	-27538	-417	291361	4.66	210.86	210.86	1.08	6396			15.34	Si
SLU 10	546	-26203	-696	-75751	4.44	210.86	210.86	1.08	6396			9.19	Si
SLU 10	796	-22047	-450	242677	3.73	210.86	210.86	1.05	6220			13.82	Si
SLU 61	546	-33157	-779	-81304	5.62	210.86	210.86	1.08	6396			8.21	Si
SLU 61	796	-27781	-519	303450	4.71	210.86	210.86	1.08	6396			12.31	Si
SLU 19	546	-27991	-670	-68166	4.74	210.86	210.86	1.08	6396			9.55	Si
SLU 19	796	-23702	-413	257344	4.01	210.86	210.86	1.08	6396			15.47	Si
SLU 55	546	-32402	-720	-78448	5.49	210.86	210.86	1.08	6396			8.89	Si
SLU 55	796	-27053	-465	289184	4.58	210.86	210.86	1.08	6396			13.77	Si
SLU 76	546	-36618	-656	-66599	6.2	210.86	210.86	1.08	6396			9.74	Si
SLU 76	796	-30877	-365	316609	5.23	210.86	210.86	1.08	6396			17.54	Si
SLU 52	546	-31369	-806	-88889	5.31	210.86	210.86	1.08	6396			7.94	Si
SLU 52	796	-26126	-556	288783	4.43	210.86	210.86	1.08	6396			11.5	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	546	-29168	9102	1149213		5.26	198.09	1.63	9013			0.99	No, Vu<V
SLV 4	796	-20298	4535	-271093		3.44	210.86	1.52	8980			1.98	Si
SLV 13	546	-19699	-9743	-1210263		5.33	131.98	1.63	6005			0.62	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	796	-20090	-4989	682843		3.4	210.86	1.51	8938			1.79	Si
SLV 3	546	-29168	9102	1149213		5.26	198.09	1.63	9013			0.99	No, Vu<V
SLV 3	796	-20298	4535	-271093		3.44	210.86	1.52	8980			1.98	Si
SLV 2	546	-27796	9822	1227339		5.4	183.83	1.63	8364			0.85	No, Vu<V
SLV 2	796	-18748	5139	-345528		3.18	210.86	1.47	8670			1.69	Si
SLV 1	546	-27796	9822	1227339		5.4	183.83	1.63	8364			0.85	No, Vu<V
SLV 1	796	-18748	5139	-345528		3.18	210.86	1.47	8670			1.69	Si
SLV 14	546	-19699	-9743	-1210263		5.33	131.98	1.63	6005			0.62	No, Vu<V
SLV 14	796	-20090	-4989	682843		3.4	210.86	1.51	8938			1.79	Si
SLD 15	546	-22989	-4647	-567250		3.89	210.86	1.61	9518			2.05	Si
SLD 15	796	-20802	-2514	440981		3.52	210.86	1.54	9081			3.61	Si
SLD 16	546	-22989	-4647	-567250		3.89	210.86	1.61	9518			2.05	Si
SLD 16	796	-20802	-2514	440981		3.52	210.86	1.54	9081			3.61	Si
SLV 15	546	-21071	-10463	-1288390		5.66	132.86	1.63	6045			0.58	No, Vu<V
SLV 15	796	-21640	-5593	757278		3.67	210.86	1.57	9248			1.65	Si
SLV 16	546	-21071	-10463	-1288390		5.66	132.86	1.63	6045			0.58	No, Vu<V
SLV 16	796	-21640	-5593	757278		3.67	210.86	1.57	9248			1.65	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore $8 \gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.39	3.02	-17801	22436	187723	8.37	Si
SLV 14	14	0.39	3.02	-17801	22436	187723	8.37	Si
SLV 9	14	0.39	3.23	-19085	22436	196504	8.76	Si
SLV 10	14	0.39	3.23	-19085	22436	196504	8.76	Si
SLV 16	14	0.39	3.25	-19165	22436	197029	8.78	Si
SLV 15	14	0.39	3.25	-19165	22436	197029	8.78	Si
SLV 5	14	0.39	3.65	-21548	22436	211568	9.43	Si
SLV 6	14	0.39	3.65	-21548	22436	211568	9.43	Si
SLV 12	14	0.39	4	-23629	22436	222457	9.92	Si
SLV 11	14	0.39	4	-23629	22436	222457	9.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	-17083	-20933	309	0.027	20.323	0.957	41.584	1675.871	No
SLV 9	-17083	-20933	309	0.027	20.323	0.957	41.584	1675.871	No
SLV 6	-16517	-23362	301	0.027	19.748	0.956	41.753	1675.871	No
SLV 5	-16517	-23362	301	0.027	19.748	0.956	41.753	1675.871	No
SLV 7	-18654	-27934	-310	0.028	21.921	0.96	42.844	1675.871	No
SLV 8	-18654	-27934	-310	0.028	21.921	0.96	42.844	1675.871	No
SLV 12	-19220	-25505	-301	0.029	22.497	0.961	43.874	1675.871	No
SLV 11	-19220	-25505	-301	0.029	22.497	0.961	43.874	1675.871	No
SLV 3	-17245	-29168	-106	0.038	20.488	0.958	57.846	960.164	No
SLV 4	-17245	-29168	-106	0.038	20.488	0.958	57.846	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.35	SLU 84	Si
V_SLU	7.94	SLU 52	Si
PF_SLV	1.221	SLV 15	Si
V_SLV	0.578	SLV 15	No
PFFP_SLV	8.367	SLV 13	Si
R_SLV	0.025	SLV 9	No

Maschio 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-496.8	104.6	-647.8	104.6	L4	L5	151	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 84	546	-23787	-40761	5.63	555526	13.629	Si
SLU 84	756	-24547	118588	5.81	532372	4.489	Si
SLU 79	546	-23725	-43723	5.61	557309	12.746	Si
SLU 79	756	-23644	118222	5.59	559595	4.733	Si
SLU 83	546	-23847	-41365	5.64	553806	13.388	Si
SLU 83	756	-24287	118492	5.74	540607	4.562	Si
SLU 75	546	-23201	-39272	5.49	571657	14.556	Si
SLU 75	756	-23705	112927	5.61	557885	4.94	Si
SLU 74	546	-23260	-39876	5.5	570091	14.296	Si
SLU 74	756	-23444	112831	5.54	565156	5.009	Si
SLU 78	546	-23975	-44996	5.67	550053	12.224	Si
SLU 78	756	-24272	121489	5.74	541058	4.454	Si
SLU 82	546	-23013	-35037	5.44	576494	16.454	Si
SLU 82	756	-23980	110025	5.67	549885	4.998	Si

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Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.39	3.62	-15314	16067	150842	9.39	Si
SLV 2	14	0.39	3.62	-15314	16067	150842	9.39	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-11774	-13789	161	0.032	14.087	0.956	47.928	1675.871	No
SLV 9	-11774	-13789	161	0.032	14.087	0.956	47.928	1675.871	No
SLV 5	-11719	-14309	161	0.032	14.03	0.956	47.947	1675.871	No
SLV 6	-11719	-14309	161	0.032	14.03	0.956	47.947	1675.871	No
SLV 8	-12426	-17260	-161	0.032	14.75	0.958	48.45	1675.871	No
SLV 7	-12426	-17260	-161	0.032	14.75	0.958	48.45	1675.871	No
SLV 11	-12482	-16740	-161	0.032	14.806	0.958	48.551	1675.871	No
SLV 12	-12482	-16740	-161	0.032	14.806	0.958	48.551	1675.871	No
SLV 13	-12086	-14216	49	0.04	14.404	0.957	60.849	960.164	No
SLV 14	-12086	-14216	49	0.04	14.404	0.957	60.849	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.454	SLU 78	Si
V_SLU	4.466	SLU 77	Si
PF_SLV	1.055	SLV 15	Si
V_SLV	0.34	SLV 15	No
PPFP_SLV	8.881	SLV 9	Si
R_SLV	0.029	SLV 9	No

Maschio 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	104.6	-416.8	104.6	L4	L5	404.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 35	546	-42747	358233	3.77	4639798	12.952	Si
SLU 35	756	-41442	809926	3.66	4616710	5.7	Si
SLU 75	546	-50310	407439	4.44	4626574	11.355	Si
SLU 75	756	-47568	825366	4.2	4660350	5.646	Si
SLU 77	546	-50856	403930	4.49	4615920	11.428	Si
SLU 77	756	-48312	893801	4.27	4654445	5.207	Si
SLU 74	546	-49987	406272	4.41	4632261	11.402	Si
SLU 74	756	-47342	844330	4.18	4661662	5.521	Si
SLU 81	546	-50155	430775	4.43	4629372	10.747	Si
SLU 81	756	-47781	833482	4.22	4658902	5.59	Si
SLU 79	546	-50189	397218	4.43	4628755	11.653	Si
SLU 79	756	-47585	876629	4.2	4660237	5.316	Si
SLU 83	546	-51023	428433	4.5	4612394	10.766	Si
SLU 83	756	-48751	882953	4.3	4649816	5.266	Si
SLU 80	546	-50512	398385	4.46	4622781	11.604	Si
SLU 80	756	-47811	857665	4.22	4658685	5.432	Si
SLU 78	546	-51179	405097	4.52	4609003	11.378	Si
SLU 78	756	-48538	874837	4.29	4652174	5.318	Si
SLU 84	546	-51346	429600	4.53	4605240	10.72	Si
SLU 84	756	-48977	863990	4.32	4647109	5.379	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 3	546	-29313	2016430	2.59	4672776	2.317	Si
SLV 3	756	-20564	-224719	1.82	3541115	15.758	Si
SLV 15	546	-39908	-1372673	3.52	5743774	4.184	Si
SLV 15	756	-43359	1336291	3.83	6021811	4.506	Si
SLV 16	546	-39908	-1372673	3.52	5743774	4.184	Si
SLV 16	756	-43359	1336291	3.83	6021811	4.506	Si
SLV 13	546	-39472	-1491271	3.49	5706214	3.826	Si
SLV 13	756	-42605	1236999	3.76	5964059	4.821	Si
SLD 3	546	-32217	1011111	2.84	4998940	4.944	Si
SLD 3	756	-26868	193440	2.37	4378993	22.637	Si
SLV 2	546	-28877	1897832	2.55	4621729	2.435	Si
SLV 2	756	-19811	-324011	1.75	3433141	10.596	Si
SLV 1	546	-28877	1897832	2.55	4621729	2.435	Si
SLV 1	756	-19811	-324011	1.75	3433141	10.596	Si
SLV 4	546	-29313	2016430	2.59	4672776	2.317	Si
SLV 4	756	-20564	-224719	1.82	3541115	15.758	Si
SLV 14	546	-39472	-1491271	3.49	5706214	3.826	Si
SLV 14	756	-42605	1236999	3.76	5964059	4.821	Si
SLD 4	546	-32217	1011111	2.84	4998940	4.944	Si
SLD 4	756	-26868	193440	2.37	4378993	22.637	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 42	546	-43237	-4989	383903		3.82	404.5	1.06	12057			2.42	Si
SLU 42	756	-42108	-5034	780114		3.72	404.5	1.05	11907			2.37	Si
SLU 84	546	-51346	-5160	429600		4.53	404.5	1.08	12270			2.38	Si
SLU 84	756	-48977	-5206	863990		4.32	404.5	1.08	12270			2.36	Si
SLU 83	546	-51023	-5366	428433		4.5	404.5	1.08	12270			2.29	Si
SLU 83	756	-48751	-5375	882953		4.3	404.5	1.08	12270			2.28	Si
SLU 36	546	-43070	-4896	359401		3.8	404.5	1.06	12035			2.46	Si
SLU 36	756	-41668	-4940	790962		3.68	404.5	1.05	11848			2.4	Si
SLU 37	546	-42081	-4994	351522		3.72	404.5	1.05	11903			2.38	Si
SLU 37	756	-40716	-5002	792754		3.59	404.5	1.03	11721			2.34	Si
SLU 35	546	-42747	-5101	358233		3.77	404.5	1.06	11992			2.35	Si
SLU 35	756	-41442	-5109	809926		3.66	404.5	1.04	11818			2.31	Si
SLU 78	546	-51179	-5066	405097		4.52	404.5	1.08	12270			2.42	Si
SLU 78	756	-48538	-5112	874837		4.29	404.5	1.08	12270			2.4	Si
SLU 79	546	-50189	-5164	397218		4.43	404.5	1.08	12270			2.38	Si
SLU 79	756	-47585	-5174	876629		4.2	404.5	1.08	12270			2.37	Si
SLU 77	546	-50856	-5272	403930		4.49	404.5	1.08	12270			2.33	Si
SLU 77	756	-48312	-5282	893801		4.27	404.5	1.08	12270			2.32	Si
SLU 41	546	-42914	-5195	382736		3.79	404.5	1.06	12014			2.31	Si
SLU 41	756	-41882	-5203	799078		3.7	404.5	1.05	11876			2.28	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 13	546	-39472	-20264	-1491271		3.49	404.5	1.53	17333			0.86	No, Vu<V
SLV 13	756	-42605	-19019	1236999		3.76	404.5	1.59	17959			0.94	No, Vu<V
SLV 16	546	-39908	-20950	-1372673		3.52	404.5	1.54	17420			0.83	No, Vu<V
SLV 16	756	-43359	-19731	1336291		3.83	404.5	1.6	18110			0.92	No, Vu<V
SLV 15	546	-39908	-20950	-1372673		3.52	404.5	1.54	17420			0.83	No, Vu<V
SLV 15	756	-43359	-19731	1336291		3.83	404.5	1.6	18110			0.92	No, Vu<V
SLV 2	546	-28877	15801	1897832		2.55	404.5	1.34	15214			0.96	No, Vu<V
SLV 2	756	-19811	14568	-324011		1.75	404.5	1.18	13400			0.92	No, Vu<V
SLV 14	546	-39472	-20264	-1491271		3.49	404.5	1.53	17333			0.86	No, Vu<V
SLV 14	756	-42605	-19019	1236999		3.76	404.5	1.59	17959			0.94	No, Vu<V
SLV 3	546	-29313	15115	2016430		2.61	400.38	1.36	15205			1.01	Si
SLV 3	756	-20564	13856	-224719		1.82	404.5	1.2	13551			0.98	No, Vu<V
SLV 1	546	-28877	15801	1897832		2.55	404.5	1.34	15214			0.96	No, Vu<V
SLV 1	756	-19811	14568	-324011		1.75	404.5	1.18	13400			0.92	No, Vu<V
SLD 16	546	-36747	-10414	-437048		3.24	404.5	1.48	16788			1.61	Si
SLD 16	756	-36610	-9901	859278		3.23	404.5	1.48	16760			1.69	Si
SLD 15	546	-36747	-10414	-437048		3.24	404.5	1.48	16788			1.61	Si
SLD 15	756	-36610	-9901	859278		3.23	404.5	1.48	16760			1.69	Si
SLV 4	546	-29313	15115	2016430		2.61	400.38	1.36	15205			1.01	Si
SLV 4	756	-20564	13856	-224719		1.82	404.5	1.2	13551			0.98	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.39	1.88	-21266	43040	251975	5.85	Si
SLV 2	14	0.39	1.88	-21266	43040	251975	5.85	Si
SLV 4	14	0.39	1.95	-22033	43040	259349	6.03	Si
SLV 3	14	0.39	1.95	-22033	43040	259349	6.03	Si
SLV 5	14	0.39	2.44	-27628	43040	309571	7.19	Si
SLV 6	14	0.39	2.44	-27628	43040	309571	7.19	Si
SLV 8	14	0.39	2.66	-30183	43040	330399	7.68	Si
SLV 7	14	0.39	2.66	-30183	43040	330399	7.68	Si
SLV 10	14	0.39	2.99	-33847	43040	357963	8.32	Si
SLV 9	14	0.39	2.99	-33847	43040	357963	8.32	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-26342	-33529	-536	0.027	32.455	0.95	40.75	1675.871	No
SLV 7	-26342	-33529	-536	0.027	32.455	0.95	40.75	1675.871	No
SLV 9	-28419	-35256	537	0.027	34.564	0.953	41.884	1675.871	No
SLV 10	-28419	-35256	537	0.027	34.564	0.953	41.884	1675.871	No
SLV 6	-25142	-32077	495	0.028	31.237	0.948	42.159	1675.871	No
SLV 5	-25142	-32077	495	0.028	31.237	0.948	42.159	1675.871	No
SLV 11	-29619	-36708	-494	0.029	35.783	0.954	44.469	1675.871	No
SLV 12	-29619	-36708	-494	0.029	35.783	0.954	44.469	1675.871	No
SLV 4	-22099	-29313	-224	0.037	28.151	0.943	56.404	960.164	No
SLV 3	-22099	-29313	-224	0.037	28.151	0.943	56.404	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.207	SLV 77	Si
V_SLV	2.283	SLU 41	Si
PF_SLV	2.317	SLV 3	Si
V_SLV	0.831	SLV 15	No
PFFP_SLV	5.854	SLV 1	Si
R_SLV	0.024	SLV 7	No



Maschio 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-972.8	220.1	-972.8	666.1	L4	L5	446	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 60	546	-33324	-398489	5.34	2562442	6.43	Si
SLU 60	898	-19585	-224159	3.14	2685728	11.981	Si
SLU 81	546	-36108	-366046	5.78	2335771	6.381	Si
SLU 81	898	-21309	-210867	3.41	2761077	13.094	Si
SLU 52	546	-31758	-385571	5.09	2660080	6.899	Si
SLU 52	898	-18644	-214866	2.99	2633637	12.257	Si
SLU 73	546	-34542	-353128	5.53	2471641	6.999	Si
SLU 73	898	-20368	-201574	3.26	2723203	13.51	Si
SLU 43	546	-27981	-329307	4.48	2807082	8.524	Si
SLU 43	898	-16378	-179112	2.62	2476275	13.825	Si
SLU 19	546	-27624	-318640	4.42	2814518	8.833	Si
SLU 19	898	-16273	-181853	2.61	2467834	13.571	Si
SLU 65	546	-30802	-304701	4.93	2709119	8.891	Si
SLU 65	898	-18124	-170041	2.9	2601471	15.299	Si
SLU 61	546	-33346	-403191	5.34	2560908	6.352	Si
SLU 61	898	-19598	-226692	3.14	2686388	11.85	Si
SLU 82	546	-36130	-370748	5.79	2333698	6.295	Si
SLU 82	898	-21322	-213400	3.41	2761542	12.941	Si
SLU 44	546	-28018	-337144	4.49	2806251	8.324	Si
SLU 44	898	-16400	-183333	2.63	2477977	13.516	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 5	546	-25392	-599216	4.07	3777839	6.305	Si
SLD 5	898	-14555	-247876	2.33	2626510	10.596	Si
SLD 6	546	-25392	-599216	4.07	3777839	6.305	Si
SLD 6	898	-14555	-247876	2.33	2626510	10.596	Si
SLD 9	546	-25016	-576686	4.01	3749380	6.502	Si
SLD 9	898	-14501	-231736	2.32	2619060	11.302	Si
SLD 10	546	-25016	-576686	4.01	3749380	6.502	Si
SLD 10	898	-14501	-231736	2.32	2619060	11.302	Si
SLV 6	546	-27246	-1082799	4.36	3906051	3.607	Si
SLV 6	898	-15079	-392292	2.41	2698012	6.878	Si
SLV 12	546	-20999	584151	3.36	3393864	5.81	Si
SLV 12	898	-13296	113323	2.13	2448240	21.604	Si
SLV 10	546	-26358	-1028699	4.22	3847135	3.74	Si
SLV 10	898	-14956	-354195	2.4	2681427	7.57	Si
SLV 11	546	-20999	584151	3.36	3393864	5.81	Si
SLV 11	898	-13296	113323	2.13	2448240	21.604	Si
SLV 5	546	-27246	-1082799	4.36	3906051	3.607	Si
SLV 5	898	-15079	-392292	2.41	2698012	6.878	Si
SLV 9	546	-26358	-1028699	4.22	3847135	3.74	Si
SLV 9	898	-14956	-354195	2.4	2681427	7.57	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 28	546	-24154	1037	19963		3.87	446	1.07	6689			6.45	Si
SLU 28	898	-14549	1052	-1661		2.33	446	0.87	5409			5.14	Si
SLU 9	546	-20608	970	23349		3.3	446	1	6217			6.41	Si
SLU 9	898	-12280	984	2209		1.97	446	0.82	5106			5.19	Si
SLU 72	546	-29115	1082	-28758		4.66	446	1.08	6764			6.25	Si
SLU 72	898	-17329	1098	-29338		2.78	446	0.93	5779			5.26	Si
SLU 27	546	-24132	1043	24665		3.86	446	1.07	6686			6.41	Si
SLU 27	898	-14536	1058	871		2.33	446	0.87	5407			5.11	Si
SLU 38	546	-27132	1060	7365		4.35	446	1.08	6764			6.38	Si
SLU 38	898	-16249	1076	-16032		2.6	446	0.9	5635			5.24	Si
SLU 8	546	-20586	977	28051		3.3	446	1	6214			6.36	Si
SLU 8	898	-12267	990	4741		1.96	446	0.82	5105			5.16	Si
SLU 71	546	-29093	1088	-24056		4.66	446	1.08	6764			6.22	Si
SLU 71	898	-17316	1104	-26806		2.77	446	0.93	5778			5.23	Si
SLU 30	546	-23392	1113	55792		3.75	446	1.06	6588			5.92	Si
SLU 30	898	-14004	1128	15501		2.24	446	0.85	5336			4.73	Si
SLU 37	546	-27110	1066	12067		4.34	446	1.08	6764			6.35	Si
SLU 37	898	-16236	1082	-13500		2.6	446	0.9	5634			5.21	Si
SLU 29	546	-23370	1119	60494		3.74	446	1.05	6585			5.89	Si
SLU 29	898	-13991	1135	18033		2.24	446	0.85	5334			4.7	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	546	-21887	7459	530051		3.51	446	1.53	9581			1.28	Si
SLV 7	898	-13418	5967	75226		2.15	446	1.26	7887			1.32	Si
SLV 11	546	-20999	7137	584151		3.36	446	1.51	9403			1.32	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	898	-13296	5533	113323		2.13	446	1.26	7862			1.42	Si
SLD 7	546	-23229	3178	78038		3.72	446	1.58	9849			3.1	Si
SLD 7	898	-13874	2572	-47233		2.22	446	1.28	7978			3.1	Si
SLV 6	546	-27246	-6966	-1082799		4.36	446	1.63	10146			1.46	Si
SLV 6	898	-15079	-5352	-392292		2.41	446	1.32	8219			1.54	Si
SLD 8	546	-23229	3178	78038		3.72	446	1.58	9849			3.1	Si
SLD 8	898	-13874	2572	-47233		2.22	446	1.28	7978			3.1	Si
SLV 10	546	-26358	-7289	-1028699		4.22	446	1.63	10146			1.39	Si
SLV 10	898	-14956	-5786	-354195		2.4	446	1.31	8195			1.42	Si
SLV 8	546	-21887	7459	530051		3.51	446	1.53	9581			1.28	Si
SLV 8	898	-13418	5967	75226		2.15	446	1.26	7887			1.32	Si
SLV 5	546	-27246	-6966	-1082799		4.36	446	1.63	10146			1.46	Si
SLV 5	898	-15079	-5352	-392292		2.41	446	1.32	8219			1.54	Si
SLV 12	546	-20999	7137	584151		3.36	446	1.51	9403			1.32	Si
SLV 12	898	-13296	5533	113323		2.13	446	1.26	7862			1.42	Si
SLV 9	546	-26358	-7289	-1028699		4.22	446	1.63	10146			1.39	Si
SLV 9	898	-14956	-5786	-354195		2.4	446	1.31	8195			1.42	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.03 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.39	2.6	-16213	22649	89373	3.95	Si
SLV 15	14	0.39	2.6	-16213	22649	89373	3.95	Si
SLV 14	14	0.39	2.69	-16790	22649	91666	4.05	Si
SLV 13	14	0.39	2.69	-16790	22649	91666	4.05	Si
SLV 11	14	0.39	2.99	-18649	22649	98632	4.35	Si
SLV 12	14	0.39	2.99	-18649	22649	98632	4.35	Si
SLV 10	14	0.39	3.29	-20573	22649	105177	4.64	Si
SLV 9	14	0.39	3.29	-20573	22649	105177	4.64	Si
SLV 7	14	0.39	3.41	-21314	22649	107516	4.75	Si
SLV 8	14	0.39	3.41	-21314	22649	107516	4.75	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 16	-13734	-21838	-87	0.017	17.092	0.948	25.802	1675.871	No
SLV 15	-13734	-21838	-87	0.017	17.092	0.948	25.802	1675.871	No
SLV 1	-14641	-26407	88	0.017	18.013	0.95	25.92	1675.871	No
SLV 2	-14641	-26407	88	0.017	18.013	0.95	25.92	1675.871	No
SLV 4	-14143	-24799	74	0.018	17.507	0.949	27.204	1675.871	No
SLV 3	-14143	-24799	74	0.018	17.507	0.949	27.204	1675.871	No
SLV 13	-14232	-23446	-73	0.018	17.598	0.949	27.292	1675.871	No
SLV 14	-14232	-23446	-73	0.018	17.598	0.949	27.292	1675.871	No
SLV 6	-15079	-27246	49	0.019	18.458	0.951	29.525	1464.148	No
SLV 5	-15079	-27246	49	0.019	18.458	0.951	29.525	1464.148	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.295	SLU 82	Si
V_SLU	4.702	SLU 29	Si
PF_SLV	3.607	SLV 5	Si
V_SLV	1.284	SLV 7	Si
PFFP_SLV	3.946	SLV 15	Si
R_SLV	0.015	SLV 15	No

Maschio 132

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-944.8	-335.9	-1100.3	-335.9	L4	L5	155.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 81	546	-14104	53808	3.24	660507	12.275	Si
SLU 81	756	-14067	-159038	3.23	659913	4.149	Si
SLU 83	546	-14647	47570	3.36	668497	14.053	Si
SLU 83	756	-14498	-152705	3.33	666442	4.364	Si
SLU 75	546	-14177	51467	3.26	661661	12.856	Si
SLU 75	756	-14103	-150965	3.24	660498	4.375	Si
SLU 76	546	-14126	53722	3.24	660850	12.301	Si
SLU 76	756	-14068	-151873	3.23	659924	4.345	Si
SLU 31	546	-11076	56178	2.54	592215	10.542	Si
SLU 31	756	-11358	-140531	2.61	600293	4.272	Si
SLU 82	546	-14071	59752	3.23	659976	11.045	Si
SLU 82	756	-14126	-165567	3.24	660858	3.991	Si
SLU 39	546	-11597	50026	2.66	606830	12.13	Si
SLU 39	756	-11789	-141363	2.71	611929	4.329	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 73	546	-13583	59959	3.12	651620	10.868	Si
SLU 73	756	-13636	-158206	3.13	652579	4.125	Si
SLU 84	546	-14613	53514	3.36	668045	12.484	Si
SLU 84	756	-14558	-159234	3.34	667276	4.191	Si
SLU 40	546	-11564	55970	2.66	605933	10.826	Si
SLU 40	756	-11849	-147891	2.72	613467	4.148	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 15	546	-10472	-327685	2.41	653938	1.996	Si
SLV 15	756	-3925	280997	0.9	282653	1.006	Si
SLV 16	546	-10472	-327685	2.41	653938	1.996	Si
SLV 16	756	-3925	280997	0.9	282653	1.006	Si
SLV 13	546	-13328	-377283	3.06	776629	2.058	Si
SLV 13	756	-6130	290058	1.41	421672	1.454	Si
SLV 8	546	-4401	229633	1.01	313887	1.367	Si
SLV 8	756	-7253	-225120	1.67	487046	2.163	Si
SLV 3	546	-6257	440706	1.44	429292	0.974	No, M>Mu
SLV 3	756	-13002	-481382	2.99	763858	1.587	Si
SLV 7	546	-4401	229633	1.01	313887	1.367	Si
SLV 7	756	-7253	-225120	1.67	487046	2.163	Si
SLV 2	546	-9113	391109	2.09	587161	1.501	Si
SLV 2	756	-15207	-472320	3.49	844381	1.788	Si
SLV 1	546	-9113	391109	2.09	587161	1.501	Si
SLV 1	756	-15207	-472320	3.49	844381	1.788	Si
SLV 14	546	-13328	-377283	3.06	776629	2.058	Si
SLV 14	756	-6130	290058	1.41	421672	1.454	Si
SLV 4	546	-6257	440706	1.44	429292	0.974	No, M>Mu
SLV 4	756	-13002	-481382	2.99	763858	1.587	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 31	546	-11076	1594	56178		2.54	155.5	0.89	3896			2.44	Si
SLU 31	756	-11358	1994	-140531		2.61	155.5	0.9	3933			1.97	Si
SLU 61	546	-13283	1511	48129		3.05	155.5	0.96	4190			2.77	Si
SLU 61	756	-12991	2102	-145312		2.98	155.5	0.95	4151			1.97	Si
SLU 40	546	-11564	1597	55970		2.66	155.5	0.99	3961			2.48	Si
SLU 40	756	-11849	2135	-147891		2.72	155.5	0.92	3999			1.87	Si
SLU 81	546	-14104	1698	53808		3.24	155.5	0.99	4299			2.53	Si
SLU 81	756	-14067	2345	-159038		3.23	155.5	0.99	4294			1.83	Si
SLU 84	546	-14613	1708	53514		3.36	155.5	1	4367			2.56	Si
SLU 84	756	-14558	2237	-159234		3.34	155.5	1	4360			1.95	Si
SLU 60	546	-13317	1413	42185		3.06	155.5	0.96	4194			2.97	Si
SLU 60	756	-12932	2051	-138784		2.97	155.5	0.95	4143			2.02	Si
SLU 73	546	-13583	1792	59959		3.12	155.5	0.97	4230			2.36	Si
SLU 73	756	-13636	2255	-158206		3.13	155.5	0.97	4237			1.88	Si
SLU 82	546	-14071	1796	59752		3.23	155.5	0.99	4295			2.39	Si
SLU 82	756	-14126	2396	-165567		3.24	155.5	0.99	4302			1.8	Si
SLU 83	546	-14647	1610	47570		3.36	155.5	1	4372			2.72	Si
SLU 83	756	-14498	2186	-152705		3.33	155.5	1	4352			1.99	Si
SLU 39	546	-11597	1499	50026		2.66	155.5	0.91	3965			2.64	Si
SLU 39	756	-11789	2084	-141363		2.71	155.5	0.92	3991			1.92	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	546	-13328	-5414	-377283		3.21	148.32	1.48	6126			1.13	Si
SLV 14	756	-6130	-4253	290058		2.4	91.29	1.31	3356			0.79	No, Vu<V
SLV 8	546	-4401	4005	229633		2.05	76.73	1.24	2671			0.67	No, Vu<V
SLV 8	756	-7253	4945	-225120		1.85	140.14	1.2	4720			0.95	No, Vu<V
SLV 2	546	-9113	7027	391109		3.11	104.5	1.46	4261			0.61	No, Vu<V
SLV 2	756	-15207	5853	-472320		3.88	140.07	1.61	6310			1.08	Si
SLV 7	546	-4401	4005	229633		2.05	76.73	1.24	2671			0.67	No, Vu<V
SLV 7	756	-7253	4945	-225120		1.85	140.14	1.2	4720			0.95	No, Vu<V
SLV 3	546	-6257	7642	440706		10.18	21.96	1.63	999			0.13	No, Vu<V
SLV 3	756	-13002	7067	-481382		3.8	122.18	1.59	5451			0.77	No, Vu<V
SLV 16	546	-10472	-4799	-327685		2.68	139.38	1.37	5347			1.11	Si
SLV 16	756	-3925	-3040	280997		7.59	18.47	1.63	841			0.28	No, Vu<V
SLV 15	546	-10472	-4799	-327685		2.68	139.38	1.37	5347			1.11	Si
SLV 15	756	-3925	-3040	280997		7.59	18.47	1.63	841			0.28	No, Vu<V
SLV 1	546	-9113	7027	391109		3.11	104.5	1.46	4261			0.61	No, Vu<V
SLV 1	756	-15207	5853	-472320		3.88	140.07	1.61	6310			1.08	Si
SLV 4	546	-6257	7642	440706		10.18	21.96	1.63	999			0.13	No, Vu<V
SLV 4	756	-13002	7067	-481382		3.8	122.18	1.59	5451			0.77	No, Vu<V
SLV 13	546	-13328	-5414	-377283		3.21	148.32	1.48	6126			1.13	Si
SLV 13	756	-6130	-4253	290058		2.4	91.29	1.31	3356			0.79	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.39	0.9	-3898	16169	50575	3.13	Si
SLV 16	14	0.39	0.9	-3898	16169	50575	3.13	Si
SLV 11	14	0.39	1.13	-4911	16169	62410	3.86	Si
SLV 12	14	0.39	1.13	-4911	16169	62410	3.86	Si
SLV 13	14	0.39	1.38	-5998	16169	74503	4.61	Si
SLV 14	14	0.39	1.38	-5998	16169	74503	4.61	Si
SLV 8	14	0.39	1.81	-7879	16169	93973	5.81	Si
SLV 7	14	0.39	1.81	-7879	16169	93973	5.81	Si

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Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.39	2.74	-11910	16169	129414	8	Si
SLV 9	14	0.39	2.74	-11910	16169	129414	8	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 $W_a = 0.05 T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-3432	-4401	-218	0.006	5.725	0.907	9.425	1675.871	No
SLV 7	-3432	-4401	-218	0.006	5.725	0.907	9.425	1675.871	No
SLV 12	-3833	-5666	-181	0.016	6.123	0.911	24.814	1675.871	No
SLV 11	-3833	-5666	-181	0.016	6.123	0.911	24.814	1675.871	No
SLV 10	-10779	-15184	269	0.022	13.139	0.952	33.874	1675.871	No
SLV 9	-10779	-15184	269	0.022	13.139	0.952	33.874	1675.871	No
SLV 6	-10378	-13919	232	0.025	12.732	0.951	37.798	1675.871	No
SLV 5	-10378	-13919	232	0.025	12.732	0.951	37.798	1675.871	No
SLV 13	-8815	-13328	154	0.03	11.146	0.945	46.19	960.164	No
SLV 14	-8815	-13328	154	0.03	11.146	0.945	46.19	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.991	SLU 82	Si
V_SLU	1.796	SLU 82	Si
PF_SLV	0.974	SLV 3	No
V_SLV	0.131	SLV 3	No
PFFP_SLV	3.128	SLV 15	Si
R_SLV	0.006	SLV 7	No

Maschio 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-626.8	-335.9	-626.8	104.6	L4	L5	440.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 73	546	-31481	271967	5.1	2588547	9.518	Si
SLU 73	898	-19946	437090	3.23	2648837	6.06	Si
SLU 75	546	-32333	317179	5.24	2537817	8.001	Si
SLU 75	898	-20999	430942	3.4	2691695	6.246	Si
SLU 82	546	-32730	310664	5.31	2512046	8.086	Si
SLU 82	898	-20883	426496	3.39	2687470	6.301	Si
SLU 80	546	-32679	333956	5.3	2515445	7.532	Si
SLU 80	898	-21301	432889	3.45	2702217	6.242	Si
SLU 76	546	-32175	294777	5.22	2547694	8.643	Si
SLU 76	898	-20608	450372	3.34	2676924	5.944	Si
SLU 31	546	-26733	244875	4.33	2754651	11.249	Si
SLU 31	898	-16902	392667	2.74	2470157	6.291	Si
SLU 84	546	-33424	333474	5.42	2463591	7.388	Si
SLU 84	898	-21545	439778	3.49	2710121	6.162	Si
SLU 34	546	-27427	267685	4.45	2742707	10.246	Si
SLU 34	898	-17564	405949	2.85	2515908	6.198	Si
SLU 78	546	-33027	339989	5.36	2491776	7.329	Si
SLU 78	898	-21660	444223	3.51	2713677	6.109	Si
SLU 68	546	-28816	242679	4.67	2706111	11.151	Si
SLU 68	898	-18495	403308	3	2573775	6.382	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 5	546	-25235	-62110	4.09	3696707	59.519	Si
SLV 5	898	-15028	417746	2.44	2649848	6.343	Si
SLV 4	546	-24334	637722	3.95	3628774	5.69	Si
SLV 4	898	-13268	478194	2.15	2407672	5.035	Si
SLV 11	546	-17764	463687	2.88	2990172	6.449	Si
SLV 11	898	-12767	66123	2.07	2335440	35.32	Si
SLV 2	546	-25922	420853	4.2	3745283	8.899	Si
SLV 2	898	-13994	535956	2.27	2509796	4.683	Si
SLV 7	546	-19941	660786	3.23	3229735	4.888	Si
SLV 7	898	-12607	225207	2.04	2312075	10.266	Si
SLV 3	546	-24334	637722	3.95	3628774	5.69	Si
SLV 3	898	-13268	478194	2.15	2407672	5.035	Si
SLV 6	546	-25235	-62110	4.09	3696707	59.519	Si
SLV 6	898	-15028	417746	2.44	2649848	6.343	Si
SLV 12	546	-17764	463687	2.88	2990172	6.449	Si
SLV 12	898	-12767	66123	2.07	2335440	35.32	Si
SLV 1	546	-25922	420853	4.2	3745283	8.899	Si
SLV 1	898	-13994	535956	2.27	2509796	4.683	Si
SLV 8	546	-19941	660786	3.23	3229735	4.888	Si
SLV 8	898	-12607	225207	2.04	2312075	10.266	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 23	546	-23373	-1273	192778		3.79	440.5	1.06	6543			5.14	Si
SLU 23	898	-14789	-583	345603		2.4	440.5	0.88	5398			9.26	Si
SLU 10	546	-23435	-1396	177957		3.8	440.5	1.06	6551			4.69	Si
SLU 10	898	-14700	-707	336379		2.38	440.5	0.87	5386			7.62	Si
SLU 2	546	-20075	-1373	125859		3.26	440.5	0.99	6103			4.44	Si
SLU 2	898	-12587	-683	289315		2.04	440.5	0.83	5104			7.47	Si
SLU 65	546	-28122	-1214	219870		4.56	440.5	1.08	6681			5.5	Si
SLU 65	898	-17833	-525	390026		2.89	440.5	0.94	5804			11.05	Si
SLU 44	546	-24824	-1314	152951		4.03	440.5	1.08	6681			5.08	Si
SLU 44	898	-15631	-625	333738		2.53	440.5	0.89	5510			8.82	Si
SLU 31	546	-26733	-1296	244875		4.33	440.5	1.08	6681			5.15	Si
SLU 31	898	-16902	-607	392667		2.74	440.5	0.92	5680			9.35	Si
SLU 52	546	-28183	-1337	205048		4.57	440.5	1.08	6681			5	Si
SLU 52	898	-17744	-649	380802		2.88	440.5	0.94	5792			8.92	Si
SLU 73	546	-31481	-1237	271967		5.1	440.5	1.08	6681			5.4	Si
SLU 73	898	-19946	-549	437090		3.23	440.5	0.99	6086			11.08	Si
SLU 71	546	-29033	1091	306414		4.71	440.5	1.08	6681			6.12	Si
SLU 71	898	-19234	1084	339679		3.12	440.5	0.97	5991			5.53	Si
SLU 29	546	-24284	1032	279322		3.94	440.5	1.08	6664			6.46	Si
SLU 29	898	-16190	1026	295256		2.63	440.5	0.91	5585			5.44	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 10	546	-23058	-9499	-259209		3.74	440.5	1.58	9751			1.03	Si
SLV 10	898	-15188	-8084	258662		2.46	440.5	1.33	8177			1.01	Si
SLD 11	546	-19925	4462	311452		3.23	440.5	1.48	9124			2.04	Si
SLD 11	898	-13425	3953	167926		2.18	440.5	1.27	7824			1.98	Si
SLV 6	546	-25235	-9459	-62110		4.09	440.5	1.63	10021			1.06	Si
SLV 6	898	-15028	-8279	417746		2.44	440.5	1.32	8145			0.98	No, Vu<V
SLV 7	546	-19941	10167	660786		3.23	440.5	1.48	9127			0.9	No, Vu<V
SLV 7	898	-12607	8742	225207		2.04	440.5	1.24	7660			0.88	No, Vu<V
SLV 11	546	-17764	10128	463687		2.88	440.5	1.41	8692			0.86	No, Vu<V
SLV 11	898	-12767	8936	66123		2.07	440.5	1.25	7692			0.86	No, Vu<V
SLV 12	546	-17764	10128	463687		2.88	440.5	1.41	8692			0.86	No, Vu<V
SLV 12	898	-12767	8936	66123		2.07	440.5	1.25	7692			0.86	No, Vu<V
SLV 9	546	-23058	-9499	-259209		3.74	440.5	1.58	9751			1.03	Si
SLV 9	898	-15188	-8084	258662		2.46	440.5	1.33	8177			1.01	Si
SLV 5	546	-25235	-9459	-62110		4.09	440.5	1.63	10021			1.06	Si
SLV 5	898	-15028	-8279	417746		2.44	440.5	1.32	8145			0.98	No, Vu<V
SLV 8	546	-19941	10167	660786		3.23	440.5	1.48	9127			0.9	No, Vu<V
SLV 8	898	-12607	8742	225207		2.04	440.5	1.24	7660			0.88	No, Vu<V
SLD 12	546	-19925	4462	311452		3.23	440.5	1.48	9124			2.04	Si
SLD 12	898	-13425	3953	167926		2.18	440.5	1.27	7824			1.98	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.39	2.55	-15718	24500	87076	3.55	Si
SLV 7	14	0.39	2.55	-15718	24500	87076	3.55	Si
SLV 11	14	0.39	2.57	-15849	24500	87610	3.58	Si
SLV 12	14	0.39	2.57	-15849	24500	87610	3.58	Si
SLV 4	14	0.39	2.79	-17177	24500	92830	3.79	Si
SLV 3	14	0.39	2.79	-17177	24500	92830	3.79	Si
SLV 16	14	0.39	2.86	-17615	24500	94479	3.86	Si
SLV 15	14	0.39	2.86	-17615	24500	94479	3.86	Si
SLV 2	14	0.39	3.01	-18559	24500	97916	4	Si
SLV 1	14	0.39	3.01	-18559	24500	97916	4	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 1	-13994	-25922	18	0.021	17.317	0.949	32.425	1675.871	No
SLV 2	-13994	-25922	18	0.021	17.317	0.949	32.425	1675.871	No
SLV 16	-13801	-17077	-18	0.021	17.121	0.948	32.454	1675.871	No
SLV 15	-13801	-17077	-18	0.021	17.121	0.948	32.454	1675.871	No
SLV 14	-14527	-18665	1	0.022	17.859	0.95	33.936	1675.871	No
SLV 13	-14527	-18665	1	0.022	17.859	0.95	33.936	1675.871	No
SLV 4	-13268	-24334	-1	0.022	16.58	0.947	34.334	1675.871	No
SLV 3	-13268	-24334	-1	0.022	16.58	0.947	34.334	1675.871	No
SLV 5	-15028	-25235	35	0.02	18.367	0.952	30.739	1464.148	No
SLV 6	-15028	-25235	35	0.02	18.367	0.952	30.739	1464.148	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.944	SLU 76	Si
V_SLV	4.443	SLU 2	Si
PF_SLV	4.683	SLV 1	Si
V_SLV	0.858	SLV 11	No
PFFP_SLV	3.554	SLV 7	Si
R_SLV	0.019	SLV 1	No



Maschio 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-741.3	-335.9	-854.8	-335.9	L4	L5	113.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 44	636	-9548	31805	3	342007	10.753	Si
SLU 44	816	-7131	-92365	2.24	293219	3.175	Si
SLU 84	636	-12311	23627	3.87	366399	15.508	Si
SLU 84	816	-9879	-112632	3.11	346690	3.078	Si
SLU 81	636	-12014	20330	3.78	365382	17.973	Si
SLU 81	816	-9898	-112396	3.11	346949	3.087	Si
SLU 75	636	-11961	25192	3.76	365161	14.495	Si
SLU 75	816	-9564	-110965	3.01	342240	3.084	Si
SLU 76	636	-11820	29587	3.72	364512	12.32	Si
SLU 76	816	-9290	-110046	2.92	338010	3.072	Si
SLU 61	636	-11025	27390	3.47	359207	13.114	Si
SLU 61	816	-8746	-105172	2.75	328646	3.125	Si
SLU 82	636	-11912	30262	3.75	364946	12.059	Si
SLU 82	816	-9674	-115088	3.04	343835	2.988	Si
SLU 65	636	-10436	34677	3.28	353490	10.194	Si
SLU 65	816	-8059	-102281	2.54	314974	3.08	Si
SLU 52	636	-10535	33350	3.31	354556	10.631	Si
SLU 52	816	-8156	-102586	2.57	317038	3.09	Si
SLU 73	636	-11422	36222	3.59	362202	10	Si
SLU 73	816	-9084	-112502	2.86	334624	2.974	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 4	636	-5272	311900	0	0	0	No, e>1/2
SLV 4	816	-6602	-251023	2.08	310963	1.239	Si
SLV 11	636	-4012	-181848	1.26	204168	1.123	Si
SLV 11	816	1706	142419	0	0	0	No, Trazione
SLV 7	636	-3075	14572	0.97	160682	11.027	Si
SLV 7	816	324	9994	0	0	0	No, Trazione
SLV 2	636	-8092	370333	2.55	363529	0.982	No, M>Mu
SLV 2	816	-11157	-342328	3.51	451240	1.318	Si
SLV 12	636	-4012	-181848	1.26	204168	1.123	Si
SLV 12	816	1706	142419	0	0	0	No, Trazione
SLV 15	636	-8396	-342832	2.64	373459	1.089	Si
SLV 15	816	-1996	190392	0	0	0	No, e>1/2
SLV 8	636	-3075	14572	0.97	160682	11.027	Si
SLV 8	816	324	9994	0	0	0	No, Trazione
SLV 1	636	-8092	370333	2.55	363529	0.982	No, M>Mu
SLV 1	816	-11157	-342328	3.51	451240	1.318	Si
SLV 16	636	-8396	-342832	2.64	373459	1.089	Si
SLV 16	816	-1996	190392	0	0	0	No, e>1/2
SLV 3	636	-5272	311900	0	0	0	No, e>1/2
SLV 3	816	-6602	-251023	2.08	310963	1.239	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 44	636	-9548	664	31805		3	113.5	0.96	3039			4.58	Si
SLU 44	816	-7131	345	-92365		2.24	113.5	0.85	2716			7.87	Si
SLU 65	636	-10436	729	34677		3.28	113.5	0.99	3157			4.33	Si
SLU 65	816	-8059	316	-102281		2.54	113.5	0.89	2840			9	Si
SLU 2	636	-7540	600	29043		2.37	113.5	0.87	2771			4.61	Si
SLU 2	816	-5644	295	-74700		1.78	113.5	0.79	2518			8.54	Si
SLU 52	636	-10535	678	33350		3.31	113.5	1	3170			4.68	Si
SLU 52	816	-8156	326	-102586		2.57	113.5	0.9	2853			8.76	Si
SLU 68	636	-10834	616	28041		3.41	113.5	1.01	3210			5.21	Si
SLU 68	816	-8265	249	-99826		2.6	113.5	0.9	2868			11.51	Si
SLU 73	636	-11422	742	36222		3.59	113.5	1.03	3288			4.43	Si
SLU 73	816	-9084	296	-112502		2.86	113.5	0.94	2977			10.06	Si
SLU 10	636	-8526	614	30588		2.68	113.5	0.91	2902			4.73	Si
SLU 10	816	-6669	275	-84921		2.1	113.5	0.84	2655			9.64	Si
SLU 31	636	-9414	679	33460		2.96	113.5	0.95	3021			4.45	Si
SLU 31	816	-7597	246	-94837		2.39	113.5	0.87	2778			11.31	Si
SLU 76	636	-11820	629	29587		3.72	113.5	1.05	3342			5.31	Si
SLU 76	816	-9290	229	-110046		2.92	113.5	0.95	3004			13.09	Si
SLU 23	636	-8427	665	31915		2.65	113.5	0.91	2889			4.35	Si
SLU 23	816	-6572	265	-84616		2.07	113.5	0.83	2642			9.96	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	636	-8092	6563	370333		8.77	32.96	1.63	1500			0.23	No, Vu<V
SLV 2	816	-11157	2257	-342328		5.1	78.2	1.63	3558			1.58	Si
SLV 15	636	-8396	-5946	-342832		6.28	47.76	1.63	2173			0.37	No, Vu<V

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	816	-1996	-2018	190392		0	0	0.83	0			0	No, Vu<V
SLV 8	636	-3075	1308	14572		0.97	113.5	1.03	3263			2.5	Si
SLV 8	816	324	730	9994		0	0	0.83	0			0	No, Vu<V
SLV 12	636	-4012	-2300	-181848		4.18	34.28	1.63	1560			0.68	No, Vu<V
SLV 12	816	1706	-548	142419		0	0	0.83	0			0	No, Vu<V
SLV 11	636	-4012	-2300	-181848		4.18	34.28	1.63	1560			0.68	No, Vu<V
SLV 11	816	1706	-548	142419		0	0	0.83	0			0	No, Vu<V
SLV 4	636	-5272	6080	311900		0	0	0.83	0			0	No, Vu<V
SLV 4	816	-6602	2240	-251023		4.2	56.18	1.63	2556			1.14	Si
SLV 16	636	-8396	-5946	-342832		6.28	47.76	1.63	2173			0.37	No, Vu<V
SLV 16	816	-1996	-2018	190392		0	0	0.83	0			0	No, Vu<V
SLV 7	636	-3075	1308	14572		0.97	113.5	1.03	3263			2.5	Si
SLV 7	816	324	730	9994		0	0	0.83	0			0	No, Vu<V
SLV 3	636	-5272	6080	311900		0	0	0.83	0			0	No, Vu<V
SLV 3	816	-6602	2240	-251023		4.2	56.18	1.63	2556			1.14	Si
SLV 1	636	-8092	6563	370333		8.77	32.96	1.63	1500			0.23	No, Vu<V
SLV 1	816	-11157	2257	-342328		5.1	78.2	1.63	3558			1.58	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.39	0.4	-1259	11802	17061	1.45	Si
SLV 7	14	0.39	0.4	-1259	11802	17061	1.45	Si
SLV 4	14	0.39	0.9	-2860	11802	37088	3.14	Si
SLV 3	14	0.39	0.9	-2860	11802	37088	3.14	Si
SLV 11	14	0.39	1.02	-3230	11802	41456	3.51	Si
SLV 12	14	0.39	1.02	-3230	11802	41456	3.51	Si
SLV 1	14	0.39	1.95	-6202	11802	72957	6.18	Si
SLV 2	14	0.39	1.95	-6202	11802	72957	6.18	Si
SLV 15	14	0.39	2.97	-9427	11802	99941	8.47	Si
SLV 16	14	0.39	2.97	-9427	11802	99941	8.47	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	1120	-5400	-83	0	0	0	0	1675.871	No, Trazione
SLV 12	1120	-5400	-83	0	0	0	0	1675.871	No, Trazione
SLV 8	-287	-7121	-87	0.003	2.159	0.92	5.066	1675.871	No
SLV 7	-287	-7121	-87	0.003	2.159	0.92	5.066	1675.871	No
SLV 9	-9808	-8109	83	0.036	11.562	0.959	54.175	1675.871	No
SLV 10	-9808	-8109	83	0.036	11.562	0.959	54.175	1675.871	No
SLV 6	-11215	-9829	79	0.037	12.994	0.964	55.157	1675.871	No
SLV 5	-11215	-9829	79	0.037	12.994	0.964	55.157	1675.871	No
SLV 4	-5754	-10076	-34	0.041	7.446	0.94	62.86	960.164	No
SLV 3	-5754	-10076	-34	0.041	7.446	0.94	62.86	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.974	SLU 73	Si
V_SLU	4.333	SLU 65	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 3	No
PFFP_SLV	1.446	SLV 7	Si
R_SLV	0	SLV 12	No

Maschio 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	104.6	-515.8	581.1	L4	L5	476.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 18	546	-26517	-129559	3.97	3234806	24.968	Si
SLU 18	898	-17169	-231224	2.57	2798112	12.101	Si
SLU 30	546	-29178	-24846	4.37	3219006	129.56	Si
SLU 30	898	-23534	281243	3.53	3178712	11.302	Si
SLU 29	546	-29251	-18444	4.38	3217704	174.461	Si
SLU 29	898	-23540	299392	3.53	3178906	10.618	Si
SLU 19	546	-26444	-135961	3.96	3234366	23.789	Si
SLU 19	898	-17163	-249373	2.57	2797578	11.218	Si
SLU 82	546	-35577	-169000	5.33	2926857	17.319	Si
SLU 82	898	-23582	-270223	3.54	3180226	11.769	Si
SLU 52	546	-30051	-135246	4.5	3200291	23.663	Si
SLU 52	898	-19612	-263798	2.94	2986190	11.32	Si
SLU 60	546	-31634	-143172	4.74	3149330	21.997	Si
SLU 60	898	-20429	-270174	3.06	3037439	11.243	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 61	546	-31561	-149574	4.73	3152150	21.074	Si
SLU 61	898	-20423	-288322	3.06	3037078	10.534	Si
SLU 8	546	-25235	983	3.78	3220258	1000	Si
SLU 8	898	-20381	281292	3.06	3034602	10.788	Si
SLU 9	546	-25163	-5419	3.77	3219003	594.007	Si
SLU 9	898	-20375	263144	3.05	3034239	11.531	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	546	-19661	-431188	2.95	3554405	8.243	Si
SLV 10	898	-11814	-301054	1.77	2406700	7.994	Si
SLV 5	546	-18909	-246931	2.83	3459957	14.012	Si
SLV 5	898	-10641	-335781	1.6	2204221	6.564	Si
SLV 9	546	-19661	-431188	2.95	3554405	8.243	Si
SLV 9	898	-11814	-301054	1.77	2406700	7.994	Si
SLV 13	546	-23676	-468680	3.55	4002399	8.54	Si
SLV 13	898	-16466	-127521	2.47	3130585	24.55	Si
SLV 2	546	-21168	145512	3.17	3733573	25.658	Si
SLV 2	898	-12556	-243278	1.88	2530721	10.403	Si
SLV 1	546	-21168	145512	3.17	3733573	25.658	Si
SLV 1	898	-12556	-243278	1.88	2530721	10.403	Si
SLD 5	546	-21692	-156221	3.25	3792798	24.278	Si
SLD 5	898	-13688	-215915	2.05	2713513	12.567	Si
SLV 14	546	-23676	-468680	3.55	4002399	8.54	Si
SLV 14	898	-16466	-127521	2.47	3130585	24.55	Si
SLD 6	546	-21692	-156221	3.25	3792798	24.278	Si
SLD 6	898	-13688	-215915	2.05	2713513	12.567	Si
SLV 6	546	-18909	-246931	2.83	3459957	14.012	Si
SLV 6	898	-10641	-335781	1.6	2204221	6.564	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 84	546	-37372	1041	-134721		5.6	476.5	1.08	7227			6.94	Si
SLU 84	898	-26534	405	-75003		3.98	476.5	1.08	7227			17.83	Si
SLU 81	546	-35649	1078	-162598		5.34	476.5	1.08	7227			6.7	Si
SLU 81	898	-23588	492	-252074		3.54	476.5	1.03	6851			13.92	Si
SLU 35	546	-32881	1021	-76407		4.93	476.5	1.08	7227			7.08	Si
SLU 35	898	-25347	473	159159		3.8	476.5	1.06	7086			14.99	Si
SLU 39	546	-30532	1053	-148986		4.58	476.5	1.08	7227			6.86	Si
SLU 39	898	-20328	548	-213125		3.05	476.5	0.96	6417			11.72	Si
SLU 41	546	-32328	1083	-114707		4.85	476.5	1.08	7227			6.67	Si
SLU 41	898	-23280	541	-17905		3.49	476.5	1.02	6810			12.59	Si
SLU 83	546	-37444	1107	-128319		5.61	476.5	1.08	7227			6.53	Si
SLU 83	898	-26540	486	-56854		3.98	476.5	1.08	7227			14.88	Si
SLU 42	546	-32255	1016	-121109		4.84	476.5	1.08	7227			7.11	Si
SLU 42	898	-23274	461	-36053		3.49	476.5	1.02	6809			14.78	Si
SLU 82	546	-35577	1011	-169000		5.33	476.5	1.08	7227			7.15	Si
SLU 82	898	-23582	412	-270223		3.54	476.5	1.03	6850			16.63	Si
SLU 74	546	-36203	1016	-124299		5.43	476.5	1.08	7227			7.12	Si
SLU 74	898	-25656	424	-75011		3.85	476.5	1.07	7127			16.81	Si
SLU 77	546	-37998	1045	-90019		5.7	476.5	1.08	7227			6.91	Si
SLU 77	898	-28608	417	120209		4.29	476.5	1.08	7227			17.32	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 10	546	-19661	-8041	-431188		2.95	476.5	1.42	9491			1.18	Si
SLV 10	898	-11814	-7711	-301054		1.77	476.5	1.19	7922			1.03	Si
SLV 6	546	-18909	-10920	-246931		2.83	476.5	1.4	9341			0.86	No, Vu<V
SLV 6	898	-10641	-9864	-335781		1.6	476.5	1.15	7687			0.78	No, Vu<V
SLV 15	546	-26365	8330	-316558		3.95	476.5	1.62	10832			1.3	Si
SLV 15	898	-19281	6412	-13505		2.89	476.5	1.41	9415			1.47	Si
SLV 8	546	-27872	9097	260143		4.18	476.5	1.63	10840			1.19	Si
SLV 8	898	-20024	8000	44272		3	476.5	1.43	9564			1.2	Si
SLV 12	546	-28625	11977	75885		4.29	476.5	1.63	10840			0.91	No, Vu<V
SLV 12	898	-21197	10152	78999		3.18	476.5	1.47	9799			0.97	No, Vu<V
SLV 5	546	-18909	-10920	-246931		2.83	476.5	1.4	9341			0.86	No, Vu<V
SLV 5	898	-10641	-9864	-335781		1.6	476.5	1.15	7687			0.78	No, Vu<V
SLV 7	546	-27872	9097	260143		4.18	476.5	1.63	10840			1.19	Si
SLV 7	898	-20024	8000	44272		3	476.5	1.43	9564			1.2	Si
SLV 11	546	-28625	11977	75885		4.29	476.5	1.63	10840			0.91	No, Vu<V
SLV 11	898	-21197	10152	78999		3.18	476.5	1.47	9799			0.97	No, Vu<V
SLV 9	546	-19661	-8041	-431188		2.95	476.5	1.42	9491			1.18	Si
SLV 9	898	-11814	-7711	-301054		1.77	476.5	1.19	7922			1.03	Si
SLV 16	546	-26365	8330	-316558		3.95	476.5	1.62	10832			1.3	Si
SLV 16	898	-19281	6412	-13505		2.89	476.5	1.41	9415			1.47	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.39	2.17	-14472	26503	83320	3.14	Si
SLV 10	14	0.39	2.17	-14472	26503	83320	3.14	Si
SLV 6	14	0.39	2.29	-15258	26503	86811	3.28	Si
SLV 5	14	0.39	2.29	-15258	26503	86811	3.28	Si
SLV 13	14	0.39	2.51	-16731	26503	93076	3.51	Si
SLV 14	14	0.39	2.51	-16731	26503	93076	3.51	Si
SLV 1	14	0.39	2.9	-19348	26503	103288	3.9	Si
SLV 2	14	0.39	2.9	-19348	26503	103288	3.9	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.39	2.92	-19451	26503	103667	3.91	Si
SLV 16	14	0.39	2.92	-19451	26503	103667	3.91	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	-15371	-23857	-68	0.018	18.97	0.95	28.14	1675.871	No
SLV 4	-15371	-23857	-68	0.018	18.97	0.95	28.14	1675.871	No
SLV 14	-16466	-23676	68	0.018	20.082	0.952	28.209	1675.871	No
SLV 13	-16466	-23676	68	0.018	20.082	0.952	28.209	1675.871	No
SLV 15	-19281	-26365	33	0.02	22.942	0.957	30.802	1675.871	No
SLV 16	-19281	-26365	33	0.02	22.942	0.957	30.802	1675.871	No
SLV 10	-11814	-19661	73	0.018	15.363	0.94	27.296	1464.148	No
SLV 9	-11814	-19661	73	0.018	15.363	0.94	27.296	1464.148	No
SLV 2	-12556	-21168	-33	0.02	16.115	0.942	31.585	1675.871	No
SLV 1	-12556	-21168	-33	0.02	16.115	0.942	31.585	1675.871	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.534	SLU 61	Si
V_SLU	6.526	SLU 83	Si
PF_SLV	6.564	SLV 5	Si
V_SLV	0.779	SLV 5	No
PFFP_SLV	3.144	SLV 9	Si
R_SLV	0.017	SLV 3	No

Maschio 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	595.1	-515.8	600.6	L4	L5	5.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 72	746	-818	692	5.31	783	1.132	Si
SLU 72	826	-951	1818	6.18	632	0.348	No, M>Mu
SLU 79	746	-878	664	5.7	724	1.091	Si
SLU 79	826	-1021	2042	6.63	522	0.256	No, M>Mu
SLU 84	746	-818	487	5.31	783	1.606	Si
SLU 84	826	-932	2006	6.05	659	0.328	No, M>Mu
SLU 80	746	-873	647	5.67	730	1.128	Si
SLU 80	826	-1016	2049	6.6	530	0.259	No, M>Mu
SLU 69	746	-821	687	5.33	781	1.137	Si
SLU 69	826	-949	1818	6.16	636	0.35	No, M>Mu
SLU 78	746	-870	626	5.65	733	1.171	Si
SLU 78	826	-1009	2056	6.55	542	0.264	No, M>Mu
SLU 71	746	-823	709	5.34	778	1.099	Si
SLU 71	826	-956	1811	6.21	626	0.345	No, M>Mu
SLU 70	746	-815	670	5.29	785	1.172	Si
SLU 70	826	-944	1825	6.13	642	0.352	No, M>Mu
SLU 77	746	-876	642	5.69	727	1.132	Si
SLU 77	826	-1014	2049	6.59	534	0.261	No, M>Mu
SLU 83	746	-823	504	5.35	778	1.544	Si
SLU 83	826	-937	1999	6.08	652	0.326	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	746	-4	-1803	0	0	0	No, e>1/2
SLV 10	826	-344	3235	0	0	0	No, e>1/2
SLV 2	746	-834	3127	0	0	0	No, e>1/2
SLV 2	826	9	-2646	0	0	0	No, Trazione
SLD 16	746	-367	-904	2.38	813	0.899	No, M>Mu
SLD 16	826	-797	2822	0	0	0	No, e>1/2
SLV 6	746	-267	99	1.73	630	6.351	Si
SLV 6	826	-67	787	0	0	0	No, e>1/2
SLV 9	746	-4	-1803	0	0	0	No, e>1/2
SLV 9	826	-344	3235	0	0	0	No, e>1/2
SLV 3	746	-1058	3820	0	0	0	No, e>1/2
SLV 3	826	-201	-3140	0	0	0	No, e>1/2
SLV 5	746	-267	99	1.73	630	6.351	Si
SLV 5	826	-67	787	0	0	0	No, e>1/2
SLV 14	746	42	-3215	0	0	0	No, Trazione
SLV 14	826	-912	5514	0	0	0	No, e>1/2
SLV 13	746	42	-3215	0	0	0	No, Trazione
SLV 13	826	-912	5514	0	0	0	No, e>1/2
SLV 4	746	-1058	3820	0	0	0	No, e>1/2
SLV 4	826	-201	-3140	0	0	0	No, e>1/2



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 19	746	-539	11	218		3.5	5.5	1.02	157			14.62	Si
SLU 19	826	-594	-95	1389		17.15	1.24	1.08	38			0.4	No, Vu<V
SLU 73	746	-712	19	354		4.63	5.5	1.08	167			8.77	Si
SLU 73	826	-789	-121	1770		18.55	1.52	1.08	46			0.38	No, Vu<V
SLU 81	746	-745	19	363		4.84	5.5	1.08	167			8.62	Si
SLU 81	826	-824	-126	1857		19.72	1.49	1.08	45			0.36	No, Vu<V
SLU 84	746	-818	28	487		5.31	5.5	1.08	167			6.02	Si
SLU 84	826	-932	-136	2006		18.56	1.79	1.08	54			0.4	No, Vu<V
SLU 61	746	-647	15	288		4.2	5.5	1.08	167			11.26	Si
SLU 61	826	-707	-111	1621		18.39	1.37	1.08	42			0.38	No, Vu<V
SLU 82	746	-740	18	346		4.8	5.5	1.08	167			9.18	Si
SLU 82	826	-820	-127	1864		20.49	1.43	1.08	43			0.34	No, Vu<V
SLU 40	746	-632	14	277		4.1	5.5	1.08	167			11.81	Si
SLU 40	826	-707	-111	1631		19.07	1.32	1.08	40			0.36	No, Vu<V
SLU 31	746	-604	15	285		3.93	5.5	1.08	166			11.1	Si
SLU 31	826	-675	-105	1537		16.95	1.42	1.08	43			0.41	No, Vu<V
SLU 60	746	-652	16	305		4.24	5.5	1.08	167			10.43	Si
SLU 60	826	-712	-110	1614		17.55	1.45	1.08	44			0.4	No, Vu<V
SLU 39	746	-637	15	293		4.14	5.5	1.08	167			10.91	Si
SLU 39	826	-711	-111	1624		18.16	1.4	1.08	42			0.38	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLD 16	746	-367	-73	-904		15.21	0.86	1.63	39			0.54	No, Vu<V
SLD 16	826	-797	-207	2822		0	0	0.83	0			0	No, Vu<V
SLV 9	746	-4	-67	-1803		0	0	0.83	0			0	No, Vu<V
SLV 9	826	-344	-126	3235		0	0	0.83	0			0	No, Vu<V
SLV 2	746	-834	229	3127		0	0	0.83	0			0	No, Vu<V
SLV 2	826	9	214	-2646		0	0	0.83	0			0	No, Vu<V
SLV 4	746	-1058	241	3820		0	0	0.83	0			0	No, Vu<V
SLV 4	826	-201	190	-3140		0	0	0.83	0			0	No, Vu<V
SLV 5	746	-267	64	99		1.73	5.5	1.18	182			2.84	Si
SLV 5	826	-67	43	787		0	0	0.83	0			0	No, Vu<V
SLV 10	746	-4	-67	-1803		0	0	0.83	0			0	No, Vu<V
SLV 10	826	-344	-126	3235		0	0	0.83	0			0	No, Vu<V
SLV 6	746	-267	64	99		1.73	5.5	1.18	182			2.84	Si
SLV 6	826	-67	43	787		0	0	0.83	0			0	No, Vu<V
SLV 14	746	42	-206	-3215		0	0	0.83	0			0	No, Vu<V
SLV 14	826	-912	-351	5514		0	0	0.83	0			0	No, Vu<V
SLV 3	746	-1058	241	3820		0	0	0.83	0			0	No, Vu<V
SLV 3	826	-201	190	-3140		0	0	0.83	0			0	No, Vu<V
SLV 13	746	42	-206	-3215		0	0	0.83	0			0	No, Vu<V
SLV 13	826	-912	-351	5514		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.39	0	-13	585	0	0	No, e>t/2
SLV 13	14	0.39	0	48	585	0	0	No, Trazione
SLV 14	14	0.39	0	48	585	0	0	No, Trazione
SLV 15	14	0.39	0	-13	585	0	0	No, e>t/2
SLV 9	14	0.39	0.34	-52	585	708	1.21	Si
SLV 10	14	0.39	0.34	-52	585	708	1.21	Si
SLV 5	14	0.39	1.29	-199	585	2496	4.26	Si
SLV 6	14	0.39	1.29	-199	585	2496	4.26	Si
SLV 11	14	0.39	1.66	-256	585	3097	5.29	Si
SLV 12	14	0.39	1.66	-256	585	3097	5.29	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	-117	-560	-22	0	0.198	0.906	0	960.164	No
SLV 14	-157	-119	23	0	0.238	0.917	0	960.164	No
SLV 6	108	-233	-8	0	0	0	0	1675.871	No, Trazione
SLV 2	15	-465	-23	0	0	0	0	960.164	No, Trazione
SLV 10	57	-129	6	0	0	0	0	1675.871	No, Trazione
SLV 4	-117	-560	-22	0	0.198	0.906	0	960.164	No
SLV 13	-157	-119	23	0	0.238	0.917	0	960.164	No
SLV 1	15	-465	-23	0	0	0	0	960.164	No, Trazione
SLV 9	57	-129	6	0	0	0	0	1675.871	No, Trazione
SLV 5	108	-233	-8	0	0	0	0	1675.871	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.256	SLU 79	No
V_SLU	0.341	SLU 82	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 5	No
PFFP_SLV	0	SLV 14	No
R_SLV	0	SLV 10	No



Maschio 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-515.8	650.6	-515.8	666.1	L4	L5	15.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 69	746	-2631	-1952	6.06	5216	2.672	Si
SLU 69	826	-2547	-257	5.87	5517	21.476	Si
SLU 70	746	-2616	-1960	6.03	5273	2.69	Si
SLU 70	826	-2532	-236	5.83	5568	23.553	Si
SLU 78	746	-2804	-2189	6.46	4497	2.054	Si
SLU 78	826	-2720	-165	6.27	4861	29.524	Si
SLU 80	746	-2819	-2183	6.5	4427	2.028	Si
SLU 80	826	-2735	-181	6.3	4796	26.525	Si
SLU 72	746	-2631	-1954	6.06	5215	2.669	Si
SLU 72	826	-2548	-253	5.87	5516	21.839	Si
SLU 71	746	-2646	-1946	6.1	5158	2.651	Si
SLU 71	826	-2563	-273	5.9	5464	20.01	Si
SLU 77	746	-2819	-2181	6.49	4428	2.03	Si
SLU 77	826	-2735	-185	6.3	4798	25.915	Si
SLU 79	746	-2834	-2175	6.53	4357	2.004	Si
SLU 79	826	-2751	-201	6.34	4732	23.506	Si
SLU 84	746	-2614	-2118	6.02	5278	2.492	Si
SLU 84	826	-2531	-83	5.83	5572	67.067	Si
SLU 83	746	-2629	-2109	6.06	5222	2.476	Si
SLU 83	826	-2546	-104	5.87	5522	53.307	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 10	746	-1191	-3304	2.74	7157	2.166	Si
SLV 10	826	-1096	3935	2.53	6741	1.713	Si
SLV 16	746	-2360	-9257	5.44	10150	1.096	Si
SLV 16	826	-2283	6731	5.26	10076	1.497	Si
SLV 1	746	-807	6746	0	0	0	No, e>l/2
SLV 1	826	-755	-6901	0	0	0	No, e>l/2
SLV 14	746	-2015	-9063	4.64	9683	1.068	Si
SLV 14	826	-1924	7818	4.43	9502	1.215	Si
SLV 3	746	-1151	6553	2.65	6984	1.066	Si
SLV 3	826	-1114	-7989	2.57	6820	0.854	No, M>Mu
SLV 4	746	-1151	6553	2.65	6984	1.066	Si
SLV 4	826	-1114	-7989	2.57	6820	0.854	No, M>Mu
SLV 13	746	-2015	-9063	4.64	9683	1.068	Si
SLV 13	826	-1924	7818	4.43	9502	1.215	Si
SLV 15	746	-2360	-9257	5.44	10150	1.096	Si
SLV 15	826	-2283	6731	5.26	10076	1.497	Si
SLV 2	746	-807	6746	0	0	0	No, e>l/2
SLV 2	826	-755	-6901	0	0	0	No, e>l/2
SLV 9	746	-1191	-3304	2.74	7157	2.166	Si
SLV 9	826	-1096	3935	2.53	6741	1.713	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	746	-2519	-24	-2026		5.8	15.5	1.08	470			19.51	Si
SLU 75	826	-2435	-24	-98		5.61	15.5	1.08	470			19.51	Si
SLU 80	746	-2819	-25	-2183		6.5	15.5	1.08	470			18.79	Si
SLU 80	826	-2735	-25	-181		6.3	15.5	1.08	470			18.79	Si
SLU 79	746	-2834	-25	-2175		6.53	15.5	1.08	470			19.06	Si
SLU 79	826	-2751	-25	-201		6.34	15.5	1.08	470			19.06	Si
SLU 84	746	-2614	-25	-2118		6.02	15.5	1.08	470			18.49	Si
SLU 84	826	-2531	-25	-83		5.83	15.5	1.08	470			18.49	Si
SLU 76	746	-2524	-24	-2025		5.82	15.5	1.08	470			19.54	Si
SLU 76	826	-2440	-24	-100		5.62	15.5	1.08	470			19.54	Si
SLU 78	746	-2804	-25	-2189		6.46	15.5	1.08	470			18.58	Si
SLU 78	826	-2720	-25	-165		6.27	15.5	1.08	470			18.58	Si
SLU 77	746	-2819	-25	-2181		6.49	15.5	1.08	470			18.85	Si
SLU 77	826	-2735	-25	-185		6.3	15.5	1.08	470			18.85	Si
SLU 83	746	-2629	-25	-2109		6.06	15.5	1.08	470			18.75	Si
SLU 83	826	-2546	-25	-104		5.87	15.5	1.08	470			18.75	Si
SLU 81	746	-2344	-24	-1946		5.4	15.5	1.08	470			19.7	Si
SLU 81	826	-2261	-24	-37		5.21	15.5	1.08	470			19.7	Si
SLU 82	746	-2329	-24	-1954		5.37	15.5	1.08	470			19.41	Si
SLU 82	826	-2246	-24	-16		5.17	15.5	1.08	470			19.41	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	746	-2360	-115	-9257		7.34	11.48	1.63	522			4.54	Si
SLV 15	826	-2283	-221	6731		5.66	14.41	1.63	655			2.97	Si
SLV 4	746	-1151	167	6553		6.66	6.17	1.63	281			1.69	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	826	-1114	180	-7989		22.91	1.74	1.63	79			0.44	No, Vu<V
SLV 3	746	-1151	167	6553		6.66	6.17	1.63	281			1.69	Si
SLV 3	826	-1114	180	-7989		22.91	1.74	1.63	79			0.44	No, Vu<V
SLV 10	746	-1191	-192	-3304		2.85	14.93	1.4	586			3.06	Si
SLV 10	826	-1096	-56	3935		3.14	12.48	1.46	511			9.09	Si
SLV 16	746	-2360	-115	-9257		7.34	11.48	1.63	522			4.54	Si
SLV 16	826	-2283	-221	6731		5.66	14.41	1.63	655			2.97	Si
SLV 2	746	-807	86	6746		0	0	0.83	0			0	No, Vu<V
SLV 2	826	-755	191	-6901		0	0	0.83	0			0	No, Vu<V
SLV 13	746	-2015	-196	-9063		7.38	9.76	1.63	444			2.27	Si
SLV 13	826	-1924	-210	7818		6.21	11.06	1.63	503			2.4	Si
SLV 14	746	-2015	-196	-9063		7.38	9.76	1.63	444			2.27	Si
SLV 14	826	-1924	-210	7818		6.21	11.06	1.63	503			2.4	Si
SLV 9	746	-1191	-192	-3304		2.85	14.93	1.4	586			3.06	Si
SLV 9	826	-1096	-56	3935		3.14	12.48	1.46	511			9.09	Si
SLV 1	746	-807	86	6746		0	0	0.83	0			0	No, Vu<V
SLV 1	826	-755	191	-6901		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.39	1.16	-502	1649	6359	3.86	Si
SLV 6	14	0.39	1.16	-502	1649	6359	3.86	Si
SLV 1	14	0.39	1.22	-529	1649	6666	4.04	Si
SLV 2	14	0.39	1.22	-529	1649	6666	4.04	Si
SLV 10	14	0.39	1.59	-692	1649	8422	5.11	Si
SLV 9	14	0.39	1.59	-692	1649	8422	5.11	Si
SLV 4	14	0.39	1.71	-742	1649	8939	5.42	Si
SLV 3	14	0.39	1.71	-742	1649	8939	5.42	Si
SLV 13	14	0.39	2.68	-1163	1649	12709	7.71	Si
SLV 14	14	0.39	2.68	-1163	1649	12709	7.71	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-883	-13	378	0	1.116	0.945	0	1675.871	No
SLV 7	783	-2291	-17	0	0	0	0	1675.871	No, Trazione
SLV 9	-3309	1806	10	0	0	0	0	1675.871	No, Trazione
SLV 4	3029	-3616	550	0	0	0	0	960.164	No, Trazione
SLV 8	783	-2291	-17	0	0	0	0	1675.871	No, Trazione
SLV 2	2530	-2933	669	0	0	0	0	960.164	No, Trazione
SLV 1	2530	-2933	669	0	0	0	0	960.164	No, Trazione
SLV 5	-883	-13	378	0	1.116	0.945	0	1675.871	No
SLV 3	3029	-3616	550	0	0	0	0	960.164	No, Trazione
SLV 10	-3309	1806	10	0	0	0	0	1675.871	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.004	SLU 79	Si
V_SLU	18.487	SLU 84	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	3.856	SLV 5	Si
R_SLV	0	SLV 16	No

Maschio 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-600.8	-335.9	-651.3	-335.9	L4	L5	50.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 76	746	-5479	-1679	3.87	72537	43.196	Si
SLU 76	826	-4994	-33543	3.53	71427	2.129	Si
SLU 74	746	-5851	-3954	4.14	72690	18.384	Si
SLU 74	826	-5372	-33655	3.8	72381	2.151	Si
SLU 82	746	-5677	-1888	4.01	72694	38.499	Si
SLU 82	826	-5213	-34898	3.69	72055	2.065	Si
SLU 84	746	-5846	-2566	4.13	72692	28.324	Si
SLU 84	826	-5375	-35027	3.8	72384	2.067	Si
SLU 77	746	-6020	-4632	4.26	72559	15.664	Si
SLU 77	826	-5534	-33784	3.91	72597	2.149	Si
SLU 81	746	-5864	-3279	4.15	72685	22.165	Si
SLU 81	826	-5408	-34636	3.82	72438	2.091	Si
SLU 75	746	-5664	-2563	4.01	72689	28.362	Si
SLU 75	826	-5178	-33917	3.66	71968	2.122	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 73	746	-5310	-1001	3.76	72267	72.197	Si
SLU 73	826	-4833	-33415	3.42	70829	2.12	Si
SLU 83	746	-6033	-3958	4.27	72545	18.331	Si
SLU 83	826	-5569	-34765	3.94	72629	2.089	Si
SLU 78	746	-5833	-3241	4.13	72697	22.429	Si
SLU 78	826	-5339	-34046	3.78	72322	2.124	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 4	746	-2745	27347	1.94	58301	2.132	Si
SLD 4	826	-3425	-50075	2.42	69344	1.385	Si
SLV 1	746	-1863	61816	0	0	0	No, $e > l/2$
SLV 1	826	-2796	-81486	0	0	0	No, $e > l/2$
SLD 3	746	-2745	27347	1.94	58301	2.132	Si
SLD 3	826	-3425	-50075	2.42	69344	1.385	Si
SLV 13	746	-6734	-72502	4.76	103762	1.431	Si
SLV 13	826	-3879	41573	2.74	75961	1.827	Si
SLV 2	746	-1863	61816	0	0	0	No, $e > l/2$
SLV 2	826	-2796	-81486	0	0	0	No, $e > l/2$
SLD 1	746	-3042	24847	2.15	63290	2.547	Si
SLD 1	826	-3242	-47933	2.29	66493	1.387	Si
SLV 3	746	-1137	67357	0	0	0	No, $e > l/2$
SLV 3	826	-3254	-87058	0	0	0	No, $e > l/2$
SLV 14	746	-6734	-72502	4.76	103762	1.431	Si
SLV 14	826	-3879	41573	2.74	75961	1.827	Si
SLD 2	746	-3042	24847	2.15	63290	2.547	Si
SLD 2	826	-3242	-47933	2.29	66493	1.387	Si
SLV 4	746	-1137	67357	0	0	0	No, $e > l/2$
SLV 4	826	-3254	-87058	0	0	0	No, $e > l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	746	-5055	8	-3947	3.57	50.5	50.5	1.03	1460			194.3	Si
SLU 37	826	-4689	219	-28216	3.32	50.5	50.5	1	1411			6.44	Si
SLU 77	746	-6020	25	-4632	4.26	50.5	50.5	1.08	1532			60.64	Si
SLU 77	826	-5534	241	-33784	3.91	50.5	50.5	1.08	1523			6.31	Si
SLU 81	746	-5864	86	-3279	4.15	50.5	50.5	1.08	1532			17.78	Si
SLU 81	826	-5408	230	-34636	3.82	50.5	50.5	1.07	1507			6.55	Si
SLU 83	746	-6033	55	-3958	4.27	50.5	50.5	1.08	1532			27.95	Si
SLU 83	826	-5569	246	-34765	3.94	50.5	50.5	1.08	1528			6.21	Si
SLU 78	746	-5833	80	-3241	4.13	50.5	50.5	1.08	1532			19.19	Si
SLU 78	826	-5339	229	-34046	3.78	50.5	50.5	1.06	1497			6.53	Si
SLU 79	746	-5960	17	-4676	4.21	50.5	50.5	1.08	1532			92.36	Si
SLU 79	826	-5480	244	-33235	3.88	50.5	50.5	1.07	1516			6.21	Si
SLU 35	746	-5115	16	-3903	3.62	50.5	50.5	1.04	1468			90.65	Si
SLU 35	826	-4743	216	-28764	3.35	50.5	50.5	1	1418			6.56	Si
SLU 84	746	-5846	109	-2566	4.13	50.5	50.5	1.08	1532			14.01	Si
SLU 84	826	-5375	234	-35027	3.8	50.5	50.5	1.06	1502			6.43	Si
SLU 41	746	-5128	46	-3228	3.63	50.5	50.5	1.04	1469			32.12	Si
SLU 41	826	-4779	221	-29745	3.38	50.5	50.5	1.01	1423			6.45	Si
SLU 80	746	-5773	71	-3285	4.08	50.5	50.5	1.08	1532			21.54	Si
SLU 80	826	-5285	232	-33497	3.74	50.5	50.5	1.05	1490			6.42	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	746	-1137	2274	67357	0	0	0	0.83	0			0	No, Vu < V
SLV 3	826	-3254	658	-87058	0	0	0	0.83	0			0	No, Vu < V
SLV 15	746	-6008	-2614	-66962	5.07	42.31	1.63	1.63	1925			0.74	No, Vu < V
SLV 15	826	-4337	-116	36001	3.07	50.5	1.45	1.45	2046			17.57	Si
SLV 2	746	-1863	2716	61816	0	0	0	0.83	0			0	No, Vu < V
SLV 2	826	-2796	391	-81486	0	0	0	0.83	0			0	No, Vu < V
SLV 12	746	-3456	-1418	-13487	2.44	50.5	1.32	1.32	1870			1.32	Si
SLV 12	826	-4492	466	-13570	3.18	50.5	1.47	1.47	2077			4.45	Si
SLV 1	746	-1863	2716	61816	0	0	0	0.83	0			0	No, Vu < V
SLV 1	826	-2796	391	-81486	0	0	0	0.83	0			0	No, Vu < V
SLV 14	746	-6734	-2173	-72502	5.54	43.45	1.63	1.63	1977			0.91	No, Vu < V
SLV 14	826	-3879	-383	41573	3.18	43.6	1.47	1.47	1793			4.68	Si
SLV 4	746	-1137	2274	67357	0	0	0	0.83	0			0	No, Vu < V
SLV 4	826	-3254	658	-87058	0	0	0	0.83	0			0	No, Vu < V
SLV 11	746	-3456	-1418	-13487	2.44	50.5	1.32	1.32	1870			1.32	Si
SLV 11	826	-4492	466	-13570	3.18	50.5	1.47	1.47	2077			4.45	Si
SLV 16	746	-6008	-2614	-66962	5.07	42.31	1.63	1.63	1925			0.74	No, Vu < V
SLV 16	826	-4337	-116	36001	3.07	50.5	1.45	1.45	2046			17.57	Si
SLV 13	746	-6734	-2173	-72502	5.54	43.45	1.63	1.63	1977			0.91	No, Vu < V
SLV 13	826	-3879	-383	41573	3.18	43.6	1.47	1.47	1793			4.68	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.39	0.99	-1404	5251	18062	3.44	Si
SLV 7	14	0.39	0.99	-1404	5251	18062	3.44	Si
SLV 3	14	0.39	1.31	-1851	5251	23138	4.41	Si
SLV 4	14	0.39	1.31	-1851	5251	23138	4.41	Si
SLV 12	14	0.39	1.33	-1878	5251	23431	4.46	Si
SLV 11	14	0.39	1.33	-1878	5251	23431	4.46	Si
SLV 2	14	0.39	1.91	-2707	5251	31964	6.09	Si
SLV 1	14	0.39	1.91	-2707	5251	31964	6.09	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.39	2.43	-3429	5251	38479	7.33	Si
SLV 15	14	0.39	2.43	-3429	5251	38479	7.33	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 $W_a = 0.05 T_a = 0.0739$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-1926	-1163	-13	0.042	2.672	0.929	65.358	1675.871	No
SLV 12	-1926	-1163	-13	0.042	2.672	0.929	65.358	1675.871	No
SLV 10	-1976	-3926	8	0.044	2.722	0.93	68.556	1675.871	No
SLV 9	-1976	-3926	8	0.044	2.722	0.93	68.556	1675.871	No
SLV 7	-1460	-1260	-11	0.043	2.203	0.918	68.598	1675.871	No
SLV 8	-1460	-1260	-11	0.043	2.203	0.918	68.598	1675.871	No
SLV 5	-1509	-4023	10	0.044	2.253	0.919	69.309	1675.871	No
SLV 6	-1509	-4023	10	0.044	2.253	0.919	69.309	1675.871	No
SLV 15	-2488	-2018	-8	0.043	3.24	0.939	66.683	960.164	No
SLV 16	-2488	-2018	-8	0.043	3.24	0.939	66.683	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.065	SLU 82	Si
V_SLU	6.207	SLU 79	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	3.44	SLV 7	Si
R_SLV	0.039	SLV 11	No

Maschio 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-318.3	-335.9	-550.8	-335.9	L4	L5	232.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 65	746	-15142	215969	2.33	1257626	5.823	Si
SLU 65	826	-13251	192216	2.04	1155496	6.011	Si
SLU 61	746	-16467	224954	2.53	1319868	5.867	Si
SLU 61	826	-14466	202905	2.22	1222946	6.027	Si
SLU 82	746	-18287	243170	2.81	1392762	5.728	Si
SLU 82	826	-16175	223830	2.48	1306792	5.838	Si
SLU 73	746	-16998	239770	2.61	1342643	5.6	Si
SLU 73	826	-15001	213652	2.3	1250536	5.853	Si
SLU 76	746	-17434	241137	2.68	1360398	5.642	Si
SLU 76	826	-15393	217030	2.36	1270007	5.852	Si
SLU 84	746	-18722	244537	2.88	1408057	5.758	Si
SLU 84	826	-16567	227208	2.54	1324242	5.828	Si
SLU 52	746	-15179	221554	2.33	1259471	5.685	Si
SLU 52	826	-13292	192727	2.04	1157896	6.008	Si
SLU 44	746	-13322	197753	2.05	1159643	5.864	Si
SLU 44	826	-11542	171291	1.77	1049750	6.128	Si
SLU 78	746	-18627	237973	2.86	1404765	5.903	Si
SLU 78	826	-16466	225156	2.53	1319806	5.862	Si
SLU 55	746	-15614	222921	2.4	1280700	5.745	Si
SLU 55	826	-13685	196105	2.1	1180305	6.019	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 3	746	-12842	336783	1.97	1251884	3.717	Si
SLV 3	826	-9405	-283675	1.44	964062	3.398	Si
SLD 13	746	-12653	78196	1.94	1236940	15.818	Si
SLD 13	826	-11859	336758	1.82	1173099	3.484	Si
SLV 16	746	-9373	-17058	1.44	961243	56.353	Si
SLV 16	826	-10185	538860	1.56	1032437	1.916	Si
SLD 16	746	-11318	82300	1.74	1128473	13.712	Si
SLD 16	826	-10741	316460	1.65	1080072	3.413	Si
SLV 14	746	-12609	-25083	1.94	1233469	49.176	Si
SLV 14	826	-12862	586255	1.98	1253434	2.138	Si
SLV 15	746	-9373	-17058	1.44	961243	56.353	Si
SLV 15	826	-10185	538860	1.56	1032437	1.916	Si
SLV 4	746	-12842	336783	1.97	1251884	3.717	Si
SLV 4	826	-9405	-283675	1.44	964062	3.398	Si
SLD 14	746	-12653	78196	1.94	1236940	15.818	Si
SLD 14	826	-11859	336758	1.82	1173099	3.484	Si
SLV 13	746	-12609	-25083	1.94	1233469	49.176	Si
SLV 13	826	-12862	586255	1.98	1253434	2.138	Si
SLD 15	746	-11318	82300	1.74	1128473	13.712	Si
SLD 15	826	-10741	316460	1.65	1080072	3.413	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 80	746	-18362	1338	235704		2.82	232.5	0.93	6065			4.53	Si
SLU 80	826	-16210	1257	221399		2.49	232.5	0.89	5778			4.6	Si
SLU 63	746	-16903	1281	226321		2.6	232.5	0.9	5870			4.58	Si
SLU 63	826	-14859	1207	206283		2.28	232.5	0.86	5598			4.64	Si
SLU 83	746	-19462	1373	234338		2.99	232.5	0.95	6212			4.52	Si
SLU 83	826	-17204	1274	228695		2.64	232.5	0.91	5910			4.64	Si
SLU 78	746	-18627	1329	237973		2.86	232.5	0.94	6100			4.59	Si
SLU 78	826	-16466	1258	225156		2.53	232.5	0.89	5812			4.62	Si
SLU 82	746	-18287	1341	243170		2.81	232.5	0.93	6055			4.52	Si
SLU 82	826	-16175	1295	223830		2.48	232.5	0.89	5773			4.46	Si
SLU 84	746	-18722	1376	244537		2.88	232.5	0.94	6113			4.44	Si
SLU 84	826	-16567	1312	227208		2.54	232.5	0.89	5826			4.44	Si
SLU 73	746	-16998	1269	239770		2.61	232.5	0.9	5883			4.64	Si
SLU 73	826	-15001	1248	213652		2.3	232.5	0.86	5617			4.5	Si
SLU 81	746	-19026	1338	232970		2.92	232.5	0.95	6153			4.6	Si
SLU 81	826	-16811	1257	225316		2.58	232.5	0.9	5858			4.66	Si
SLU 76	746	-17434	1304	241137		2.68	232.5	0.91	5941			4.56	Si
SLU 76	826	-15393	1265	217030		2.36	232.5	0.87	5669			4.48	Si
SLU 79	746	-19101	1335	225504		2.93	232.5	0.95	6164			4.62	Si
SLU 79	826	-16846	1219	222886		2.59	232.5	0.9	5863			4.81	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 14	746	-12609	-10174	-25083		1.94	232.5	1.22	7947			0.78	No, Vu<V
SLV 14	826	-12862	-8175	586255		2.17	212.01	1.27	7519			0.92	No, Vu<V
SLV 3	746	-12842	11911	336783		1.97	232.5	1.23	7993			0.67	No, Vu<V
SLV 3	826	-9405	9786	-283675		1.44	232.5	1.12	7306			0.75	No, Vu<V
SLV 7	746	-7853	6151	222301		1.21	232.5	1.07	6996			1.14	Si
SLV 7	826	-6555	5471	-51082		1.01	232.5	1.03	6736			1.23	Si
SLV 2	746	-16078	10612	328757		2.47	232.5	1.33	8641			0.81	No, Vu<V
SLV 2	826	-12082	8487	-236280		1.86	232.5	1.2	7841			0.92	No, Vu<V
SLV 8	746	-7853	6151	222301		1.21	232.5	1.07	6996			1.14	Si
SLV 8	826	-6555	5471	-51082		1.01	232.5	1.03	6736			1.23	Si
SLV 1	746	-16078	10612	328757		2.47	232.5	1.33	8641			0.81	No, Vu<V
SLV 1	826	-12082	8487	-236280		1.86	232.5	1.2	7841			0.92	No, Vu<V
SLV 16	746	-9373	-8875	-17058		1.44	232.5	1.12	7300			0.82	No, Vu<V
SLV 16	826	-10185	-6875	538860		1.91	190.03	1.22	6471			0.94	No, Vu<V
SLV 13	746	-12609	-10174	-25083		1.94	232.5	1.22	7947			0.78	No, Vu<V
SLV 13	826	-12862	-8175	586255		2.17	212.01	1.27	7519			0.92	No, Vu<V
SLV 15	746	-9373	-8875	-17058		1.44	232.5	1.12	7300			0.82	No, Vu<V
SLV 15	826	-10185	-6875	538860		1.91	190.03	1.22	6471			0.94	No, Vu<V
SLV 4	746	-12842	11911	336783		1.97	232.5	1.23	7993			0.67	No, Vu<V
SLV 4	826	-9405	9786	-283675		1.44	232.5	1.12	7306			0.75	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.39	1.03	-6684	24176	85711	3.55	Si
SLV 12	14	0.39	1.03	-6684	24176	85711	3.55	Si
SLV 7	14	0.39	1.04	-6753	24176	86512	3.58	Si
SLV 8	14	0.39	1.04	-6753	24176	86512	3.58	Si
SLV 16	14	0.39	1.57	-10243	24176	124933	5.17	Si
SLV 15	14	0.39	1.57	-10243	24176	124933	5.17	Si
SLV 4	14	0.39	1.61	-10472	24176	127309	5.27	Si
SLV 3	14	0.39	1.61	-10472	24176	127309	5.27	Si
SLV 14	14	0.39	2.05	-13362	24176	155644	6.44	Si
SLV 13	14	0.39	2.05	-13362	24176	155644	6.44	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-12998	-16910	104	0.038	16.481	0.944	58.963	1675.871	No
SLV 10	-12998	-16910	104	0.038	16.481	0.944	58.963	1675.871	No
SLV 8	-6387	-3852	-103	0.037	9.81	0.916	59.183	1675.871	No
SLV 7	-6387	-3852	-103	0.037	9.81	0.916	59.183	1675.871	No
SLV 6	-12969	-16082	84	0.04	16.451	0.944	61.004	1675.871	No
SLV 5	-12969	-16082	84	0.04	16.451	0.944	61.004	1675.871	No
SLV 11	-6416	-4680	-83	0.04	9.839	0.916	62.914	1675.871	No
SLV 12	-6416	-4680	-83	0.04	9.839	0.916	62.914	1675.871	No
SLV 14	-10728	-13594	62	0.041	14.182	0.937	64.165	960.164	No
SLV 13	-10728	-13594	62	0.041	14.182	0.937	64.165	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.6	SLV 73	Si
V_SLV	4.439	SLV 84	Si
PF_SLV	1.916	SLV 15	Si
V_SLV	0.671	SLV 3	No
PFFP_SLV	3.545	SLV 11	Si
R_SLV	0.035	SLV 9	No



Maschio 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	-335.9	-228.3	-335.9	L4	L5	216	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 10	636	-11288	-163807	1.87	939781	5.737	Si
SLU 10	816	-13139	-128020	2.17	1040564	8.128	Si
SLU 13	636	-11779	-163677	1.95	967985	5.914	Si
SLU 13	816	-13635	-127505	2.25	1065015	8.353	Si
SLU 23	636	-11499	-166569	1.9	952043	5.716	Si
SLU 23	816	-13278	-125952	2.2	1047524	8.317	Si
SLU 73	636	-15361	-199938	2.54	1141738	5.71	Si
SLU 73	816	-17746	-173181	2.93	1226218	7.081	Si
SLU 2	636	-10059	-148104	1.66	864585	5.838	Si
SLU 2	816	-11349	-103021	1.88	943352	9.157	Si
SLU 65	636	-14133	-184234	2.34	1088484	5.908	Si
SLU 65	816	-15957	-148182	2.64	1165160	7.863	Si
SLU 31	636	-12728	-182273	2.1	1019482	5.593	Si
SLU 31	816	-15068	-150951	2.49	1129602	7.483	Si
SLU 34	636	-13219	-182143	2.19	1044587	5.735	Si
SLU 34	816	-15563	-150436	2.57	1149860	7.644	Si
SLU 26	636	-11990	-166440	1.98	979793	5.887	Si
SLU 26	816	-13774	-125437	2.28	1071673	8.544	Si
SLU 76	636	-15853	-199808	2.62	1161172	5.811	Si
SLU 76	816	-18242	-172666	3.02	1240651	7.185	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 3	636	-6885	302042	1.14	674312	2.233	Si
SLV 3	816	-4075	-279276	0.67	415794	1.489	Si
SLV 15	636	-11120	-485868	1.84	1020257	2.1	Si
SLV 15	816	-17142	501340	2.83	1421892	2.836	Si
SLV 13	636	-15488	-481542	2.56	1322110	2.746	Si
SLV 13	816	-20318	507275	3.36	1591008	3.136	Si
SLV 14	636	-15488	-481542	2.56	1322110	2.746	Si
SLV 14	816	-20318	507275	3.36	1591008	3.136	Si
SLV 12	636	-4543	-215146	0.75	460435	2.14	Si
SLV 12	816	-8864	221200	1.47	842447	3.809	Si
SLV 1	636	-11253	306368	1.86	1030229	3.363	Si
SLV 1	816	-7250	-273341	1.2	706202	2.584	Si
SLV 2	636	-11253	306368	1.86	1030229	3.363	Si
SLV 2	816	-7250	-273341	1.2	706202	2.584	Si
SLV 11	636	-4543	-215146	0.75	460435	2.14	Si
SLV 11	816	-8864	221200	1.47	842447	3.809	Si
SLV 16	636	-11120	-485868	1.84	1020257	2.1	Si
SLV 16	816	-17142	501340	2.83	1421892	2.836	Si
SLV 4	636	-6885	302042	1.14	674312	2.233	Si
SLV 4	816	-4075	-279276	0.67	415794	1.489	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 31	636	-12728	-4475	-182273		2.1	216	0.84	5057			1.13	Si
SLU 31	816	-15068	-4417	150951		2.49	216	0.89	5369			1.22	Si
SLU 52	636	-13922	-4526	-181472		2.3	216	0.86	5216			1.15	Si
SLU 52	816	-15818	-4468	150250		2.62	216	0.9	5469			1.22	Si
SLU 76	636	-15853	-5068	-199808		2.62	216	0.91	5474			1.08	Si
SLU 76	816	-18242	-5010	172666		3.02	216	0.96	5792			1.16	Si
SLU 82	636	-16034	-5001	-179421		2.65	216	0.91	5498			1.1	Si
SLU 82	816	-18427	-4966	182808		3.05	216	0.96	5817			1.17	Si
SLU 78	636	-16678	-4813	-174116		2.76	216	0.92	5584			1.16	Si
SLU 78	816	-18885	-4778	174251		3.12	216	0.97	5878			1.23	Si
SLU 75	636	-16186	-4813	-174245		2.68	216	0.91	5518			1.15	Si
SLU 75	816	-18389	-4778	174766		3.04	216	0.96	5812			1.22	Si
SLU 34	636	-13219	-4474	-182143		2.19	216	0.85	5123			1.14	Si
SLU 34	816	-15563	-4416	150436		2.57	216	0.9	5435			1.23	Si
SLU 73	636	-15361	-5068	-199938		2.54	216	0.89	5408			1.07	Si
SLU 73	816	-17746	-5011	173181		2.93	216	0.95	5726			1.14	Si
SLU 65	636	-14133	-4506	-184234		2.34	216	0.87	5244			1.16	Si
SLU 65	816	-15957	-4448	148182		2.64	216	0.91	5488			1.23	Si
SLU 84	636	-16525	-5000	-179292		2.73	216	0.92	5563			1.11	Si
SLU 84	816	-18923	-4965	182293		3.13	216	0.97	5883			1.18	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	636	-6885	4876	302042		1.28	192.39	1.09	5866			1.2	Si
SLV 3	816	-4075	3927	-279276		1.23	118.38	1.08	3577			0.91	No, Vu<V
SLV 16	636	-11120	-9883	-485868		2.06	192.92	1.25	6726			0.68	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	816	-17142	-9506	501340		2.83	216	1.4	8468			0.89	No, Vu<V
SLV 13	636	-15488	-10706	-481542		2.56	216	1.35	8138			0.76	No, Vu<V
SLV 13	816	-20318	-9755	507275		3.36	216	1.51	9104			0.93	No, Vu<V
SLV 4	636	-6885	4876	302042		1.28	192.39	1.09	5866			1.2	Si
SLV 4	816	-4075	3927	-279276		1.23	118.38	1.08	3577			0.91	No, Vu<V
SLD 15	636	-11174	-5901	-258075		1.85	216	1.2	7275			1.23	Si
SLD 15	816	-14312	-5734	279173		2.37	216	1.31	7902			1.38	Si
SLV 15	636	-11120	-9883	-485868		2.06	192.92	1.25	6726			0.68	No, Vu<V
SLV 15	816	-17142	-9506	501340		2.83	216	1.4	8468			0.89	No, Vu<V
SLD 14	636	-13000	-6228	-257801		2.15	216	1.26	7640			1.23	Si
SLD 14	816	-15660	-5830	282064		2.59	216	1.35	8172			1.4	Si
SLD 13	636	-13000	-6228	-257801		2.15	216	1.26	7640			1.23	Si
SLD 13	816	-15660	-5830	282064		2.59	216	1.35	8172			1.4	Si
SLD 16	636	-11174	-5901	-258075		1.85	216	1.2	7275			1.23	Si
SLD 16	816	-14312	-5734	279173		2.37	216	1.31	7902			1.38	Si
SLV 14	636	-15488	-10706	-481542		2.56	216	1.35	8138			0.76	No, Vu<V
SLV 14	816	-20318	-9755	507275		3.36	216	1.51	9104			0.93	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.39	0.74	-4464	22461	58716	2.61	Si
SLV 7	14	0.39	0.74	-4464	22461	58716	2.61	Si
SLV 3	14	0.39	0.96	-5809	22461	74928	3.34	Si
SLV 4	14	0.39	0.96	-5809	22461	74928	3.34	Si
SLV 12	14	0.39	1.16	-7034	22461	89104	3.97	Si
SLV 11	14	0.39	1.16	-7034	22461	89104	3.97	Si
SLV 1	14	0.39	1.58	-9532	22461	116234	5.18	Si
SLV 2	14	0.39	1.58	-9532	22461	116234	5.18	Si
SLV 15	14	0.39	2.38	-14377	22461	162119	7.22	Si
SLV 16	14	0.39	2.38	-14377	22461	162119	7.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-6807	-5896	-140	0.032	9.989	0.921	51.166	1675.871	No
SLV 12	-6807	-5896	-140	0.032	9.989	0.921	51.166	1675.871	No
SLV 5	-13070	-16804	139	0.036	16.319	0.947	54.579	1675.871	No
SLV 6	-13070	-16804	139	0.036	16.319	0.947	54.579	1675.871	No
SLV 10	-15147	-20162	88	0.039	18.428	0.953	59.653	1675.871	No
SLV 9	-15147	-20162	88	0.039	18.428	0.953	59.653	1675.871	No
SLV 7	-4729	-2537	-89	0.038	7.915	0.907	60.685	1675.871	No
SLV 8	-4729	-2537	-89	0.038	7.915	0.907	60.685	1675.871	No
SLV 2	-7727	-7893	119	0.035	10.914	0.926	55.382	960.164	No
SLV 1	-7727	-7893	119	0.035	10.914	0.926	55.382	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.593	SLU 31	Si
V_SLU	1.067	SLU 73	Si
PF_SLV	1.489	SLV 3	Si
V_SLV	0.68	SLV 15	No
PFFP_SLV	2.614	SLV 7	Si
R_SLV	0.031	SLV 11	No

Maschio 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-296.3	595.1	-515.8	595.1	L4	L5	219.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 8	636	-13073	26518	2.13	1060107	39.976	Si
SLU 8	816	-11702	80921	1.9	984130	12.162	Si
SLU 9	636	-12920	29630	2.1	1052060	35.506	Si
SLU 9	816	-11558	83643	1.88	975632	11.664	Si
SLU 7	636	-13157	20505	2.14	1064495	51.915	Si
SLU 7	816	-11893	77925	1.94	995197	12.771	Si
SLU 28	636	-15010	27519	2.44	1153465	41.916	Si
SLU 28	816	-13881	88258	2.26	1101059	12.475	Si
SLU 29	636	-14926	33533	2.43	1149760	34.288	Si
SLU 29	816	-13691	91254	2.23	1091655	11.963	Si
SLU 71	636	-17891	18114	2.91	1261857	69.663	Si
SLU 71	816	-16419	91736	2.67	1210998	13.201	Si
SLU 51	636	-15885	14212	2.58	1190234	83.751	Si
SLU 51	816	-14286	84125	2.32	1120485	13.319	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 30	636	-14774	36645	2.4	1142951	31.19	Si
SLU 30	816	-13546	93977	2.2	1084417	11.539	Si
SLU 72	636	-17739	21226	2.89	1257032	59.222	Si
SLU 72	816	-16274	94459	2.65	1205491	12.762	Si
SLU 27	636	-15163	24407	2.47	1160115	47.533	Si
SLU 27	816	-14026	85535	2.28	1108084	12.955	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 9	636	-6966	-108780	1.13	693592	6.376	Si
SLV 9	816	-8195	180774	1.33	801228	4.432	Si
SLV 10	636	-6966	-108780	1.13	693592	6.376	Si
SLV 10	816	-8195	180774	1.33	801228	4.432	Si
SLV 2	636	-12057	401292	1.96	1110780	2.768	Si
SLV 2	816	-18706	-319469	3.04	1541603	4.826	Si
SLV 1	636	-12057	401292	1.96	1110780	2.768	Si
SLV 1	816	-18706	-319469	3.04	1541603	4.826	Si
SLV 16	636	-13950	-489927	2.27	1246633	2.545	Si
SLV 16	816	-6340	348112	1.03	637060	1.83	Si
SLV 13	636	-10471	-451824	1.7	988918	2.189	Si
SLV 13	816	-4978	384616	0.81	510159	1.326	Si
SLV 3	636	-15537	363189	2.53	1352362	3.724	Si
SLV 3	816	-20068	-355973	3.27	1613875	4.534	Si
SLV 15	636	-13950	-489927	2.27	1246633	2.545	Si
SLV 15	816	-6340	348112	1.03	637060	1.83	Si
SLV 4	636	-15537	363189	2.53	1352362	3.724	Si
SLV 4	816	-20068	-355973	3.27	1613875	4.534	Si
SLV 14	636	-10471	-451824	1.7	988918	2.189	Si
SLV 14	816	-4978	384616	0.81	510159	1.326	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	636	-16366	855	-63909	2.66	219.5	0.91	5597				6.55	Si
SLU 52	816	-15914	855	11273	2.59	219.5	0.9	5536				6.48	Si
SLU 18	636	-14364	823	-58090	2.34	219.5	0.87	5330				6.47	Si
SLU 18	816	-14311	823	3184	2.33	219.5	0.87	5323				6.47	Si
SLU 81	636	-19183	1026	-66494	3.12	219.5	0.97	5972				5.82	Si
SLU 81	816	-19027	1026	13999	3.1	219.5	0.97	5951				5.8	Si
SLU 60	636	-17329	942	-73509	2.82	219.5	0.93	5725				6.07	Si
SLU 60	816	-17039	942	3666	2.77	219.5	0.93	5686				6.04	Si
SLU 19	636	-14212	830	-54978	2.31	219.5	0.86	5309				6.4	Si
SLU 19	816	-14166	830	5907	2.3	219.5	0.86	5303				6.39	Si
SLU 82	636	-19030	1033	-63382	3.1	219.5	0.97	5952				5.76	Si
SLU 82	816	-18882	1033	16722	3.07	219.5	0.97	5932				5.74	Si
SLU 39	636	-16218	907	-51076	2.64	219.5	0.91	5577				6.15	Si
SLU 39	816	-16299	907	13518	2.65	219.5	0.91	5588				6.16	Si
SLU 73	636	-18220	939	-56895	2.96	219.5	0.95	5844				6.22	Si
SLU 73	816	-17903	939	21606	2.91	219.5	0.94	5801				6.18	Si
SLU 61	636	-17177	949	-70397	2.79	219.5	0.93	5705				6.01	Si
SLU 61	816	-16894	949	6389	2.75	219.5	0.92	5667				5.97	Si
SLU 40	636	-16065	914	-47964	2.61	219.5	0.9	5556				6.08	Si
SLU 40	816	-16154	914	16240	2.63	219.5	0.91	5568				6.09	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	636	-13950	-8729	-489927	2.27	219.5	1.29	7912				0.91	No, Vu<V
SLV 16	816	-6340	-8158	348112	1.38	164.52	1.11	5107				0.63	No, Vu<V
SLV 15	636	-13950	-8729	-489927	2.27	219.5	1.29	7912				0.91	No, Vu<V
SLV 15	816	-6340	-8158	348112	1.38	164.52	1.11	5107				0.63	No, Vu<V
SLV 6	636	-7442	5798	147155	1.21	219.5	1.08	6610				1.14	Si
SLV 6	816	-12313	5857	-30451	2	219.5	1.23	7584				1.29	Si
SLV 13	636	-10471	-7133	-451824	1.87	199.79	1.21	6756				0.95	No, Vu<V
SLV 13	816	-4978	-6409	384616	1.82	97.48	1.2	3270				0.51	No, Vu<V
SLV 5	636	-7442	5798	147155	1.21	219.5	1.08	6610				1.14	Si
SLV 5	816	-12313	5857	-30451	2	219.5	1.23	7584				1.29	Si
SLV 4	636	-15537	8299	363189	2.53	219.5	1.34	8229				0.99	No, Vu<V
SLV 4	816	-20068	7575	-355973	3.27	219.5	1.49	9135				1.21	Si
SLV 3	636	-15537	8299	363189	2.53	219.5	1.34	8229				0.99	No, Vu<V
SLV 3	816	-20068	7575	-355973	3.27	219.5	1.49	9135				1.21	Si
SLV 14	636	-10471	-7133	-451824	1.87	199.79	1.21	6756				0.95	No, Vu<V
SLV 14	816	-4978	-6409	384616	1.82	97.48	1.2	3270				0.51	No, Vu<V
SLV 2	636	-12057	9896	401292	1.96	219.5	1.23	7533				0.76	No, Vu<V
SLV 2	816	-18706	9324	-319469	3.04	219.5	1.44	8863				0.95	No, Vu<V
SLV 1	636	-12057	9896	401292	1.96	219.5	1.23	7533				0.76	No, Vu<V
SLV 1	816	-18706	9324	-319469	3.04	219.5	1.44	8863				0.95	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.39	1.05	-6461	22825	82675	3.62	Si
SLV 14	14	0.39	1.05	-6461	22825	82675	3.62	Si
SLV 9	14	0.39	1.07	-6586	22825	84119	3.69	Si
SLV 10	14	0.39	1.07	-6586	22825	84119	3.69	Si
SLV 16	14	0.39	1.53	-9406	22825	115193	5.05	Si
SLV 15	14	0.39	1.53	-9406	22825	115193	5.05	Si
SLV 6	14	0.39	1.57	-9638	22825	117615	5.15	Si
SLV 5	14	0.39	1.57	-9638	22825	117615	5.15	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.39	2.67	-16403	22825	179480	7.86	Si
SLV 12	14	0.39	2.67	-16403	22825	179480	7.86	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 722 $W_a = 0.05 T_a = 0.0739$

Comb.	N top	N base	V orto	σ_0	M*	e*	a0*	aLim	Verifica
SLV 13	-2557	-8401	-264	0	5.857	0.891	0	960.164	No
SLV 14	-2557	-8401	-264	0	5.857	0.891	0	960.164	No
SLV 9	-8022	-5846	-291	0.018	11.262	0.927	28.743	1675.871	No
SLV 10	-8022	-5846	-291	0.018	11.262	0.927	28.743	1675.871	No
SLV 7	-11530	-19339	299	0.023	14.808	0.942	36.023	1675.871	No
SLV 8	-11530	-19339	299	0.023	14.808	0.942	36.023	1675.871	No
SLV 11	-7117	-17909	181	0.028	10.352	0.922	44.698	1675.871	No
SLV 12	-7117	-17909	181	0.028	10.352	0.922	44.698	1675.871	No
SLV 5	-12435	-7276	-173	0.033	15.725	0.945	50.948	1675.871	No
SLV 6	-12435	-7276	-173	0.033	15.725	0.945	50.948	1675.871	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.539	SLU 30	Si
V_SLU	5.744	SLU 82	Si
PF_SLV	1.326	SLV 13	Si
V_SLV	0.51	SLV 13	No
PFFP_SLV	3.622	SLV 13	Si
R_SLV	0	SLV 13	No

Maschio 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	595.1	-206.3	595.1	L4	L5	194	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 31	636	-11435	16756	2.11	822567	49.09	Si
SLU 31	816	-12542	107077	2.31	871761	8.141	Si
SLU 73	636	-13977	19507	2.57	927514	47.547	Si
SLU 73	816	-14989	122504	2.76	961428	7.848	Si
SLU 61	636	-13561	12808	2.5	912288	71.228	Si
SLU 61	816	-14394	119487	2.65	942040	7.884	Si
SLU 40	636	-12187	13751	2.24	856549	62.291	Si
SLU 40	816	-13436	116834	2.47	907553	7.768	Si
SLU 19	636	-11020	10057	2.03	802710	79.817	Si
SLU 19	816	-11948	104060	2.2	845990	8.13	Si
SLU 39	636	-12588	11677	2.32	873658	74.821	Si
SLU 39	816	-13712	115123	2.52	917896	7.973	Si
SLU 82	636	-14729	16502	2.71	953121	57.758	Si
SLU 82	816	-15883	132261	2.92	987632	7.467	Si
SLU 52	636	-12810	15814	2.36	882836	55.828	Si
SLU 52	816	-13501	109730	2.49	910002	8.293	Si
SLU 60	636	-13962	10734	2.57	926983	86.36	Si
SLU 60	816	-14670	117776	2.7	951224	8.077	Si
SLU 81	636	-15129	14428	2.79	965764	66.938	Si
SLU 81	816	-16159	130550	2.97	995015	7.622	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	636	-3948	-108535	0.73	360166	3.318	Si
SLV 10	816	-7274	142454	1.34	628261	4.41	Si
SLV 6	636	-2733	101065	0.5	254214	2.515	Si
SLV 6	816	-3613	18688	0.67	331360	17.732	Si
SLV 5	636	-2733	101065	0.5	254214	2.515	Si
SLV 5	816	-3613	18688	0.67	331360	17.732	Si
SLV 9	636	-3948	-108535	0.73	360166	3.318	Si
SLV 9	816	-7274	142454	1.34	628261	4.41	Si
SLV 2	636	-6302	357569	1.16	553223	1.547	Si
SLV 2	816	-3060	-128250	0.56	283135	2.208	Si
SLV 13	636	-10350	-341099	1.91	847405	2.484	Si
SLV 13	816	-15265	284304	2.81	1140140	4.01	Si
SLV 1	636	-6302	357569	1.16	553223	1.547	Si
SLV 1	816	-3060	-128250	0.56	283135	2.208	Si
SLV 3	636	-10575	367830	1.95	862322	2.344	Si
SLV 3	816	-6248	-130429	1.15	548975	4.209	Si
SLV 4	636	-10575	367830	1.95	862322	2.344	Si
SLV 4	816	-6248	-130429	1.15	548975	4.209	Si
SLV 14	636	-10350	-341099	1.91	847405	2.484	Si
SLV 14	816	-15265	284304	2.81	1140140	4.01	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 84	636	-14865	-2192	29589		2.74	194	0.92	5000			2.28	Si
SLU 84	816	-15821	-2188	111704		2.91	194	0.94	5127			2.34	Si
SLU 60	636	-13962	-2179	10734		2.57	194	0.9	4879			2.24	Si
SLU 60	816	-14670	-2180	117776		2.7	194	0.92	4974			2.28	Si
SLU 39	636	-12588	-2126	11677		2.32	194	0.86	4696			2.21	Si
SLU 39	816	-13712	-2126	115123		2.52	194	0.89	4846			2.28	Si
SLU 52	636	-12810	-2100	15814		2.36	194	0.87	4726			2.25	Si
SLU 52	816	-13501	-2094	109730		2.49	194	0.89	4818			2.3	Si
SLU 40	636	-12187	-2193	13751		2.24	194	0.85	4643			2.12	Si
SLU 40	816	-13436	-2190	116834		2.47	194	0.89	4809			2.2	Si
SLU 31	636	-11435	-2047	16756		2.11	194	0.84	4543			2.22	Si
SLU 31	816	-12542	-2041	107077		2.31	194	0.86	4690			2.3	Si
SLU 73	636	-13977	-2340	19507		2.57	194	0.9	4881			2.09	Si
SLU 73	816	-14989	-2334	122504		2.76	194	0.92	5016			2.15	Si
SLU 61	636	-13561	-2246	12808		2.5	194	0.89	4826			2.15	Si
SLU 61	816	-14394	-2243	119487		2.65	194	0.91	4937			2.2	Si
SLU 81	636	-15129	-2419	14428		2.79	194	0.93	5035			2.08	Si
SLU 81	816	-16159	-2419	130550		2.97	194	0.95	5172			2.14	Si
SLU 82	636	-14729	-2486	16502		2.71	194	0.92	4982			2	Si
SLU 82	816	-15883	-2482	132261		2.92	194	0.95	5136			2.07	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 15	636	-14623	-6458	-330838		2.69	194	1.37	7451			1.15	Si
SLV 15	816	-18452	-6305	282124		3.4	194	1.51	8217			1.3	Si
SLV 13	636	-10350	-7458	-341099		1.92	192.13	1.22	6553			0.88	No, Vu<V
SLV 13	816	-15265	-6345	284304		2.81	194	1.4	7580			1.19	Si
SLV 4	636	-10575	4566	367830		2.02	186.65	1.24	6470			1.42	Si
SLV 4	816	-6248	3453	-130429		1.15	194	1.06	5776			1.67	Si
SLV 14	636	-10350	-7458	-341099		1.92	192.13	1.22	6553			0.88	No, Vu<V
SLV 14	816	-15265	-6345	284304		2.81	194	1.4	7580			1.19	Si
SLV 16	636	-14623	-6458	-330838		2.69	194	1.37	7451			1.15	Si
SLV 16	816	-18452	-6305	282124		3.4	194	1.51	8217			1.3	Si
SLV 9	636	-3948	-4765	-108535		0.73	194	0.98	5316			1.12	Si
SLV 9	816	-7274	-2977	142454		1.34	194	1.1	5981			2.01	Si
SLV 1	636	-6302	3567	357569		1.86	120.77	1.21	4078			1.14	Si
SLV 1	816	-3060	3412	-128250		0.66	165.26	0.97	4468			1.31	Si
SLV 2	636	-6302	3567	357569		1.86	120.77	1.21	4078			1.14	Si
SLV 2	816	-3060	3412	-128250		0.66	165.26	0.97	4468			1.31	Si
SLV 10	636	-3948	-4765	-108535		0.73	194	0.98	5316			1.12	Si
SLV 10	816	-7274	-2977	142454		1.34	194	1.1	5981			2.01	Si
SLV 3	636	-10575	4566	367830		2.02	186.65	1.24	6470			1.42	Si
SLV 3	816	-6248	3453	-130429		1.15	194	1.06	5776			1.67	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.39	0.65	-3519	20173	46654	2.31	Si
SLV 6	14	0.39	0.65	-3519	20173	46654	2.31	Si
SLV 1	14	0.39	0.92	-5019	20173	64954	3.22	Si
SLV 2	14	0.39	0.92	-5019	20173	64954	3.22	Si
SLV 9	14	0.39	1.09	-5920	20173	75488	3.74	Si
SLV 10	14	0.39	1.09	-5920	20173	75488	3.74	Si
SLV 4	14	0.39	1.6	-8706	20173	105896	5.25	Si
SLV 3	14	0.39	1.6	-8706	20173	105896	5.25	Si
SLV 13	14	0.39	2.4	-13023	20173	146545	7.26	Si
SLV 14	14	0.39	2.4	-13023	20173	146545	7.26	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-11806	-15147	-42	0.042	14.726	0.947	64	1675.871	No
SLV 7	-11806	-15147	-42	0.042	14.726	0.947	64	1675.871	No
SLV 12	-13899	-18155	-21	0.043	16.85	0.953	65.231	1675.871	No
SLV 11	-13899	-18155	-21	0.043	16.85	0.953	65.231	1675.871	No
SLV 9	-5776	-4515	43	0.043	8.633	0.919	68.275	1675.871	No
SLV 10	-5776	-4515	43	0.043	8.633	0.919	68.275	1675.871	No
SLV 6	-3684	-1507	22	0.048	6.552	0.902	77.824	1675.871	No
SLV 5	-3684	-1507	22	0.048	6.552	0.902	77.824	1675.871	No
SLV 13	-11060	-12799	45	0.042	13.968	0.945	64.031	960.164	No
SLV 14	-11060	-12799	45	0.042	13.968	0.945	64.031	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.467	SLV 82	Si
V_SLV	2.004	SLV 82	Si
PF_SLV	1.547	SLV 1	Si
V_SLV	0.879	SLV 13	No
PFFP_SLV	2.313	SLV 5	Si
R_SLV	0.038	SLV 7	No



Maschio 143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	-335.9	-12.3	595.1	L4	L5	931	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 80	546	-108911	-2183970	4.18	24695278	11.308	Si
SLU 80	898	-69618	-599494	2.67	21782412	36.335	Si
SLU 55	546	-98739	-2148393	3.79	24590563	11.446	Si
SLU 55	898	-62077	-617951	2.38	20449109	33.092	Si
SLU 13	546	-81208	-2035118	3.12	23345496	11.471	Si
SLU 13	898	-51166	-612182	1.96	18078619	29.531	Si
SLU 5	546	-72125	-1940999	2.77	22170386	11.422	Si
SLU 5	898	-45588	-562767	1.75	16665270	29.613	Si
SLU 34	546	-90589	-2266750	3.48	24179310	10.667	Si
SLU 34	898	-57398	-701950	2.2	19496462	27.775	Si
SLU 73	546	-106704	-2149009	4.09	24711098	11.499	Si
SLU 73	898	-66775	-659039	2.56	21309049	32.334	Si
SLU 26	546	-81505	-2172631	3.13	23377777	10.76	Si
SLU 26	898	-51820	-652536	1.99	18235510	27.946	Si
SLU 76	546	-108119	-2380025	4.15	24703414	10.379	Si
SLU 76	898	-68309	-707719	2.62	21568820	30.477	Si
SLU 68	546	-99035	-2285906	3.8	24600041	10.762	Si
SLU 68	898	-62731	-658305	2.41	20574693	31.254	Si
SLU 78	546	-110090	-2172949	4.22	24678081	11.357	Si
SLU 78	898	-70510	-610816	2.7	21923647	35.892	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 2	546	-33818	-3258268	1.3	14070778	4.318	Si
SLV 2	898	-28332	-2189754	1.09	12015387	5.487	Si
SLV 9	546	-85566	-8126141	3.28	29130955	3.585	Si
SLV 9	898	-50973	-3679552	1.96	19930749	5.417	Si
SLV 12	546	-87488	6823640	3.36	29539556	4.329	Si
SLV 12	898	-53642	3891846	2.06	20765150	5.336	Si
SLV 11	546	-87488	6823640	3.36	29539556	4.329	Si
SLV 11	898	-53642	3891846	2.06	20765150	5.336	Si
SLV 5	546	-61372	-8294395	2.35	23064037	2.781	Si
SLV 5	898	-40092	-4215025	1.54	16313780	3.87	Si
SLV 10	546	-85566	-8126141	3.28	29130955	3.585	Si
SLV 10	898	-50973	-3679552	1.96	19930749	5.417	Si
SLV 7	546	-63294	6655387	2.43	23608560	3.547	Si
SLV 7	898	-42761	3356373	1.64	17233071	5.134	Si
SLV 8	546	-63294	6655387	2.43	23608560	3.547	Si
SLV 8	898	-42761	3356373	1.64	17233071	5.134	Si
SLV 6	546	-61372	-8294395	2.35	23064037	2.781	Si
SLV 6	898	-40092	-4215025	1.54	16313780	3.87	Si
SLV 1	546	-33818	-3258268	1.3	14070778	4.318	Si
SLV 1	898	-28332	-2189754	1.09	12015387	5.487	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 34	546	-90589	-930	-2266750		3.48	931	1.02	26561			28.57	Si
SLU 34	898	-57398	-502	-701950		2.2	931	0.85	22135			44.11	Si
SLU 23	546	-80091	-881	-1941615		3.07	931	0.97	25161			28.55	Si
SLU 23	898	-50286	-456	-603856		1.93	931	0.81	21187			46.47	Si
SLU 26	546	-81505	-995	-2172631		3.13	931	0.97	25350			25.47	Si
SLU 26	898	-51820	-568	-652536		1.99	931	0.82	21392			37.66	Si
SLU 2	546	-70710	-916	-1709983		2.71	931	0.92	23910			26.12	Si
SLU 2	898	-44054	-491	-514087		1.69	931	0.78	20356			41.42	Si
SLU 47	546	-89655	-915	-2054274		3.44	931	1.01	26436			28.88	Si
SLU 47	898	-56499	-488	-568536		2.17	931	0.84	22015			45.08	Si
SLU 13	546	-81208	-964	-2035118		3.12	931	0.97	25310			26.26	Si
SLU 13	898	-51166	-537	-612182		1.96	931	0.82	21304			39.65	Si
SLU 10	546	-79794	-850	-1804102		3.06	931	0.96	25121			29.56	Si
SLU 10	898	-49632	-425	-563501		1.9	931	0.81	21100			49.63	Si
SLU 5	546	-72125	-1029	-1940999		2.77	931	0.92	24099			23.41	Si
SLU 5	898	-45588	-604	-562767		1.75	931	0.79	20561			34.06	Si
SLU 68	546	-99035	-881	-2285906		3.8	931	1.06	27687			31.43	Si
SLU 68	898	-62731	-453	-658305		2.41	931	0.88	22846			50.45	Si
SLU 31	546	-89174	-816	-2035734		3.42	931	1.01	26372			32.33	Si
SLU 31	898	-55864	-390	-653270		2.14	931	0.84	21931			56.28	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	546	-61372	-16692	-8294395		2.35	931	1.3	33998			2.04	Si
SLV 5	898	-40092	-14862	-4215025		1.54	931	1.14	29742			2	Si
SLV 10	546	-85566	-16489	-8126141		3.28	931	1.49	38837			2.36	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	898	-50973	-14725	-3679552		1.96	931	1.22	31918			2.17	Si
SLV 8	546	-63294	17385	6655387		2.43	931	1.32	34382			1.98	Si
SLV 8	898	-42761	15632	3356373		1.64	931	1.16	30276			1.94	Si
SLD 7	546	-69690	7627	2362821		2.67	931	1.37	35661			4.68	Si
SLD 7	898	-45116	6885	1326549		1.73	931	1.18	30746			4.47	Si
SLV 6	546	-61372	-16692	-8294395		2.35	931	1.3	33998			2.04	Si
SLV 6	898	-40092	-14862	-4215025		1.54	931	1.14	29742			2	Si
SLD 8	546	-69690	7627	2362821		2.67	931	1.37	35661			4.68	Si
SLD 8	898	-45116	6885	1326549		1.73	931	1.18	30746			4.47	Si
SLV 9	546	-85566	-16489	-8126141		3.28	931	1.49	38837			2.36	Si
SLV 9	898	-50973	-14725	-3679552		1.96	931	1.22	31918			2.17	Si
SLV 11	546	-87488	17588	6823640		3.36	931	1.5	39221			2.23	Si
SLV 11	898	-53642	15769	3891846		2.06	931	1.24	32452			2.06	Si
SLV 12	546	-87488	17588	6823640		3.36	931	1.5	39221			2.23	Si
SLV 12	898	-53642	15769	3891846		2.06	931	1.24	32452			2.06	Si
SLV 7	546	-63294	17385	6655387		2.43	931	1.32	34382			1.98	Si
SLV 7	898	-42761	15632	3356373		1.64	931	1.16	30276			1.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 722 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.39	1.22	-31694	96809	399564	4.13	Si
SLV 2	14	0.39	1.22	-31694	96809	399564	4.13	Si
SLV 3	14	0.39	1.23	-32183	96809	405032	4.18	Si
SLV 4	14	0.39	1.23	-32183	96809	405032	4.18	Si
SLV 5	14	0.39	1.97	-51234	96809	601906	6.22	Si
SLV 6	14	0.39	1.97	-51234	96809	601906	6.22	Si
SLV 7	14	0.39	2.03	-52863	96809	617252	6.38	Si
SLV 8	14	0.39	2.03	-52863	96809	617252	6.38	Si
SLV 10	14	0.39	2.63	-68472	96809	752535	7.77	Si
SLV 9	14	0.39	2.63	-68472	96809	752535	7.77	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 722 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-53642	-87488	-106	0.043	67.609	0.945	66.669	1675.871	No
SLV 12	-53642	-87488	-106	0.043	67.609	0.945	66.669	1675.871	No
SLV 9	-50973	-85566	74	0.044	64.903	0.943	67.883	1675.871	No
SLV 10	-50973	-85566	74	0.044	64.903	0.943	67.883	1675.871	No
SLV 5	-40092	-61372	103	0.044	53.889	0.934	69.15	1675.871	No
SLV 6	-40092	-61372	103	0.044	53.889	0.934	69.15	1675.871	No
SLV 8	-42761	-63294	-77	0.045	56.588	0.936	69.369	1675.871	No
SLV 7	-42761	-63294	-77	0.045	56.588	0.936	69.369	1675.871	No
SLV 15	-65403	-115043	-77	0.043	79.547	0.953	65.896	960.164	No
SLV 16	-65403	-115043	-77	0.043	79.547	0.953	65.896	960.164	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.379	SLU 76	Si
V_SLU	23.412	SLU 5	Si
PF_SLV	2.781	SLV 5	Si
V_SLV	1.937	SLV 7	Si
PFFP_SLV	4.127	SLV 1	Si
R_SLV	0.04	SLV 11	No

Maschio 144

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	-335.9	-2467.8	126.6	L5	L6	462.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 81	898	-34859	299359	2.69	5398526	18.034	Si
SLU 81	1108	-23019	-37748	1.78	4162349	110.268	Si
SLU 39	898	-29365	263603	2.27	4901369	18.594	Si
SLU 39	1108	-19193	-73175	1.48	3631450	49.627	Si
SLU 37	898	-30097	149655	2.32	4975256	33.245	Si
SLU 37	1108	-20308	-184021	1.57	3792808	20.611	Si
SLU 82	898	-35405	267239	2.73	5440676	20.359	Si
SLU 82	1108	-23478	-19515	1.81	4221775	216.33	Si
SLU 35	898	-30532	166338	2.36	5018036	30.168	Si
SLU 35	1108	-20580	-179550	1.59	3831372	21.339	Si
SLU 18	898	-26121	233895	2.02	4545676	19.435	Si
SLU 18	1108	-17222	-11634	1.33	3332968	286.487	Si
SLU 60	898	-31615	269650	2.44	5120969	18.991	Si
SLU 60	1108	-21048	23793	1.63	3896928	163.785	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 61	898	-32161	237530	2.48	5170880	21.769	Si
SLU 61	1108	-21508	42025	1.66	3960324	94.237	Si
SLU 83	898	-35840	254498	2.77	5473389	21.507	Si
SLU 83	1108	-23909	-102079	1.85	4276618	41.895	Si
SLU 40	898	-29911	231484	2.31	4956662	21.413	Si
SLU 40	1108	-19652	-54942	1.52	3698583	67.318	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 9	898	-26489	-698163	2.05	5100997	7.306	Si
SLV 9	1108	-19931	122190	1.54	4029160	32.975	Si
SLV 10	898	-26489	-698163	2.05	5100997	7.306	Si
SLV 10	1108	-19931	122190	1.54	4029160	32.975	Si
SLV 7	898	-21046	1053718	1.62	4220249	4.005	Si
SLV 7	1108	-12095	-85598	0.93	2583524	30.182	Si
SLV 11	898	-16191	891692	1.25	3361548	3.77	Si
SLV 11	1108	-10373	12830	0.8	2241804	174.726	Si
SLV 12	898	-16191	891692	1.25	3361548	3.77	Si
SLV 12	1108	-10373	12830	0.8	2241804	174.726	Si
SLV 4	898	-30314	686300	2.34	5668229	8.259	Si
SLV 4	1108	-17449	-162154	1.35	3590712	22.144	Si
SLD 8	898	-22638	549489	1.75	4486795	8.165	Si
SLD 8	1108	-14354	-26135	1.11	3018676	115.502	Si
SLV 3	898	-30314	686300	2.34	5668229	8.259	Si
SLV 3	1108	-17449	-162154	1.35	3590712	22.144	Si
SLV 8	898	-21046	1053718	1.62	4220249	4.005	Si
SLV 8	1108	-12095	-85598	0.93	2583524	30.182	Si
SLD 7	898	-22638	549489	1.75	4486795	8.165	Si
SLD 7	1108	-14354	-26135	1.11	3018676	115.502	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 70	898	-33701	2701	113444		2.6	462.57	0.9	11689			4.33	Si
SLU 70	1108	-23315	2851	-84317		1.8	462.57	0.8	10304			3.61	Si
SLU 77	898	-36026	2939	202094		2.78	462.57	0.93	11999			4.08	Si
SLU 77	1108	-24406	2941	-144123		1.88	462.57	0.81	10450			3.55	Si
SLU 79	898	-35591	2933	185410		2.75	462.57	0.92	11941			4.07	Si
SLU 79	1108	-24134	2935	-148594		1.86	462.57	0.8	10413			3.55	Si
SLU 83	898	-35840	2890	254498		2.77	462.57	0.92	11974			4.14	Si
SLU 83	1108	-23909	2891	-102079		1.85	462.57	0.8	10383			3.59	Si
SLU 80	898	-36137	2819	153291		2.79	462.57	0.93	12014			4.26	Si
SLU 80	1108	-24593	2969	-130362		1.9	462.57	0.81	10475			3.53	Si
SLU 75	898	-35590	2729	214835		2.75	462.57	0.92	11941			4.38	Si
SLU 75	1108	-23976	2878	-61559		1.85	462.57	0.8	10392			3.61	Si
SLU 84	898	-36386	2776	222379		2.81	462.57	0.93	12047			4.34	Si
SLU 84	1108	-24368	2925	-83847		1.88	462.57	0.81	10445			3.57	Si
SLU 76	898	-35519	2647	176738		2.74	462.57	0.92	11931			4.51	Si
SLU 76	1108	-24010	2895	-53875		1.85	462.57	0.8	10397			3.59	Si
SLU 78	898	-36572	2825	169974		2.82	462.57	0.93	12072			4.27	Si
SLU 78	1108	-24866	2975	-125891		1.92	462.57	0.81	10511			3.53	Si
SLU 72	898	-33266	2695	96761		2.57	462.57	0.9	11631			4.32	Si
SLU 72	1108	-23043	2845	-88788		1.78	462.57	0.79	10268			3.61	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	898	-16191	8743	891692		1.25	462.57	1.08	14031			1.6	Si
SLV 11	1108	-10373	7797	12830		0.8	462.57	0.99	12868			1.65	Si
SLV 9	898	-26489	-5906	-698163		2.05	462.57	1.24	16091			2.72	Si
SLV 9	1108	-19931	-4942	122190		1.54	462.57	1.14	14779			2.99	Si
SLV 12	898	-16191	8743	891692		1.25	462.57	1.08	14031			1.6	Si
SLV 12	1108	-10373	7797	12830		0.8	462.57	0.99	12868			1.65	Si
SLD 7	898	-22638	5361	549489		1.75	462.57	1.18	15321			2.86	Si
SLD 7	1108	-14354	4951	-26135		1.11	462.57	1.05	13664			2.76	Si
SLV 7	898	-21046	9927	1053718		1.62	462.57	1.16	15002			1.51	Si
SLV 7	1108	-12095	8964	-85598		0.93	462.57	1.02	13212			1.47	Si
SLV 3	898	-30314	6181	686300		2.34	462.57	1.3	16856			2.73	Si
SLV 3	1108	-17449	5866	-162154		1.35	462.57	1.1	14283			2.44	Si
SLD 8	898	-22638	5361	549489		1.75	462.57	1.18	15321			2.86	Si
SLD 8	1108	-14354	4951	-26135		1.11	462.57	1.05	13664			2.76	Si
SLV 4	898	-30314	6181	686300		2.34	462.57	1.3	16856			2.73	Si
SLV 4	1108	-17449	5866	-162154		1.35	462.57	1.1	14283			2.44	Si
SLV 8	898	-21046	9927	1053718		1.62	462.57	1.16	15002			1.51	Si
SLV 8	1108	-12095	8964	-85598		0.93	462.57	1.02	13212			1.47	Si
SLV 10	898	-26489	-5906	-698163		2.05	462.57	1.24	16091			2.72	Si
SLV 10	1108	-19931	-4942	122190		1.54	462.57	1.14	14779			2.99	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.46	0.86	-11175	56873	145407	2.56	Si
SLV 12	14	0.46	0.86	-11175	56873	145407	2.56	Si
SLV 16	14	0.46	0.97	-12527	56873	161496	2.84	Si
SLV 15	14	0.46	0.97	-12527	56873	161496	2.84	Si
SLV 7	14	0.46	1	-12895	56873	165823	2.92	Si
SLV 8	14	0.46	1	-12895	56873	165823	2.92	Si
SLV 14	14	0.46	1.19	-15405	56873	194682	3.42	Si
SLV 13	14	0.46	1.19	-15405	56873	194682	3.42	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.46	1.41	-18260	56873	226145	3.98	Si
SLV 4	14	0.46	1.41	-18260	56873	226145	3.98	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-12564	-31344	-80	0.045	19.374	0.915	71.132	1908.669	No
SLV 5	-12564	-31344	-80	0.045	19.374	0.915	71.132	1908.669	No
SLV 9	-12185	-26489	-38	0.047	18.996	0.914	75.498	1908.669	No
SLV 10	-12185	-26489	-38	0.047	18.996	0.914	75.498	1908.669	No
SLV 11	-7663	-16191	53	0.049	14.527	0.898	79.56	1908.669	No
SLV 12	-7663	-16191	53	0.049	14.527	0.898	79.56	1908.669	No
SLV 7	-8042	-21046	11	0.052	14.897	0.899	84.534	1908.669	No
SLV 8	-8042	-21046	11	0.052	14.897	0.899	84.534	1908.669	No
SLV 2	-11423	-33404	-97	0.044	18.237	0.911	70.243	1093.542	No
SLV 1	-11423	-33404	-97	0.044	18.237	0.911	70.243	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.034	SLU 81	Si
V_SLU	3.528	SLU 80	Si
PF_SLV	3.77	SLV 11	Si
V_SLV	1.474	SLV 7	Si
PFFP_SLV	2.557	SLV 11	Si
R_SLV	0.037	SLV 5	No

Maschio 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	206.6	-2467.8	595.1	L5	L6	388.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 65	898	-23790	-274063	2.19	3380506	12.335	Si
SLU 65	1108	-16543	46379	1.52	2613491	56.35	Si
SLU 52	898	-23413	-276703	2.15	3346308	12.093	Si
SLU 52	1108	-16158	5514	1.49	2566316	465.416	Si
SLU 55	898	-24388	-260874	2.24	3433548	13.162	Si
SLU 55	1108	-17142	86945	1.58	2685613	30.889	Si
SLU 9	898	-19178	-172077	1.76	2919006	16.963	Si
SLU 9	1108	-13836	193589	1.27	2267993	11.715	Si
SLU 47	898	-22542	-270001	2.07	3264825	12.092	Si
SLU 47	1108	-15674	130866	1.44	2506126	19.15	Si
SLU 44	898	-21567	-285831	1.98	3169690	11.089	Si
SLU 44	1108	-14690	49434	1.35	2380499	48.155	Si
SLU 7	898	-19400	-171340	1.78	2943450	17.179	Si
SLU 7	1108	-14017	179457	1.29	2292111	12.773	Si
SLU 10	898	-18953	-225407	1.74	2894141	12.84	Si
SLU 10	1108	-13148	2156	1.21	2174983	1000	Si
SLU 5	898	-18081	-218705	1.66	2795618	12.783	Si
SLU 5	1108	-12664	127507	1.16	2108411	16.536	Si
SLU 2	898	-17106	-234534	1.57	2681412	11.433	Si
SLU 2	1108	-11680	46076	1.07	1969799	42.751	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 9	898	-11834	-817653	1.09	2094092	2.561	Si
SLV 9	1108	-6599	227126	0.61	1218295	5.364	Si
SLV 10	898	-11834	-817653	1.09	2094092	2.561	Si
SLV 10	1108	-6599	227126	0.61	1218295	5.364	Si
SLD 10	898	-15712	-433906	1.44	2691264	6.202	Si
SLD 10	1108	-10337	92947	0.95	1851768	19.923	Si
SLD 6	898	-17883	-406416	1.64	3006432	7.397	Si
SLD 6	1108	-11827	57265	1.09	2092897	36.547	Si
SLD 9	898	-15712	-433906	1.44	2691264	6.202	Si
SLD 9	1108	-10337	92947	0.95	1851768	19.923	Si
SLV 5	898	-16915	-752966	1.56	2867651	3.808	Si
SLV 5	1108	-10086	143365	0.93	1810471	12.628	Si
SLV 13	898	-8843	-449502	0.81	1603545	3.567	Si
SLV 13	1108	-5862	191172	0.54	1088453	5.694	Si
SLD 5	898	-17883	-406416	1.64	3006432	7.397	Si
SLD 5	1108	-11827	57265	1.09	2092897	36.547	Si
SLV 6	898	-16915	-752966	1.56	2867651	3.808	Si
SLV 6	1108	-10086	143365	0.93	1810471	12.628	Si
SLV 14	898	-8843	-449502	0.81	1603545	3.567	Si
SLV 14	1108	-5862	191172	0.54	1088453	5.694	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 78	898	-27931	-3547	-201741		2.57	388.5	0.9	9767			2.75	Si
SLU 78	1108	-20347	-3547	135840		1.87	388.5	0.8	8756			2.47	Si
SLU 70	898	-26084	-3449	-210868		2.4	388.5	0.88	9521			2.76	Si
SLU 70	1108	-18880	-3449	179760		1.74	388.5	0.79	8561			2.48	Si
SLU 59	898	-25484	-3359	-214246		2.34	388.5	0.87	9441			2.81	Si
SLU 59	1108	-18314	-3360	153027		1.68	388.5	0.78	8485			2.53	Si
SLU 68	898	-24765	-3458	-258233		2.28	388.5	0.86	9345			2.7	Si
SLU 68	1108	-17526	-3459	127811		1.61	388.5	0.77	8380			2.42	Si
SLU 80	898	-27708	-3579	-202478		2.55	388.5	0.9	9738			2.72	Si
SLU 80	1108	-20166	-3579	149972		1.85	388.5	0.8	8732			2.44	Si
SLU 72	898	-25861	-3481	-211605		2.38	388.5	0.87	9491			2.73	Si
SLU 72	1108	-18699	-3481	193892		1.72	388.5	0.78	8536			2.45	Si
SLU 55	898	-24388	-3337	-260874		2.24	388.5	0.85	9295			2.79	Si
SLU 55	1108	-17142	-3338	86945		1.58	388.5	0.77	8329			2.5	Si
SLU 76	898	-26612	-3556	-249106		2.45	388.5	0.88	9592			2.7	Si
SLU 76	1108	-18994	-3557	83890		1.75	388.5	0.79	8576			2.41	Si
SLU 47	898	-22542	-3239	-270001		2.07	388.5	0.83	9049			2.79	Si
SLU 47	1108	-15674	-3240	130866		1.44	388.5	0.75	8133			2.51	Si
SLU 51	898	-23638	-3262	-223373		2.17	388.5	0.85	9195			2.82	Si
SLU 51	1108	-16846	-3262	196947		1.55	388.5	0.76	8289			2.54	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 2	898	-25781	-5047	-233880		2.37	388.5	1.31	14221			2.82	Si
SLV 2	1108	-17482	-4807	-88031		1.61	388.5	1.15	12561			2.61	Si
SLV 1	898	-25781	-5047	-233880		2.37	388.5	1.31	14221			2.82	Si
SLV 1	1108	-17482	-4807	-88031		1.61	388.5	1.15	12561			2.61	Si
SLV 9	898	-11834	-7252	-817653		1.13	375.47	1.06	11128			1.53	Si
SLV 9	1108	-6599	-6441	227126		0.61	388.5	0.95	10385			1.61	Si
SLD 9	898	-15712	-4137	-433906		1.44	388.5	1.12	12207			2.95	Si
SLD 9	1108	-10337	-3800	92947		0.95	388.5	1.02	11132			2.93	Si
SLV 5	898	-16915	-8114	-752966		1.56	388.5	1.14	12448			1.53	Si
SLV 5	1108	-10086	-7305	143365		0.93	388.5	1.02	11082			1.52	Si
SLD 6	898	-17883	-4505	-406416		1.64	388.5	1.16	12642			2.81	Si
SLD 6	1108	-11827	-4169	57265		1.09	388.5	1.05	11430			2.74	Si
SLD 5	898	-17883	-4505	-406416		1.64	388.5	1.16	12642			2.81	Si
SLD 5	1108	-11827	-4169	57265		1.09	388.5	1.05	11430			2.74	Si
SLV 10	898	-11834	-7252	-817653		1.13	375.47	1.06	11128			1.53	Si
SLV 10	1108	-6599	-6441	227126		0.61	388.5	0.95	10385			1.61	Si
SLV 6	898	-16915	-8114	-752966		1.56	388.5	1.14	12448			1.53	Si
SLV 6	1108	-10086	-7305	143365		0.93	388.5	1.02	11082			1.52	Si
SLD 10	898	-15712	-4137	-433906		1.44	388.5	1.12	12207			2.95	Si
SLD 10	1108	-10337	-3800	92947		0.95	388.5	1.02	11132			2.93	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.46	0.6	-6531	47766	86935	1.82	Si
SLV 13	14	0.46	0.6	-6531	47766	86935	1.82	Si
SLV 10	14	0.46	0.67	-7248	47766	95945	2.01	Si
SLV 9	14	0.46	0.67	-7248	47766	95945	2.01	Si
SLV 15	14	0.46	0.86	-9407	47766	122375	2.56	Si
SLV 16	14	0.46	0.86	-9407	47766	122375	2.56	Si
SLV 5	14	0.46	0.99	-10740	47766	138213	2.89	Si
SLV 6	14	0.46	0.99	-10740	47766	138213	2.89	Si
SLV 12	14	0.46	1.55	-16836	47766	205849	4.31	Si
SLV 11	14	0.46	1.55	-16836	47766	205849	4.31	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-11736	-25309	62	0.045	17.458	0.919	70.701	1908.669	No
SLV 7	-11736	-25309	62	0.045	17.458	0.919	70.701	1908.669	No
SLV 9	-5902	-11834	-73	0.047	11.682	0.896	75.599	1908.669	No
SLV 10	-5902	-11834	-73	0.047	11.682	0.896	75.599	1908.669	No
SLV 11	-10328	-20227	6	0.049	16.049	0.914	78.295	1908.669	No
SLV 12	-10328	-20227	6	0.049	16.049	0.914	78.295	1908.669	No
SLV 6	-7310	-16915	-18	0.051	13.056	0.902	81.955	1908.669	No
SLV 5	-7310	-16915	-18	0.051	13.056	0.902	81.955	1908.669	No
SLV 4	-11829	-28299	99	0.042	17.551	0.92	66.828	1093.542	No
SLV 3	-11829	-28299	99	0.042	17.551	0.92	66.828	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	11.089	SLV 44	Si
V_SLV	2.411	SLV 76	Si
PF_SLV	2.561	SLV 9	Si
V_SLV	1.517	SLV 5	Si
PFFP_SLV	1.82	SLV 13	Si
R_SLV	0.037	SLV 7	No



Maschio 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2271.3	595.1	-2467.8	595.1	L5	L6	196.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 60	988	-9335	-6817	1.7	726115	106.51	Si
SLU 60	1168	-8623	-67538	1.57	684179	10.13	Si
SLU 39	988	-8307	7003	1.51	664909	94.945	Si
SLU 39	1168	-8226	-58433	1.5	659841	11.292	Si
SLU 40	988	-8122	7012	1.48	653379	93.183	Si
SLU 40	1168	-8134	-59565	1.48	654131	10.982	Si
SLU 61	988	-9149	-6809	1.66	715420	105.075	Si
SLU 61	1168	-8531	-68670	1.55	678627	9.882	Si
SLU 19	988	-7377	-1916	1.34	605497	316.096	Si
SLU 19	1168	-7113	-58894	1.29	587924	9.983	Si
SLU 18	988	-7562	-1924	1.37	617631	320.979	Si
SLU 18	1168	-7204	-57761	1.31	594044	10.284	Si
SLU 10	988	-7013	-3165	1.27	581187	183.638	Si
SLU 10	1168	-6659	-52327	1.21	557029	10.645	Si
SLU 82	988	-9894	2119	1.8	757513	357.549	Si
SLU 82	1168	-9552	-69342	1.74	738484	10.65	Si
SLU 81	988	-10080	2110	1.83	767603	363.799	Si
SLU 81	1168	-9644	-68209	1.75	743625	10.902	Si
SLU 52	988	-8785	-8058	1.6	693942	86.119	Si
SLU 52	1168	-8077	-62104	1.47	650555	10.475	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 3	988	-8716	271982	1.58	745318	2.74	Si
SLV 3	1168	-10538	-283095	1.92	873047	3.084	Si
SLV 1	988	-6599	271948	1.2	584672	2.15	Si
SLV 1	1168	-8839	-251420	1.61	754217	3	Si
SLV 10	988	-3446	-85182	0.63	321245	3.771	Si
SLV 10	1168	-2644	83011	0.48	249589	3.007	Si
SLV 2	988	-6599	271948	1.2	584672	2.15	Si
SLV 2	1168	-8839	-251420	1.61	754217	3	Si
SLV 4	988	-8716	271982	1.58	745318	2.74	Si
SLV 4	1168	-10538	-283095	1.92	873047	3.084	Si
SLV 13	988	-5550	-277422	1.01	500231	1.803	Si
SLV 13	1168	-2359	206238	0.43	223631	1.084	Si
SLV 9	988	-3446	-85182	0.63	321245	3.771	Si
SLV 9	1168	-2644	83011	0.48	249589	3.007	Si
SLV 15	988	-7667	-277388	1.39	667369	2.406	Si
SLV 15	1168	-4058	174564	0.74	374643	2.146	Si
SLV 16	988	-7667	-277388	1.39	667369	2.406	Si
SLV 16	1168	-4058	174564	0.74	374643	2.146	Si
SLV 14	988	-5550	-277422	1.01	500231	1.803	Si
SLV 14	1168	-2359	206238	0.43	223631	1.084	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	988	-10237	1450	18240		1.86	196.5	0.8	4422			3.05	Si
SLU 84	1168	-9907	1449	-35691		1.8	196.5	0.8	4378			3.02	Si
SLU 42	988	-8464	1316	23134		1.54	196.5	0.76	4185			3.18	Si
SLU 42	1168	-8489	1315	-25915		1.54	196.5	0.76	4189			3.18	Si
SLU 40	988	-8122	1407	7012		1.48	196.5	0.75	4140			2.94	Si
SLU 40	1168	-8134	1405	-59565		1.48	196.5	0.75	4141			2.95	Si
SLU 81	988	-10080	1482	2110		1.83	196.5	0.8	4401			2.97	Si
SLU 81	1168	-9644	1483	-68209		1.75	196.5	0.79	4343			2.93	Si
SLU 83	988	-10422	1391	18232		1.89	196.5	0.81	4446			3.2	Si
SLU 83	1168	-9999	1393	-34558		1.82	196.5	0.8	4390			3.15	Si
SLU 39	988	-8307	1348	7003		1.51	196.5	0.76	4164			3.09	Si
SLU 39	1168	-8226	1349	-58433		1.5	196.5	0.75	4153			3.08	Si
SLU 82	988	-9894	1541	2119		1.8	196.5	0.8	4376			2.84	Si
SLU 82	1168	-9552	1539	-69342		1.74	196.5	0.79	4330			2.81	Si
SLU 73	988	-9530	1449	869		1.73	196.5	0.79	4327			2.99	Si
SLU 73	1168	-9098	1446	-62775		1.65	196.5	0.78	4270			2.95	Si
SLU 31	988	-7758	1315	5762		1.41	196.5	0.74	4091			3.11	Si
SLU 31	1168	-7680	1312	-52999		1.4	196.5	0.74	4081			3.11	Si
SLU 61	988	-9149	1323	-6809		1.66	196.5	0.78	4277			3.23	Si
SLU 61	1168	-8531	1321	-68670		1.55	196.5	0.76	4194			3.18	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	988	-7667	-3724	-277388		1.47	186.21	1.13	5878			1.58	Si
SLV 16	1168	-4058	-3159	174564		0.87	165.7	1.01	4678			1.48	Si
SLV 14	988	-5550	-4086	-277422		1.37	144.78	1.11	4488			1.1	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	1168	-2359	-3178	206238		2.6	32.46	1.35	1229			0.39	No, Vu<V
SLV 3	988	-8716	5774	271982		1.58	196.5	1.15	6328			1.1	Si
SLV 3	1168	-10538	4868	-283095		1.92	196.5	1.22	6693			1.37	Si
SLV 4	988	-8716	5774	271982		1.58	196.5	1.15	6328			1.1	Si
SLV 4	1168	-10538	4868	-283095		1.92	196.5	1.22	6693			1.37	Si
SLV 1	988	-6599	5413	271948		1.38	171.11	1.11	5312			0.98	No, Vu<V
SLV 1	1168	-8839	4849	-251420		1.61	196.5	1.15	6353			1.31	Si
SLV 13	988	-5550	-4086	-277422		1.37	144.78	1.11	4488			1.1	Si
SLV 13	1168	-2359	-3178	206238		2.6	32.46	1.35	1229			0.39	No, Vu<V
SLV 2	988	-6599	5413	271948		1.38	171.11	1.11	5312			0.98	No, Vu<V
SLV 2	1168	-8839	4849	-251420		1.61	196.5	1.15	6353			1.31	Si
SLD 3	988	-7804	2952	114642		1.42	196.5	1.12	6146			2.08	Si
SLD 3	1168	-8193	2564	-142860		1.49	196.5	1.13	6224			2.43	Si
SLV 15	988	-7667	-3724	-277388		1.47	186.21	1.13	5878			1.58	Si
SLV 15	1168	-4058	-3159	174564		0.87	165.7	1.01	4678			1.48	Si
SLD 4	988	-7804	2952	114642		1.42	196.5	1.12	6146			2.08	Si
SLD 4	1168	-8193	2564	-142860		1.49	196.5	1.13	6224			2.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.46	0.63	-3453	24160	45859	1.9	Si
SLV 10	14	0.46	0.63	-3453	24160	45859	1.9	Si
SLV 13	14	0.46	0.73	-4023	24160	52950	2.19	Si
SLV 14	14	0.46	0.73	-4023	24160	52950	2.19	Si
SLV 6	14	0.46	0.86	-4736	24160	61634	2.55	Si
SLV 5	14	0.46	0.86	-4736	24160	61634	2.55	Si
SLV 15	14	0.46	1.05	-5795	24160	74131	3.07	Si
SLV 16	14	0.46	1.05	-5795	24160	74131	3.07	Si
SLV 1	14	0.46	1.51	-8300	24160	101854	4.22	Si
SLV 2	14	0.46	1.51	-8300	24160	101854	4.22	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzaera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	-3029	-2770	161	0.021	5.952	0.896	33.305	1908.669	No
SLV 10	-3029	-2770	161	0.021	5.952	0.896	33.305	1908.669	No
SLV 5	-3979	-4469	138	0.028	6.881	0.904	44.579	1908.669	No
SLV 6	-3979	-4469	138	0.028	6.881	0.904	44.579	1908.669	No
SLV 7	-7246	-11412	-160	0.03	10.147	0.928	46.493	1908.669	No
SLV 8	-7246	-11412	-160	0.03	10.147	0.928	46.493	1908.669	No
SLV 11	-6296	-9714	-137	0.031	9.191	0.922	49.399	1908.669	No
SLV 12	-6296	-9714	-137	0.031	9.191	0.922	49.399	1908.669	No
SLV 14	-3065	-3219	83	0.037	5.986	0.896	59.714	1093.542	No
SLV 13	-3065	-3219	83	0.037	5.986	0.896	59.714	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.882	SLU 61	Si
V_SLU	2.813	SLU 82	Si
PF_SLV	1.084	SLV 13	Si
V_SLV	0.387	SLV 13	No
PFFP_SLV	1.898	SLV 9	Si
R_SLV	0.017	SLV 9	No

Maschio 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-2181.3	595.1	L5	L6	219.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 6	988	-3406	165885	0.55	348424	2.1	Si
SLU 6	1168	-1371	114772	0.22	146324	1.275	Si
SLU 9	988	-2570	173870	0.42	267564	1.539	Si
SLU 9	1168	-534	116837	0	0	0	No, e>1/2
SLU 8	988	-2605	177693	0.42	271001	1.525	Si
SLU 8	1168	-569	117807	0	0	0	No, e>1/2
SLU 27	988	-3672	181777	0.6	373423	2.054	Si
SLU 27	1168	-1605	130119	0.26	170534	1.311	Si
SLU 51	988	-4568	182252	0.74	455591	2.5	Si
SLU 51	1168	-1932	131154	0.31	203863	1.554	Si
SLU 7	988	-3372	162062	0.55	345110	2.129	Si
SLU 7	1168	-1336	113802	0.22	142698	1.254	Si
SLU 29	988	-2870	193585	0.47	296932	1.534	Si
SLU 29	1168	-804	133154	0	0	0	No, e>1/2

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 28	988	-3637	177954	0.59	370149	2.08	Si
SLU 28	1168	-1570	129148	0.26	166943	1.293	Si
SLU 72	988	-4833	198143	0.79	479239	2.419	Si
SLU 72	1168	-2167	146501	0.35	227495	1.553	Si
SLU 30	988	-2835	189761	0.46	293536	1.547	Si
SLU 30	1168	-769	132183	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 7	988	-5181	427704	0.84	529357	1.238	Si
SLV 7	1168	-2534	-35976	0.41	268705	7.469	Si
SLD 4	988	-5175	270436	0.84	528784	1.955	Si
SLD 4	1168	-3056	-39957	0.5	321763	8.053	Si
SLD 3	988	-5175	270436	0.84	528784	1.955	Si
SLD 3	1168	-3056	-39957	0.5	321763	8.053	Si
SLV 8	988	-5181	427704	0.84	529357	1.238	Si
SLV 8	1168	-2534	-35976	0.41	268705	7.469	Si
SLV 14	988	-12647	-482010	2.06	1154284	2.395	Si
SLV 14	1168	-10786	327950	1.75	1013709	3.091	Si
SLV 1	988	-2598	424859	0	0	0	No, e>l/2
SLV 1	1168	-732	-166728	0	0	0	No, e>l/2
SLV 13	988	-12647	-482010	2.06	1154284	2.395	Si
SLV 13	1168	-10786	327950	1.75	1013709	3.091	Si
SLV 4	988	-2166	572666	0	0	0	No, e>l/2
SLV 4	1168	61	-186290	0	0	0	No, Trazione
SLV 3	988	-2166	572666	0	0	0	No, e>l/2
SLV 3	1168	61	-186290	0	0	0	No, Trazione
SLV 2	988	-2598	424859	0	0	0	No, e>l/2
SLV 2	1168	-732	-166728	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 28	988	-3637	254	177954	0.71	182.46	0.65	3323				13.09	Si
SLU 28	1168	-1570	254	129148	0.68	82.53	0.65	1493				5.88	Si
SLU 6	988	-3406	266	165885	0.66	183.16	0.64	3303				12.42	Si
SLU 6	1168	-1371	266	114772	0.63	78.07	0.64	1397				5.25	Si
SLU 7	988	-3372	250	162062	0.65	185.05	0.64	3328				13.3	Si
SLU 7	1168	-1336	250	113802	0.65	73.68	0.64	1324				5.29	Si
SLU 30	988	-2835	303	189761	0.79	128.45	0.66	2376				7.85	Si
SLU 30	1168	-769	303	132183	0	0	0.56	0				0	No, Vu<V
SLU 71	988	-4868	280	201967	0.85	204.79	0.67	3835				13.7	Si
SLU 71	1168	-2202	280	147471	0.61	128.29	0.64	2289				8.18	Si
SLU 29	988	-2870	319	193585	0.81	126.9	0.66	2357				7.4	Si
SLU 29	1168	-804	319	133154	0	0	0.56	0				0	No, Vu<V
SLU 27	988	-3672	270	181777	0.73	180.73	0.65	3301				12.23	Si
SLU 27	1168	-1605	270	130119	0.67	86.08	0.64	1553				5.76	Si
SLU 50	988	-4603	276	186075	0.79	207.97	0.66	3849				13.94	Si
SLU 50	1168	-1967	276	132125	0.55	127.74	0.63	2249				8.15	Si
SLU 9	988	-2570	299	173870	0.73	126.28	0.65	2307				7.72	Si
SLU 9	1168	-534	299	116837	0	0	0.56	0				0	No, Vu<V
SLU 8	988	-2605	315	177693	0.75	124.6	0.66	2285				7.26	Si
SLU 8	1168	-569	315	117807	0	0	0.56	0				0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	988	-2598	3871	424859	0	0	0	0.83	0			0	No, Vu<V
SLV 1	1168	-732	3247	-166728	0	0	0	0.83	0			0	No, Vu<V
SLV 16	988	-12216	-4190	-334203	1.99	219.5	1.23	7565				1.81	Si
SLV 16	1168	-9993	-3566	308387	1.63	219.5	1.16	7120				2	Si
SLV 2	988	-2598	3871	424859	0	0	0	0.83	0			0	No, Vu<V
SLV 2	1168	-732	3247	-166728	0	0	0	0.83	0			0	No, Vu<V
SLV 3	988	-2166	5041	572666	0	0	0	0.83	0			0	No, Vu<V
SLV 3	1168	61	4199	-186290	0	0	0	0.83	0			0	No, Vu<V
SLV 7	988	-5181	3176	427704	2.27	81.58	1.29	2940				0.93	No, Vu<V
SLV 7	1168	-2534	2591	-35976	0.41	219.5	0.92	5628				2.17	Si
SLV 14	988	-12647	-5360	-482010	2.1	214.92	1.25	7544				1.41	Si
SLV 14	1168	-10786	-4518	327950	1.75	219.5	1.18	7279				1.61	Si
SLV 4	988	-2166	5041	572666	0	0	0	0.83	0			0	No, Vu<V
SLV 4	1168	61	4199	-186290	0	0	0	0.83	0			0	No, Vu<V
SLV 15	988	-12216	-4190	-334203	1.99	219.5	1.23	7565				1.81	Si
SLV 15	1168	-9993	-3566	308387	1.63	219.5	1.16	7120				2	Si
SLV 13	988	-12647	-5360	-482010	2.1	214.92	1.25	7544				1.41	Si
SLV 13	1168	-10786	-4518	327950	1.75	219.5	1.18	7279				1.61	Si
SLV 8	988	-5181	3176	427704	2.27	81.58	1.29	2940				0.93	No, Vu<V
SLV 8	1168	-2534	2591	-35976	0.41	219.5	0.92	5628				2.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.46	0	-1598	26987	0	0	No, e>t/2
SLV 3	14	0.46	0	-1598	26987	0	0	No, e>t/2
SLV 2	14	0.46	0.37	-2263	26987	30733	1.14	Si
SLV 1	14	0.46	0.37	-2263	26987	30733	1.14	Si
SLV 7	14	0.46	0.66	-4026	26987	53346	1.98	Si
SLV 8	14	0.46	0.66	-4026	26987	53346	1.98	Si
SLV 5	14	0.46	1.02	-6244	26987	80147	2.97	Si
SLV 6	14	0.46	1.02	-6244	26987	80147	2.97	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.46	1.1	-6773	26987	86268	3.2	Si
SLV 12	14	0.46	1.1	-6773	26987	86268	3.2	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 4	-1186	366	-57	0	0	0	0	1093.542	No, Trazione
SLV 3	-1186	366	-57	0	0	0	0	1093.542	No, Trazione
SLV 8	-2464	-4012	-125	0.029	5.77	0.89	47.215	1908.669	No
SLV 7	-2464	-4012	-125	0.029	5.77	0.89	47.215	1908.669	No
SLV 11	-3986	-8630	-114	0.034	7.236	0.901	54.107	1908.669	No
SLV 12	-3986	-8630	-114	0.034	7.236	0.901	54.107	1908.669	No
SLV 9	-5410	-11516	116	0.035	8.644	0.911	55.044	1908.669	No
SLV 10	-5410	-11516	116	0.035	8.644	0.911	55.044	1908.669	No
SLV 5	-3888	-6898	105	0.035	7.139	0.9	56.524	1908.669	No
SLV 6	-3888	-6898	105	0.035	7.139	0.9	56.524	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 8	No
V_SLU	0	SLU 8	No
PF_SLV	0	SLV 4	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 3	No
R_SLV	0	SLV 4	No

Maschio 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2249.3	-335.9	-2467.8	-335.9	L5	L6	218.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 61	988	-10512	95420	1.72	906183	9.497	Si
SLU 61	1168	-10416	-179860	1.7	900093	5.004	Si
SLU 81	988	-11469	101543	1.87	964628	9.5	Si
SLU 81	1168	-11652	-195098	1.9	975378	4.999	Si
SLU 82	988	-11439	117841	1.87	962854	8.171	Si
SLU 82	1168	-11747	-200811	1.92	980881	4.885	Si
SLU 39	988	-9500	94700	1.55	840040	8.871	Si
SLU 39	1168	-9986	-168697	1.63	872396	5.171	Si
SLU 31	988	-9165	114709	1.5	817121	7.123	Si
SLU 31	1168	-9671	-167479	1.58	851519	5.084	Si
SLU 19	988	-8543	88576	1.4	773333	8.731	Si
SLU 19	1168	-8750	-153459	1.43	788077	5.135	Si
SLU 60	988	-10542	79123	1.72	908080	11.477	Si
SLU 60	1168	-10321	-174147	1.69	894036	5.134	Si
SLU 52	988	-10206	99132	1.67	886693	8.945	Si
SLU 52	1168	-10005	-172930	1.64	873622	5.052	Si
SLU 73	988	-11134	121553	1.82	944605	7.771	Si
SLU 73	1168	-11337	-193881	1.85	956806	4.935	Si
SLU 40	988	-9470	110997	1.55	838006	7.55	Si
SLU 40	1168	-10081	-174410	1.65	878592	5.038	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 3	988	-7575	275102	1.24	743682	2.703	Si
SLV 3	1168	-9925	-366730	1.62	940384	2.564	Si
SLV 1	988	-9934	277697	1.62	941070	3.389	Si
SLV 1	1168	-11827	-397304	1.93	1087659	2.738	Si
SLV 4	988	-7575	275102	1.24	743682	2.703	Si
SLV 4	1168	-9925	-366730	1.62	940384	2.564	Si
SLV 16	988	-6220	-158477	1.02	623019	3.931	Si
SLV 16	1168	-3717	147116	0.61	385854	2.623	Si
SLV 15	988	-6220	-158477	1.02	623019	3.931	Si
SLV 15	1168	-3717	147116	0.61	385854	2.623	Si
SLV 8	988	-4348	120321	0.71	447394	3.718	Si
SLV 8	1168	-5534	-151214	0.9	559851	3.702	Si
SLV 2	988	-9934	277697	1.62	941070	3.389	Si
SLV 2	1168	-11827	-397304	1.93	1087659	2.738	Si
SLD 4	988	-7869	151405	1.29	769166	5.08	Si
SLD 4	1168	-8698	-228491	1.42	839680	3.675	Si
SLD 3	988	-7869	151405	1.29	769166	5.08	Si
SLD 3	1168	-8698	-228491	1.42	839680	3.675	Si
SLV 7	988	-4348	120321	0.71	447394	3.718	Si
SLV 7	1168	-5534	-151214	0.9	559851	3.702	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 81	988	-11469	3441	101543		1.87	218.5	0.81	4928			1.43	Si
SLU 81	1168	-11652	3443	-195098		1.9	218.5	0.81	4953			1.44	Si
SLU 40	988	-9470	3276	110997		1.55	218.5	0.76	4662			1.42	Si
SLU 40	1168	-10081	3247	-174410		1.65	218.5	0.78	4743			1.46	Si
SLU 73	988	-11134	3585	121553		1.82	218.5	0.8	4883			1.36	Si
SLU 73	1168	-11337	3535	-193881		1.85	218.5	0.8	4910			1.39	Si
SLU 84	988	-11977	3670	127736		1.96	218.5	0.82	4996			1.36	Si
SLU 84	1168	-12338	3643	-187959		2.02	218.5	0.82	5044			1.38	Si
SLU 82	988	-11439	3656	117841		1.87	218.5	0.8	4924			1.35	Si
SLU 82	1168	-11747	3627	-200811		1.92	218.5	0.81	4965			1.37	Si
SLU 42	988	-10009	3290	120892		1.64	218.5	0.77	4733			1.44	Si
SLU 42	1168	-10672	3263	-161558		1.74	218.5	0.79	4822			1.48	Si
SLU 78	988	-12431	3546	129008		2.03	218.5	0.83	5056			1.43	Si
SLU 78	1168	-12712	3520	-173144		2.08	218.5	0.83	5094			1.45	Si
SLU 31	988	-9165	3205	114709		1.5	218.5	0.76	4621			1.44	Si
SLU 31	1168	-9671	3155	-167479		1.58	218.5	0.77	4688			1.49	Si
SLU 76	988	-11672	3599	131448		1.91	218.5	0.81	4955			1.38	Si
SLU 76	1168	-11928	3551	-181029		1.95	218.5	0.82	4989			1.4	Si
SLU 75	988	-11892	3532	119113		1.94	218.5	0.81	4984			1.41	Si
SLU 75	1168	-12121	3504	-185996		1.98	218.5	0.82	5015			1.43	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLD 2	988	-8864	4119	152989		1.45	218.5	1.12	6871			1.67	Si
SLD 2	1168	-9497	3704	-240995		1.55	218.5	1.14	6998			1.89	Si
SLD 1	988	-8864	4119	152989		1.45	218.5	1.12	6871			1.67	Si
SLD 1	1168	-9497	3704	-240995		1.55	218.5	1.14	6998			1.89	Si
SLV 3	988	-7575	6501	275102		1.24	218.5	1.08	6613			1.02	Si
SLV 3	1168	-9925	5654	-366730		1.63	216.91	1.16	7046			1.25	Si
SLV 1	988	-9934	6794	277697		1.62	218.5	1.16	7085			1.04	Si
SLV 1	1168	-11827	5821	-397304		1.93	218.5	1.22	7464			1.28	Si
SLD 4	988	-7869	3997	151405		1.29	218.5	1.09	6672			1.67	Si
SLD 4	1168	-8698	3637	-228491		1.42	218.5	1.12	6838			1.88	Si
SLV 5	988	-12213	3974	128973		2	218.5	1.23	7541			1.9	Si
SLV 5	1168	-11872	3493	-253128		1.94	218.5	1.22	7473			2.14	Si
SLV 6	988	-12213	3974	128973		2	218.5	1.23	7541			1.9	Si
SLV 6	1168	-11872	3493	-253128		1.94	218.5	1.22	7473			2.14	Si
SLV 4	988	-7575	6501	275102		1.24	218.5	1.08	6613			1.02	Si
SLV 4	1168	-9925	5654	-366730		1.63	216.91	1.16	7046			1.25	Si
SLD 3	988	-7869	3997	151405		1.29	218.5	1.09	6672			1.67	Si
SLD 3	1168	-8698	3637	-228491		1.42	218.5	1.12	6838			1.88	Si
SLV 2	988	-9934	6794	277697		1.62	218.5	1.16	7085			1.04	Si
SLV 2	1168	-11827	5821	-397304		1.93	218.5	1.22	7464			1.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.46	0.66	-4053	26864	53660	2	Si
SLV 11	14	0.46	0.66	-4053	26864	53660	2	Si
SLV 16	14	0.46	0.81	-4931	26864	64476	2.4	Si
SLV 15	14	0.46	0.81	-4931	26864	64476	2.4	Si
SLV 7	14	0.46	0.87	-5343	26864	69461	2.59	Si
SLV 8	14	0.46	0.87	-5343	26864	69461	2.59	Si
SLV 13	14	0.46	1.14	-6974	26864	88530	3.3	Si
SLV 14	14	0.46	1.14	-6974	26864	88530	3.3	Si
SLV 3	14	0.46	1.51	-9234	26864	113305	4.22	Si
SLV 4	14	0.46	1.51	-9234	26864	113305	4.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	-7095	-11538	-51	0.043	10.314	0.922	67.237	1908.669	No
SLV 9	-7095	-11538	-51	0.043	10.314	0.922	67.237	1908.669	No
SLV 5	-8012	-13390	-45	0.043	11.237	0.927	67.348	1908.669	No
SLV 6	-8012	-13390	-45	0.043	11.237	0.927	67.348	1908.669	No
SLV 7	-4393	-5545	48	0.044	7.62	0.904	71.311	1908.669	No
SLV 8	-4393	-5545	48	0.044	7.62	0.904	71.311	1908.669	No
SLV 11	-3476	-3693	42	0.046	6.722	0.897	74.825	1908.669	No
SLV 12	-3476	-3693	42	0.046	6.722	0.897	74.825	1908.669	No
SLV 4	-6730	-10452	22	0.046	9.948	0.92	72.859	1093.542	No
SLV 3	-6730	-10452	22	0.046	9.948	0.92	72.859	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.885	SLU 82	Si
V_SLV	1.347	SLU 82	Si
PF_SLV	2.564	SLV 3	Si
V_SLV	1.017	SLV 3	Si
PFFP_SLV	1.997	SLV 11	Si
R_SLV	0.035	SLV 9	No



Maschio 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1936.8	-335.9	-2159.3	-335.9	L5	L6	222.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	1098	-10241	-35172	1.64	909390	25.856	Si
SLU 84	1178	-8960	-111954	1.44	820777	7.331	Si
SLU 72	1098	-9009	-13413	1.45	824341	61.459	Si
SLU 72	1178	-7790	-101399	1.25	733573	7.235	Si
SLU 79	1098	-10344	-25459	1.66	916207	35.988	Si
SLU 79	1178	-9042	-112551	1.45	826696	7.345	Si
SLU 68	1098	-8658	-20459	1.39	798911	39.05	Si
SLU 68	1178	-7447	-97560	1.2	706943	7.246	Si
SLU 30	1098	-7297	-6533	1.17	695101	106.396	Si
SLU 30	1178	-6387	-84855	1.03	621158	7.32	Si
SLU 80	1098	-9918	-22183	1.59	887745	40.019	Si
SLU 80	1178	-8678	-110534	1.39	800360	7.241	Si
SLU 78	1098	-10306	-25369	1.65	913683	36.016	Si
SLU 78	1178	-9049	-113982	1.45	827179	7.257	Si
SLU 26	1098	-6947	-13579	1.12	667039	49.122	Si
SLU 26	1178	-6045	-81015	0.97	592424	7.313	Si
SLU 76	1098	-9567	-29229	1.54	863712	29.55	Si
SLU 76	1178	-8336	-106695	1.34	775063	7.264	Si
SLU 70	1098	-9397	-16598	1.51	851824	51.32	Si
SLU 70	1178	-8160	-104847	1.31	761836	7.266	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 5	1098	-7767	56623	1.25	775880	13.703	Si
SLV 5	1178	-8046	-263916	1.29	800543	3.033	Si
SLV 1	1098	-6245	66495	1	637720	9.591	Si
SLV 1	1178	-6643	-368199	1.07	674539	1.832	Si
SLD 2	1098	-6802	11671	1.09	689131	59.046	Si
SLD 2	1178	-6368	-199811	1.02	649186	3.249	Si
SLV 2	1098	-6245	66495	1	637720	9.591	Si
SLV 2	1178	-6643	-368199	1.07	674539	1.832	Si
SLV 3	1098	-5692	28931	0.91	585878	20.251	Si
SLV 3	1178	-5504	-301902	0.88	568035	1.882	Si
SLV 6	1098	-7767	56623	1.25	775880	13.703	Si
SLV 6	1178	-8046	-263916	1.29	800543	3.033	Si
SLV 15	1098	-8198	-124486	1.32	813839	6.538	Si
SLV 15	1178	-5717	217038	0.92	588221	2.71	Si
SLD 1	1098	-6802	11671	1.09	689131	59.046	Si
SLD 1	1178	-6368	-199811	1.02	649186	3.249	Si
SLV 4	1098	-5692	28931	0.91	585878	20.251	Si
SLV 4	1178	-5504	-301902	0.88	568035	1.882	Si
SLV 16	1098	-8198	-124486	1.32	813839	6.538	Si
SLV 16	1178	-5717	217038	0.92	588221	2.71	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 29	1098	-7723	839	-9809		1.24	222.5	0.72	4491			5.35	Si
SLU 29	1178	-6751	482	-86871		1.08	222.5	0.7	4361			9.04	Si
SLU 72	1098	-9009	986	-13413		1.45	222.5	0.75	4662			4.73	Si
SLU 72	1178	-7790	547	-101399		1.25	222.5	0.72	4500			8.22	Si
SLU 70	1098	-9397	966	-16598		1.51	222.5	0.76	4714			4.88	Si
SLU 70	1178	-8160	521	-104847		1.31	222.5	0.73	4549			8.73	Si
SLU 28	1098	-7685	929	-9719		1.23	222.5	0.72	4486			4.83	Si
SLU 28	1178	-6758	517	-88303		1.08	222.5	0.7	4362			8.44	Si
SLU 30	1098	-7297	948	-6533		1.17	222.5	0.71	4434			4.68	Si
SLU 30	1178	-6387	543	-84855		1.03	222.5	0.69	4313			7.94	Si
SLU 78	1098	-10306	946	-25369		1.65	222.5	0.78	4835			5.11	Si
SLU 78	1178	-9049	474	-113982		1.45	222.5	0.75	4668			9.84	Si
SLU 36	1098	-8594	909	-18489		1.38	222.5	0.74	4607			5.07	Si
SLU 36	1178	-7647	470	-97438		1.23	222.5	0.72	4481			9.53	Si
SLU 38	1098	-8206	928	-15304		1.32	222.5	0.73	4555			4.91	Si
SLU 38	1178	-7276	497	-93990		1.17	222.5	0.71	4431			8.92	Si
SLU 26	1098	-6947	824	-13579		1.12	222.5	0.7	4387			5.33	Si
SLU 26	1178	-6045	439	-81015		0.97	222.5	0.68	4267			9.72	Si
SLU 80	1098	-9918	966	-22183		1.59	222.5	0.77	4784			4.95	Si
SLU 80	1178	-8678	501	-110534		1.39	222.5	0.74	4618			9.23	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1098	-6245	7123	66495		1	222.5	1.03	6441			0.9	No, Vu<V
SLV 2	1178	-6643	5227	-368199		1.42	167.47	1.12	5236			1	Si
SLV 16	1098	-8198	-6457	-124486		1.32	222.5	1.1	6831			1.06	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	1178	-5717	-4988	217038		0.93	219.85	1.02	6273			1.26	Si
SLV 15	1098	-8198	-6457	-124486		1.32	222.5	1.1	6831			1.06	Si
SLV 15	1178	-5717	-4988	217038		0.93	219.85	1.02	6273			1.26	Si
SLV 3	1098	-5692	5748	28931		0.91	222.5	1.02	6330			1.1	Si
SLV 3	1178	-5504	4143	-301902		1.16	169.19	1.07	5049			1.22	Si
SLV 6	1098	-7767	4455	56623		1.25	222.5	1.08	6745			1.51	Si
SLV 6	1178	-8046	3297	-263916		1.29	222.5	1.09	6801			2.06	Si
SLV 1	1098	-6245	7123	66495		1	222.5	1.03	6441			0.9	No, Vu<V
SLV 1	1178	-6643	5227	-368199		1.42	167.47	1.12	5236			1	Si
SLV 5	1098	-7767	4455	56623		1.25	222.5	1.08	6745			1.51	Si
SLV 5	1178	-8046	3297	-263916		1.29	222.5	1.09	6801			2.06	Si
SLV 13	1098	-8751	-5083	-86922		1.4	222.5	1.11	6942			1.37	Si
SLV 13	1178	-6856	-3904	150741		1.1	222.5	1.05	6563			1.68	Si
SLV 4	1098	-5692	5748	28931		0.91	222.5	1.02	6330			1.1	Si
SLV 4	1178	-5504	4143	-301902		1.16	169.19	1.07	5049			1.22	Si
SLV 14	1098	-8751	-5083	-86922		1.4	222.5	1.11	6942			1.37	Si
SLV 14	1178	-6856	-3904	150741		1.1	222.5	1.05	6563			1.68	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.46	0.81	-5058	27356	66102	2.42	Si
SLV 7	14	0.46	0.81	-5058	27356	66102	2.42	Si
SLV 12	14	0.46	0.83	-5199	27356	67812	2.48	Si
SLV 11	14	0.46	0.83	-5199	27356	67812	2.48	Si
SLV 3	14	0.46	0.99	-6158	27356	79238	2.9	Si
SLV 4	14	0.46	0.99	-6158	27356	79238	2.9	Si
SLV 16	14	0.46	1.06	-6629	27356	84719	3.1	Si
SLV 15	14	0.46	1.06	-6629	27356	84719	3.1	Si
SLV 2	14	0.46	1.16	-7242	27356	91746	3.35	Si
SLV 1	14	0.46	1.16	-7242	27356	91746	3.35	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-3597	-4837	151	0.027	6.901	0.897	43.369	1908.669	No
SLV 8	-3597	-4837	151	0.027	6.901	0.897	43.369	1908.669	No
SLV 9	-6175	-9481	-146	0.031	9.451	0.916	49.975	1908.669	No
SLV 10	-6175	-9481	-146	0.031	9.451	0.916	49.975	1908.669	No
SLV 4	-4187	-7202	182	0.023	7.478	0.902	37.109	1093.542	No
SLV 3	-4187	-7202	182	0.023	7.478	0.902	37.109	1093.542	No
SLV 6	-5969	-9969	-57	0.042	9.245	0.915	67.471	1908.669	No
SLV 5	-5969	-9969	-57	0.042	9.245	0.915	67.471	1908.669	No
SLV 11	-3803	-4350	62	0.043	7.102	0.899	68.894	1908.669	No
SLV 12	-3803	-4350	62	0.043	7.102	0.899	68.894	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.235	SLU 72	Si
V_SLU	4.676	SLU 30	Si
PF_SLV	1.832	SLV 1	Si
V_SLV	0.904	SLV 1	No
PFFP_SLV	2.416	SLV 7	Si
R_SLV	0.023	SLV 7	No

Maschio 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1826.3	-335.9	-1886.8	-335.9	L5	L6	60.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 19	1098	-2398	5498	1.42	59935	10.902	Si
SLU 19	1178	-2065	13121	1.22	53114	4.048	Si
SLU 10	1098	-2112	5041	1.25	54103	10.732	Si
SLU 10	1178	-1769	12274	1.04	46648	3.8	Si
SLU 61	1098	-2957	6980	1.75	70276	10.068	Si
SLU 61	1178	-2513	15738	1.48	62178	3.951	Si
SLU 31	1098	-2425	6278	1.43	60470	9.633	Si
SLU 31	1178	-2066	12985	1.22	53147	4.093	Si
SLU 65	1098	-2691	7843	1.59	65523	8.355	Si
SLU 65	1178	-2189	13258	1.29	55721	4.203	Si
SLU 52	1098	-2670	6523	1.58	65145	9.986	Si
SLU 52	1178	-2217	14892	1.31	56294	3.78	Si
SLU 44	1098	-2377	6606	1.4	59521	9.01	Si
SLU 44	1178	-1892	12548	1.12	49381	3.935	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 73	1098	-2984	7760	1.76	70744	9.117	Si
SLU 73	1178	-2515	15602	1.48	62208	3.987	Si
SLU 2	1098	-1819	5124	1.07	47761	9.321	Si
SLU 2	1178	-1443	9931	0.85	39096	3.937	Si
SLU 82	1098	-3270	8216	1.93	75481	9.187	Si
SLU 82	1178	-2811	16449	1.66	67706	4.116	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 16	1098	-280	-56649	0	0	0	No, e>l/2
SLV 16	1178	-1560	68706	0	0	0	No, e>l/2
SLV 11	1098	-1886	-45897	1.11	51842	1.13	Si
SLV 11	1178	-3108	29372	1.83	79909	2.721	Si
SLV 13	1098	-197	-34508	0	0	0	No, e>l/2
SLV 13	1178	-748	67735	0	0	0	No, e>l/2
SLD 13	1098	-1459	-11226	0.86	41013	3.653	Si
SLD 13	1178	-1484	34820	0.88	41661	1.196	Si
SLV 9	1098	-1609	27906	0.95	44892	1.609	Si
SLV 9	1178	-402	26133	0	0	0	No, e>l/2
SLD 14	1098	-1459	-11226	0.86	41013	3.653	Si
SLD 14	1178	-1484	34820	0.88	41661	1.196	Si
SLV 12	1098	-1886	-45897	1.11	51842	1.13	Si
SLV 12	1178	-3108	29372	1.83	79909	2.721	Si
SLV 15	1098	-280	-56649	0	0	0	No, e>l/2
SLV 15	1178	-1560	68706	0	0	0	No, e>l/2
SLV 10	1098	-1609	27906	0.95	44892	1.609	Si
SLV 10	1178	-402	26133	0	0	0	No, e>l/2
SLV 14	1098	-197	-34508	0	0	0	No, e>l/2
SLV 14	1178	-748	67735	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 27	1098	-2885	285	11514		1.7	60.5	0.78	1326			4.65	Si
SLU 27	1178	-2377	-49	5609		1.4	60.5	0.74	1258			25.55	Si
SLU 50	1098	-3029	278	11799		1.79	60.5	0.79	1345			4.84	Si
SLU 50	1178	-2423	-31	6357		1.43	60.5	0.75	1264			40.68	Si
SLU 8	1098	-2470	269	10317		1.46	60.5	0.75	1270			4.72	Si
SLU 8	1178	-1974	-27	3739		1.17	60.5	0.71	1204			44.42	Si
SLU 79	1098	-3635	289	12952		2.15	60.5	0.84	1426			4.93	Si
SLU 79	1178	-3046	-89	9411		1.8	60.5	0.8	1347			15.06	Si
SLU 71	1098	-3342	310	13035		1.97	60.5	0.82	1387			4.48	Si
SLU 71	1178	-2720	-48	7067		1.61	60.5	0.77	1304			27.11	Si
SLU 37	1098	-3077	280	11470		1.82	60.5	0.8	1351			4.82	Si
SLU 37	1178	-2597	-85	6793		1.53	60.5	0.76	1287			15.06	Si
SLU 30	1098	-2542	264	10815		1.5	60.5	0.76	1280			4.85	Si
SLU 30	1178	-2037	-23	4686		1.2	60.5	0.72	1213			52.61	Si
SLU 29	1098	-2784	301	11553		1.64	60.5	0.77	1312			4.36	Si
SLU 29	1178	-2272	-44	4450		1.34	60.5	0.73	1244			28.19	Si
SLU 72	1098	-3101	273	12297		1.83	60.5	0.8	1355			4.97	Si
SLU 72	1178	-2486	-27	7304		1.47	60.5	0.75	1273			47.11	Si
SLU 69	1098	-3444	294	12996		2.03	60.5	0.83	1400			4.77	Si
SLU 69	1178	-2826	-53	8227		1.67	60.5	0.78	1318			24.77	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	1098	-1609	-97	27906		1.48	38.72	1.13	1225			12.62	Si
SLV 9	1178	-402	397	26133		0	0	0.83	0			0	No, Vu<V
SLV 11	1098	-1886	-978	-45897		3.8	17.73	1.59	791			0.81	No, Vu<V
SLV 11	1178	-3108	-728	29372		1.83	60.5	1.2	2033			2.79	Si
SLV 14	1098	-197	-1820	-34508		0	0	0.83	0			0	No, Vu<V
SLV 14	1178	-748	-267	67735		0	0	0.83	0			0	No, Vu<V
SLV 10	1098	-1609	-97	27906		1.48	38.72	1.13	1225			12.62	Si
SLV 10	1178	-402	397	26133		0	0	0.83	0			0	No, Vu<V
SLV 1	1098	-4507	2222	70016		3.65	44.15	1.56	1932			0.87	No, Vu<V
SLV 1	1178	-2465	506	-47889		2.71	32.47	1.38	1251			2.47	Si
SLV 12	1098	-1886	-978	-45897		3.8	17.73	1.59	791			0.81	No, Vu<V
SLV 12	1178	-3108	-728	29372		1.83	60.5	1.2	2033			2.79	Si
SLV 2	1098	-4507	2222	70016		3.65	44.15	1.56	1932			0.87	No, Vu<V
SLV 2	1178	-2465	506	-47889		2.71	32.47	1.38	1251			2.47	Si
SLV 13	1098	-197	-1820	-34508		0	0	0.83	0			0	No, Vu<V
SLV 13	1178	-748	-267	67735		0	0	0.83	0			0	No, Vu<V
SLV 16	1098	-280	-2085	-56649		0	0	0.83	0			0	No, Vu<V
SLV 16	1178	-1560	-605	68706		0	0	0.83	0			0	No, Vu<V
SLV 15	1098	-280	-2085	-56649		0	0	0.83	0			0	No, Vu<V
SLV 15	1178	-1560	-605	68706		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.46	0.42	-719	7438	9710	1.31	Si
SLV 15	14	0.46	0.42	-719	7438	9710	1.31	Si
SLV 12	14	0.46	0.46	-784	7438	10555	1.42	Si
SLV 11	14	0.46	0.46	-784	7438	10555	1.42	Si
SLV 13	14	0.46	0.73	-1233	7438	16235	2.18	Si
SLV 14	14	0.46	0.73	-1233	7438	16235	2.18	Si
SLV 7	14	0.46	0.8	-1354	7438	17715	2.38	Si
SLV 8	14	0.46	0.8	-1354	7438	17715	2.38	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.46	1.48	-2499	7438	30759	4.14	Si
SLV 10	14	0.46	1.48	-2499	7438	30759	4.14	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 14	-164	-1689	-117	0	1.158	0.918	0	1093.542	No
SLV 2	-1825	-1623	126	0	2.716	0.919	0	1093.542	No
SLV 16	-326	-1619	-130	0	1.277	0.895	0	1093.542	No
SLV 1	-1825	-1623	126	0	2.716	0.919	0	1093.542	No
SLV 15	-326	-1619	-130	0	1.277	0.895	0	1093.542	No
SLV 13	-164	-1689	-117	0	1.158	0.918	0	1093.542	No
SLV 4	-1987	-1553	113	0.004	2.878	0.923	5.555	1093.542	No
SLV 3	-1987	-1553	113	0.004	2.878	0.923	5.555	1093.542	No
SLV 11	-1097	-1514	-60	0.016	1.992	0.901	26.117	1908.669	No
SLV 12	-1097	-1514	-60	0.016	1.992	0.901	26.117	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.78	SLU 52	Si
V_SLU	4.357	SLU 29	Si
PF_SLV	0	SLV 9	No
V_SLV	0	SLV 9	No
PFFP_SLV	1.305	SLV 15	Si
R_SLV	0	SLV 1	No

Maschio 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	104.6	-1961.8	581.1	L5	L6	476.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 8	898	-20340	322847	3.05	3032254	9.392	Si
SLU 8	1250	-14064	587468	2.11	2483667	4.228	Si
SLU 72	898	-26497	297831	3.97	3234890	10.861	Si
SLU 72	1250	-17733	644361	2.66	2846291	4.417	Si
SLU 29	898	-23322	363247	3.5	3171918	8.732	Si
SLU 29	1250	-16076	682733	2.41	2697146	3.951	Si
SLU 9	898	-20338	306425	3.05	3032131	9.895	Si
SLU 9	1250	-14102	574988	2.11	2488033	4.327	Si
SLU 71	898	-26499	314253	3.97	3234902	10.294	Si
SLU 71	1250	-17695	656841	2.65	2843136	4.328	Si
SLU 28	898	-23188	289489	3.48	3167307	10.941	Si
SLU 28	1250	-15858	600613	2.38	2675685	4.455	Si
SLU 38	898	-24934	278604	3.74	3214934	11.539	Si
SLU 38	1250	-16684	638914	2.5	2754653	4.311	Si
SLU 30	898	-23320	346825	3.5	3171849	9.145	Si
SLU 30	1250	-16114	670252	2.42	2700841	4.03	Si
SLU 37	898	-24936	295026	3.74	3214974	10.897	Si
SLU 37	1250	-16646	651394	2.5	2751148	4.223	Si
SLU 27	898	-23190	305911	3.48	3167379	10.354	Si
SLU 27	1250	-15820	613093	2.37	2671905	4.358	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 14	898	-11301	-417501	1.69	2319260	5.555	Si
SLV 14	1250	-7833	-70235	1.17	1687000	24.02	Si
SLD 6	898	-13863	-310678	2.08	2741302	8.824	Si
SLD 6	1250	-7814	34856	1.17	1683351	48.295	Si
SLV 5	898	-11850	-568424	1.78	2412847	4.245	Si
SLV 5	1250	-6947	20106	1.04	1514183	75.309	Si
SLV 13	898	-11301	-417501	1.69	2319260	5.555	Si
SLV 13	1250	-7833	-70235	1.17	1687000	24.02	Si
SLV 6	898	-11850	-568424	1.78	2412847	4.245	Si
SLV 6	1250	-6947	20106	1.04	1514183	75.309	Si
SLV 9	898	-10213	-656173	1.53	2128532	3.244	Si
SLV 9	1250	-6863	-37609	1.03	1497476	39.817	Si
SLD 10	898	-13165	-348172	1.97	2630063	7.554	Si
SLD 10	1250	-7780	10470	1.17	1676665	160.141	Si
SLD 9	898	-13165	-348172	1.97	2630063	7.554	Si
SLD 9	1250	-7780	10470	1.17	1676665	160.141	Si
SLD 5	898	-13863	-310678	2.08	2741302	8.824	Si
SLD 5	1250	-7814	34856	1.17	1683351	48.295	Si
SLV 10	898	-10213	-656173	1.53	2128532	3.244	Si
SLV 10	1250	-6863	-37609	1.03	1497476	39.817	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 72	898	-26497	-935	297831		3.97	476.52	1.08	7227			7.73	Si
SLU 72	1250	-17733	-150	644361		2.66	476.52	0.91	6071			40.57	Si
SLU 48	898	-23384	-810	216517		3.51	476.52	1.02	6824			8.42	Si
SLU 48	1250	-15426	-135	491937		2.31	476.52	0.86	5763			42.62	Si
SLU 49	898	-23382	-887	200095		3.5	476.52	1.02	6824			7.7	Si
SLU 49	1250	-15464	-233	479457		2.32	476.52	0.86	5768			24.79	Si
SLU 51	898	-23515	-976	257431		3.52	476.52	1.03	6842			7.01	Si
SLU 51	1250	-15721	-272	549096		2.36	476.52	0.87	5802			21.33	Si
SLU 7	898	-20205	-814	249089		3.03	476.52	0.96	6400			7.87	Si
SLU 7	1250	-13846	-175	505348		2.08	476.52	0.83	5552			31.67	Si
SLU 30	898	-23320	-863	346825		3.5	476.52	1.02	6816			7.9	Si
SLU 30	1250	-16114	-92	670252		2.42	476.52	0.88	5855			63.43	Si
SLU 50	898	-23517	-899	273853		3.53	476.52	1.03	6842			7.61	Si
SLU 50	1250	-15683	-175	561577		2.35	476.52	0.87	5797			33.2	Si
SLU 71	898	-26499	-859	314253		3.97	476.52	1.08	7227			8.41	Si
SLU 71	1250	-17695	-52	656841		2.65	476.52	0.91	6066			116.17	Si
SLU 8	898	-20340	-826	322847		3.05	476.52	0.96	6418			7.77	Si
SLU 8	1250	-14064	-117	587468		2.11	476.52	0.84	5581			47.59	Si
SLU 9	898	-20338	-903	306425		3.05	476.52	0.96	6418			7.11	Si
SLU 9	1250	-14102	-215	574988		2.11	476.52	0.84	5587			26.02	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 5	898	-11850	-6763	-568424		1.78	476.52	1.19	7929			1.17	Si
SLV 5	1250	-6947	-5674	20106		1.04	476.52	1.04	6949			1.22	Si
SLV 10	898	-10213	-8837	-656173		1.53	476.52	1.14	7602			0.86	No, Vu<V
SLV 10	1250	-6863	-6849	-37609		1.03	476.52	1.04	6932			1.01	Si
SLV 14	898	-11301	-5877	-417501		1.69	476.52	1.17	7820			1.33	Si
SLV 14	1250	-7833	-3811	-70235		1.17	476.52	1.07	7126			1.87	Si
SLV 9	898	-10213	-8837	-656173		1.53	476.52	1.14	7602			0.86	No, Vu<V
SLV 9	1250	-6863	-6849	-37609		1.03	476.52	1.04	6932			1.01	Si
SLV 11	898	-18775	6532	318243		2.81	476.52	1.4	9314			1.43	Si
SLV 11	1250	-9917	5748	61560		1.49	476.52	1.13	7543			1.31	Si
SLV 7	898	-20411	8606	405993		3.06	476.52	1.45	9642			1.12	Si
SLV 7	1250	-10001	6923	119276		1.5	476.52	1.13	7560			1.09	Si
SLV 8	898	-20411	8606	405993		3.06	476.52	1.45	9642			1.12	Si
SLV 8	1250	-10001	6923	119276		1.5	476.52	1.13	7560			1.09	Si
SLV 12	898	-18775	6532	318243		2.81	476.52	1.4	9314			1.43	Si
SLV 12	1250	-9917	5748	61560		1.49	476.52	1.13	7543			1.31	Si
SLV 13	898	-11301	-5877	-417501		1.69	476.52	1.17	7820			1.33	Si
SLV 13	1250	-7833	-3811	-70235		1.17	476.52	1.07	7126			1.87	Si
SLV 6	898	-11850	-6763	-568424		1.78	476.52	1.19	7929			1.17	Si
SLV 6	1250	-6947	-5674	20106		1.04	476.52	1.04	6949			1.22	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	1.31	-8757	31337	54713	1.75	Si
SLV 9	14	0.46	1.31	-8757	31337	54713	1.75	Si
SLV 5	14	0.46	1.36	-9078	31337	56470	1.8	Si
SLV 6	14	0.46	1.36	-9078	31337	56470	1.8	Si
SLV 14	14	0.46	1.57	-10444	31337	63742	2.03	Si
SLV 13	14	0.46	1.57	-10444	31337	63742	2.03	Si
SLV 2	14	0.46	1.73	-11515	31337	69220	2.21	Si
SLV 1	14	0.46	1.73	-11515	31337	69220	2.21	Si
SLV 15	14	0.46	1.83	-12212	31337	72676	2.32	Si
SLV 16	14	0.46	1.83	-12212	31337	72676	2.32	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 16	-8750	-13869	-12	0.023	12.267	0.927	35.538	1908.669	No
SLV 15	-8750	-13869	-12	0.023	12.267	0.927	35.538	1908.669	No
SLV 3	-9031	-19323	8	0.023	12.55	0.929	35.831	1908.669	No
SLV 4	-9031	-19323	8	0.023	12.55	0.929	35.831	1908.669	No
SLV 2	-8115	-16755	12	0.023	11.628	0.924	35.866	1908.669	No
SLV 1	-8115	-16755	12	0.023	11.628	0.924	35.866	1908.669	No
SLV 13	-7833	-11301	-8	0.023	11.345	0.923	36.694	1908.669	No
SLV 14	-7833	-11301	-8	0.023	11.345	0.923	36.694	1908.669	No
SLV 12	-9917	-18775	-9	0.023	13.444	0.932	35.286	1667.536	No
SLV 11	-9917	-18775	-9	0.023	13.444	0.932	35.286	1667.536	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.951	SLU 29	Si
V_SLV	7.01	SLU 51	Si
PF_SLV	3.244	SLV 9	Si
V_SLV	0.86	SLV 9	No
PFFP_SLV	1.746	SLV 9	Si
R_SLV	0.019	SLV 15	No



Maschio 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1961.8	581.1	-1961.8	652.1	L5	L6	71	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 72	898	-10523	40826	5.29	130818	3.204	Si
SLU 72	1250	-9803	17107	4.93	137341	8.029	Si
SLU 50	898	-9487	37627	4.77	139486	3.707	Si
SLU 50	1250	-8586	14635	4.32	143196	9.785	Si
SLU 80	898	-10319	37035	5.19	132899	3.588	Si
SLU 80	1250	-9895	17570	4.98	136637	7.777	Si
SLU 79	898	-10415	37648	5.24	131947	3.505	Si
SLU 79	1250	-9955	17658	5.01	136156	7.711	Si
SLU 29	898	-9984	40346	5.02	135918	3.369	Si
SLU 29	1250	-9461	16963	4.76	139640	8.232	Si
SLU 69	898	-10151	38497	5.11	134472	3.493	Si
SLU 69	1250	-9440	16360	4.75	139765	8.543	Si
SLU 71	898	-10619	41439	5.34	129780	3.132	Si
SLU 71	1250	-9863	17195	4.96	136885	7.961	Si
SLU 30	898	-9888	39734	4.97	136690	3.44	Si
SLU 30	1250	-9401	16874	4.73	139991	8.296	Si
SLU 70	898	-10055	37884	5.06	135314	3.572	Si
SLU 70	1250	-9380	16271	4.72	140110	8.611	Si
SLU 27	898	-9516	37404	4.79	139308	3.724	Si
SLU 27	1250	-9039	16127	4.55	141776	8.791	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 2	898	-2994	-83913	1.51	93177	1.11	Si
SLV 2	1250	-3521	5860	1.77	106880	18.238	Si
SLV 5	898	80	-33421	0	0	0	No, Trazione
SLV 5	1250	-1981	4074	1	64577	15.85	Si
SLV 16	898	-4358	99921	2.19	126946	1.27	Si
SLV 16	1250	-2855	3269	1.44	89442	27.358	Si
SLV 15	898	-4358	99921	2.19	126946	1.27	Si
SLV 15	1250	-2855	3269	1.44	89442	27.358	Si
SLV 1	898	-2994	-83913	1.51	93177	1.11	Si
SLV 1	1250	-3521	5860	1.77	106880	18.238	Si
SLV 13	898	-2016	90789	0	0	0	No, e>/2
SLV 13	1250	-1993	2690	1	64947	24.147	Si
SLV 6	898	80	-33421	0	0	0	No, Trazione
SLV 6	1250	-1981	4074	1	64577	15.85	Si
SLV 14	898	-2016	90789	0	0	0	No, e>/2
SLV 14	1250	-1993	2690	1	64947	24.147	Si
SLV 10	898	374	18990	0	0	0	No, Trazione
SLV 10	1250	-1522	3123	0.77	50650	16.218	Si
SLV 9	898	374	18990	0	0	0	No, Trazione
SLV 9	1250	-1522	3123	0.77	50650	16.218	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	898	-10523	415	40826		5.29	71	1.08	2154			5.19	Si
SLU 72	1250	-9803	-386	17107		4.93	71	1.08	2154			5.59	Si
SLU 30	898	-9888	419	39734		4.97	71	1.08	2154			5.13	Si
SLU 30	1250	-9401	-368	16874		4.73	71	1.08	2154			5.85	Si
SLU 78	898	-9851	287	34093		4.96	71	1.08	2154			7.51	Si
SLU 78	1250	-9472	-404	16734		4.76	71	1.08	2154			5.33	Si
SLU 77	898	-9947	296	34706		5	71	1.08	2154			7.26	Si
SLU 77	1250	-9532	-401	16823		4.79	71	1.08	2154			5.37	Si
SLU 80	898	-10319	329	37035		5.19	71	1.08	2154			6.55	Si
SLU 80	1250	-9895	-412	17570		4.98	71	1.08	2154			5.22	Si
SLU 71	898	-10619	425	41439		5.34	71	1.08	2154			5.07	Si
SLU 71	1250	-9863	-382	17195		4.96	71	1.08	2154			5.63	Si
SLU 8	898	-8852	402	36534		4.45	71	1.08	2154			5.36	Si
SLU 8	1250	-8185	-308	14402		4.12	71	1.08	2154			6.98	Si
SLU 79	898	-10415	339	37648		5.24	71	1.08	2154			6.36	Si
SLU 79	1250	-9955	-409	17658		5.01	71	1.08	2154			5.27	Si
SLU 50	898	-9487	398	37627		4.77	71	1.08	2154			5.41	Si
SLU 50	1250	-8586	-326	14635		4.32	71	1.08	2154			6.61	Si
SLU 29	898	-9984	429	40346		5.02	71	1.08	2154			5.02	Si
SLU 29	1250	-9461	-365	16963		4.76	71	1.08	2154			5.9	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	898	374	105	18990		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	-1522	-498	3123		0.77	71	0.99	1961			3.94	Si
SLV 6	898	80	-767	-33421		0	0	0.83	0			0	No, Vu<V

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	1250	-1981	-525	4074		1	71	1.03	2053			3.91	Si
SLV 9	898	374	105	18990		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	-1522	-498	3123		0.77	71	0.99	1961			3.94	Si
SLV 5	898	80	-767	-33421		0	0	0.83	0			0	No, Vu<V
SLV 5	1250	-1981	-525	4074		1	71	1.03	2053			3.91	Si
SLV 16	898	-4358	1553	99921		4.13	37.71	1.63	1716			1.1	Si
SLV 16	1250	-2855	8	3269		1.44	71	1.12	2228			273.54	Si
SLV 15	898	-4358	1553	99921		4.13	37.71	1.63	1716			1.1	Si
SLV 15	1250	-2855	8	3269		1.44	71	1.12	2228			273.54	Si
SLV 1	898	-2994	-1553	-83913		4.77	22.41	1.63	1020			0.66	No, Vu<V
SLV 1	1250	-3521	-301	5860		1.77	71	1.19	2361			7.84	Si
SLV 2	898	-2994	-1553	-83913		4.77	22.41	1.63	1020			0.66	No, Vu<V
SLV 2	1250	-3521	-301	5860		1.77	71	1.19	2361			7.84	Si
SLV 13	898	-2016	1355	90789		0	0	0.83	0			0	No, Vu<V
SLV 13	1250	-1993	-211	2690		1	71	1.03	2055			9.74	Si
SLV 14	898	-2016	1355	90789		0	0	0.83	0			0	No, Vu<V
SLV 14	1250	-1993	-211	2690		1	71	1.03	2055			9.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.46	0.56	-1110	8932	14831	1.66	Si
SLV 10	14	0.46	0.56	-1110	8932	14831	1.66	Si
SLV 6	14	0.46	0.82	-1621	8932	21178	2.37	Si
SLV 5	14	0.46	0.82	-1621	8932	21178	2.37	Si
SLV 14	14	0.46	1	-1980	8932	25459	2.85	Si
SLV 13	14	0.46	1	-1980	8932	25459	2.85	Si
SLV 15	14	0.46	1.63	-3236	8932	39270	4.4	Si
SLV 16	14	0.46	1.63	-3236	8932	39270	4.4	Si
SLV 2	14	0.46	1.85	-3682	8932	43739	4.9	Si
SLV 1	14	0.46	1.85	-3682	8932	43739	4.9	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-1981	80	16	0	0	0	0	1908.669	No, Trazione
SLV 6	-1981	80	16	0	0	0	0	1908.669	No, Trazione
SLV 10	-1522	374	9	0	0	0	0	1908.669	No, Trazione
SLV 9	-1522	374	9	0	0	0	0	1908.669	No, Trazione
SLV 12	-4396	-7432	-14	0.042	5.465	0.948	64.206	1908.669	No
SLV 11	-4396	-7432	-14	0.042	5.465	0.948	64.206	1908.669	No
SLV 8	-4854	-7725	-7	0.043	5.931	0.952	65.683	1908.669	No
SLV 7	-4854	-7725	-7	0.043	5.931	0.952	65.683	1908.669	No
SLV 2	-3521	-2994	16	0.042	4.579	0.94	64.831	1093.542	No
SLV 1	-3521	-2994	16	0.042	4.579	0.94	64.831	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.132	SLU 71	Si
V_SLU	5.018	SLU 29	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLV 5	No
PFFP_SLV	1.66	SLV 9	Si
R_SLV	0	SLV 10	No

Maschio 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1633.3	-335.9	-1736.3	-335.9	L5	L6	103	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 44	988	-4722	-40801	1.64	194303	4.762	Si
SLU 44	1168	-4049	58772	1.4	172569	2.936	Si
SLU 65	988	-5178	-41925	1.8	207877	4.958	Si
SLU 65	1168	-4569	62070	1.58	189541	3.054	Si
SLU 73	988	-5573	-46015	1.93	218914	4.757	Si
SLU 73	1168	-5152	68739	1.79	207138	3.013	Si
SLU 31	988	-4418	-40542	1.53	184744	4.557	Si
SLU 31	1168	-4342	58197	1.51	182288	3.132	Si
SLU 52	988	-5117	-44890	1.77	206129	4.592	Si
SLU 52	1168	-4631	65440	1.61	191496	2.926	Si
SLU 82	988	-6062	-41447	2.1	231646	5.589	Si
SLU 82	1168	-5424	67868	1.88	214838	3.166	Si
SLU 2	988	-3568	-35328	1.24	155828	4.411	Si
SLU 2	1168	-3239	48230	1.12	143802	2.982	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 61	988	-5607	-40322	1.94	219840	5.452	Si
SLU 61	1168	-4903	64569	1.7	199816	3.095	Si
SLU 10	988	-3963	-39417	1.37	169654	4.304	Si
SLU 10	1168	-3822	54898	1.33	164798	3.002	Si
SLU 23	988	-4023	-36453	1.39	171707	4.71	Si
SLU 23	1168	-3759	51529	1.3	162622	3.156	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 14	988	-2885	-273031	0	0	0	No, $e > l/2$
SLV 14	1168	-5876	191985	2.04	252171	1.313	Si
SLV 4	988	-6338	230997	2.2	267712	1.159	Si
SLV 4	1168	-1342	-108472	0	0	0	No, $e > l/2$
SLV 10	988	-4393	-198318	1.52	198027	0.999	No, $M > Mu$
SLV 10	1168	-7125	146965	2.47	292748	1.992	Si
SLV 16	988	-2688	-205978	0	0	0	No, $e > l/2$
SLV 16	1168	-4007	152332	1.39	182890	1.201	Si
SLV 3	988	-6338	230997	2.2	267712	1.159	Si
SLV 3	1168	-1342	-108472	0	0	0	No, $e > l/2$
SLV 9	988	-4393	-198318	1.52	198027	0.999	No, $M > Mu$
SLV 9	1168	-7125	146965	2.47	292748	1.992	Si
SLV 13	988	-2885	-273031	0	0	0	No, $e > l/2$
SLV 13	1168	-5876	191985	2.04	252171	1.313	Si
SLV 15	988	-2688	-205978	0	0	0	No, $e > l/2$
SLV 15	1168	-4007	152332	1.39	182890	1.201	Si
SLV 7	988	-4831	156285	1.68	214679	1.374	Si
SLV 7	1168	-94	-63452	0	0	0	No, $e > l/2$
SLV 8	988	-4831	156285	1.68	214679	1.374	Si
SLV 8	1168	-94	-63452	0	0	0	No, $e > l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	988	-6062	-586	-41447		2.1	103	0.84	2411			4.12	Si
SLU 82	1168	-5424	-277	67868		1.88	103	0.81	2325			8.38	Si
SLU 31	988	-4418	-514	-40542		1.53	103	0.76	2191			4.26	Si
SLU 31	1168	-4342	-248	58197		1.51	103	0.76	2181			8.79	Si
SLU 73	988	-5573	-611	-46015		1.93	103	0.81	2345			3.84	Si
SLU 73	1168	-5152	-311	68739		1.79	103	0.79	2289			7.35	Si
SLU 61	988	-5607	-568	-40322		1.94	103	0.81	2350			4.14	Si
SLU 61	1168	-4903	-324	64569		1.7	103	0.78	2256			6.96	Si
SLU 10	988	-3963	-497	-39417		1.37	103	0.74	2131			4.29	Si
SLU 10	1168	-3822	-295	54898		1.33	103	0.73	2112			7.16	Si
SLU 23	988	-4023	-471	-36453		1.39	103	0.74	2139			4.54	Si
SLU 23	1168	-3759	-222	51529		1.3	103	0.73	2103			9.46	Si
SLU 2	988	-3568	-454	-35328		1.24	103	0.72	2078			4.58	Si
SLU 2	1168	-3239	-269	48230		1.12	103	0.71	2034			7.55	Si
SLU 52	988	-5117	-594	-44890		1.77	103	0.79	2285			3.85	Si
SLU 52	1168	-4631	-358	65440		1.61	103	0.77	2220			6.2	Si
SLU 44	988	-4722	-551	-40801		1.64	103	0.77	2232			4.05	Si
SLU 44	1168	-4049	-333	58772		1.4	103	0.74	2142			6.44	Si
SLU 65	988	-5178	-568	-41925		1.8	103	0.79	2293			4.03	Si
SLU 65	1168	-4569	-286	62070		1.58	103	0.77	2211			7.74	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	988	-2885	-4637	-273031		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1168	-5876	-1235	191985		3.72	56.49	1.58	2493			2.02	Si
SLV 8	988	-4831	1990	156285		3	57.44	1.43	2307			1.16	Si
SLV 8	1168	-94	-118	-63452		0	0	0.83	0			0	No, $V_u < V$
SLV 7	988	-4831	1990	156285		3	57.44	1.43	2307			1.16	Si
SLV 7	1168	-94	-118	-63452		0	0	0.83	0			0	No, $V_u < V$
SLV 3	988	-6338	3915	230997		5.01	45.17	1.63	2055			0.52	No, $V_u < V$
SLV 3	1168	-1342	932	-108472		0	0	0.83	0			0	No, $V_u < V$
SLV 4	988	-6338	3915	230997		5.01	45.17	1.63	2055			0.52	No, $V_u < V$
SLV 4	1168	-1342	932	-108472		0	0	0.83	0			0	No, $V_u < V$
SLV 15	988	-2688	-3933	-205978		0	0	0.83	0			0	No, $V_u < V$
SLV 15	1168	-4007	-1427	152332		3.54	40.45	1.54	1745			1.22	Si
SLV 16	988	-2688	-3933	-205978		0	0	0.83	0			0	No, $V_u < V$
SLV 16	1168	-4007	-1427	152332		3.54	40.45	1.54	1745			1.22	Si
SLV 10	988	-4393	-2712	-198318		8.23	19.06	1.63	867			0.32	No, $V_u < V$
SLV 10	1168	-7125	-185	146965		2.75	92.62	1.38	3586			19.43	Si
SLV 9	988	-4393	-2712	-198318		8.23	19.06	1.63	867			0.32	No, $V_u < V$
SLV 9	1168	-7125	-185	146965		2.75	92.62	1.38	3586			19.43	Si
SLV 14	988	-2885	-4637	-273031		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1168	-5876	-1235	191985		3.72	56.49	1.58	2493			2.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 W_a 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.46	0.36	-1035	12664	14060	1.11	Si
SLV 12	14	0.46	0.36	-1035	12664	14060	1.11	Si
SLV 16	14	0.46	0.5	-1436	12664	19280	1.52	Si
SLV 15	14	0.46	0.5	-1436	12664	19280	1.52	Si
SLV 8	14	0.46	0.78	-2254	12664	29535	2.33	Si
SLV 7	14	0.46	0.78	-2254	12664	29535	2.33	Si
SLV 14	14	0.46	1.04	-2999	12664	38407	3.03	Si
SLV 13	14	0.46	1.04	-2999	12664	38407	3.03	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.46	1.91	-5500	12664	64978	5.13	Si
SLV 3	14	0.46	1.91	-5500	12664	64978	5.13	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-71	-392	-87	0	1.872	0.968	0	1908.669	No
SLV 7	653	893	-87	0	0	0	0	1908.669	No, Trazione
SLV 8	653	893	-87	0	0	0	0	1908.669	No, Trazione
SLV 12	-71	-392	-87	0	1.872	0.968	0	1908.669	No
SLV 5	-5316	-8998	85	0.032	6.853	0.941	49.446	1908.669	No
SLV 6	-5316	-8998	85	0.032	6.853	0.941	49.446	1908.669	No
SLV 10	-6040	-10283	85	0.033	7.587	0.946	50.424	1908.669	No
SLV 9	-6040	-10283	85	0.033	7.587	0.946	50.424	1908.669	No
SLV 13	-4796	-8320	25	0.042	6.326	0.937	64.896	1093.542	No
SLV 14	-4796	-8320	25	0.042	6.326	0.937	64.896	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.926	SLU 52	Si
V_SLU	3.837	SLU 73	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	1.11	SLV 11	Si
R_SLV	0	SLV 8	No

Maschio 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1844.8	-335.9	-1844.8	104.6	L5	L6	440.6	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 68	898	-15663	432131	2.54	2374694	5.495	Si
SLU 68	1250	-8517	323217	1.38	1558137	4.821	Si
SLU 72	898	-16212	456726	2.63	2418899	5.296	Si
SLU 72	1250	-9061	334709	1.47	1635998	4.888	Si
SLU 5	898	-11286	320977	1.83	1927671	6.006	Si
SLU 5	1250	-6199	252384	1	1196990	4.743	Si
SLU 13	898	-12911	365150	2.09	2113213	5.787	Si
SLU 13	1250	-6882	268635	1.12	1308406	4.871	Si
SLU 34	898	-14588	425281	2.37	2280498	5.362	Si
SLU 34	1250	-7766	300790	1.26	1446356	4.809	Si
SLU 76	898	-17288	476304	2.8	2497878	5.244	Si
SLU 76	1250	-9201	339468	1.49	1655650	4.877	Si
SLU 26	898	-12963	381108	2.1	2118855	5.56	Si
SLU 26	1250	-7083	284540	1.15	1340241	4.71	Si
SLU 30	898	-13512	405703	2.19	2176053	5.364	Si
SLU 30	1250	-7626	296032	1.24	1424941	4.813	Si
SLU 28	898	-13861	411045	2.25	2210990	5.379	Si
SLU 28	1250	-7902	302590	1.28	1466894	4.848	Si
SLU 9	898	-11835	345572	1.92	1992943	5.767	Si
SLU 9	1250	-6742	263876	1.09	1285904	4.873	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 9	898	-12024	121770	1.95	2226044	18.281	Si
SLV 9	1250	-6277	366436	1.02	1267619	3.459	Si
SLV 15	898	-9467	431315	1.53	1823426	4.228	Si
SLV 15	1250	-5826	319252	0.94	1184089	3.709	Si
SLV 12	898	-10404	480750	1.69	1975524	4.109	Si
SLV 12	1250	-5981	100367	0.97	1212923	12.085	Si
SLD 13	898	-11058	292021	1.79	2078474	7.118	Si
SLD 13	1250	-6098	272469	0.99	1234526	4.531	Si
SLD 14	898	-11058	292021	1.79	2078474	7.118	Si
SLD 14	1250	-6098	272469	0.99	1234526	4.531	Si
SLV 16	898	-9467	431315	1.53	1823426	4.228	Si
SLV 16	1250	-5826	319252	0.94	1184089	3.709	Si
SLV 14	898	-9952	323621	1.61	1902853	5.88	Si
SLV 14	1250	-5915	399072	0.96	1200632	3.009	Si
SLV 11	898	-10404	480750	1.69	1975524	4.109	Si
SLV 11	1250	-5981	100367	0.97	1212923	12.085	Si
SLV 10	898	-12024	121770	1.95	2226044	18.281	Si
SLV 10	1250	-6277	366436	1.02	1267619	3.459	Si
SLV 13	898	-9952	323621	1.61	1902853	5.88	Si
SLV 13	1250	-5915	399072	0.96	1200632	3.009	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 27	898	-13937	1128	386366		2.26	440.57	0.86	5285			4.69	Si
SLU 27	1250	-7961	1131	270354		1.29	440.57	0.73	4488			3.97	Si
SLU 71	898	-16288	1254	432047		2.64	440.57	0.91	5598			4.46	Si
SLU 71	1250	-9120	1254	302472		1.48	440.57	0.75	4643			3.7	Si
SLU 79	898	-17913	1247	476220		2.9	440.57	0.94	5815			4.66	Si
SLU 79	1250	-9803	1245	318723		1.59	440.57	0.77	4734			3.8	Si
SLU 29	898	-13589	1195	381024		2.2	440.57	0.85	5238			4.38	Si
SLU 29	1250	-7685	1198	263795		1.25	440.57	0.72	4451			3.71	Si
SLU 72	898	-16212	774	456726		2.63	440.57	0.91	5588			7.22	Si
SLU 72	1250	-9061	1177	334709		1.47	440.57	0.75	4635			3.94	Si
SLU 30	898	-13512	715	405703		2.19	440.57	0.85	5228			7.31	Si
SLU 30	1250	-7626	1122	296032		1.24	440.57	0.72	4443			3.96	Si
SLU 77	898	-18261	1179	481562		2.96	440.57	0.95	5861			4.97	Si
SLU 77	1250	-10079	1177	325281		1.63	440.57	0.77	4771			4.05	Si
SLU 69	898	-16637	1187	437389		2.7	440.57	0.92	5645			4.76	Si
SLU 69	1250	-9395	1186	309031		1.52	440.57	0.76	4679			3.95	Si
SLU 37	898	-15213	1188	425197		2.47	440.57	0.88	5455			4.59	Si
SLU 37	1250	-8369	1190	280046		1.36	440.57	0.74	4542			3.82	Si
SLU 80	898	-17837	766	500899		2.89	440.57	0.94	5805			7.57	Si
SLU 80	1250	-9745	1169	350959		1.58	440.57	0.77	4726			4.04	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 11	898	-10404	8383	480750		1.69	440.57	1.17	7221			0.86	No, Vu<V
SLV 11	1250	-5981	6409	100367		0.97	440.57	1.03	6336			0.99	No, Vu<V
SLV 8	898	-11694	8637	415428		1.9	440.57	1.21	7479			0.87	No, Vu<V
SLV 8	1250	-6203	5789	-7427		1.01	440.57	1.03	6381			1.1	Si
SLD 8	898	-11802	3825	328891		1.91	440.57	1.22	7500			1.96	Si
SLD 8	1250	-6236	2619	100167		1.01	440.57	1.04	6387			2.44	Si
SLV 6	898	-13313	-7606	56448		2.16	440.57	1.27	7803			1.03	Si
SLV 6	1250	-6499	-5650	258641		1.05	440.57	1.04	6440			1.14	Si
SLV 5	898	-13313	-7606	56448		2.16	440.57	1.27	7803			1.03	Si
SLV 5	1250	-6499	-5650	258641		1.05	440.57	1.04	6440			1.14	Si
SLV 10	898	-12024	-7860	121770		1.95	440.57	1.22	7545			0.96	No, Vu<V
SLV 10	1250	-6277	-5030	366436		1.02	440.57	1.04	6395			1.27	Si
SLV 7	898	-11694	8637	415428		1.9	440.57	1.21	7479			0.87	No, Vu<V
SLV 7	1250	-6203	5789	-7427		1.01	440.57	1.03	6381			1.1	Si
SLV 9	898	-12024	-7860	121770		1.95	440.57	1.22	7545			0.96	No, Vu<V
SLV 9	1250	-6277	-5030	366436		1.02	440.57	1.04	6395			1.27	Si
SLV 12	898	-10404	8383	480750		1.69	440.57	1.17	7221			0.86	No, Vu<V
SLV 12	1250	-5981	6409	100367		0.97	440.57	1.03	6336			0.99	No, Vu<V
SLD 7	898	-11802	3825	328891		1.91	440.57	1.22	7500			1.96	Si
SLD 7	1250	-6236	2619	100167		1.01	440.57	1.04	6387			2.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.46	1.22	-7547	28973	47536	1.64	Si
SLV 16	14	0.46	1.22	-7547	28973	47536	1.64	Si
SLV 14	14	0.46	1.26	-7755	28973	48702	1.68	Si
SLV 13	14	0.46	1.26	-7755	28973	48702	1.68	Si
SLV 11	14	0.46	1.37	-8427	28973	52393	1.81	Si
SLV 12	14	0.46	1.37	-8427	28973	52393	1.81	Si
SLV 9	14	0.46	1.48	-9123	28973	56132	1.94	Si
SLV 10	14	0.46	1.48	-9123	28973	56132	1.94	Si
SLV 7	14	0.46	1.52	-9391	28973	57544	1.99	Si
SLV 8	14	0.46	1.52	-9391	28973	57544	1.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 2	-6655	-14251	16	0.023	9.899	0.919	35.638	1908.669	No
SLV 1	-6655	-14251	16	0.023	9.899	0.919	35.638	1908.669	No
SLV 3	-6566	-13765	16	0.023	9.81	0.919	35.644	1908.669	No
SLV 4	-6566	-13765	16	0.023	9.81	0.919	35.644	1908.669	No
SLV 13	-5915	-9952	-16	0.023	9.158	0.915	36.232	1908.669	No
SLV 14	-5915	-9952	-16	0.023	9.158	0.915	36.232	1908.669	No
SLV 15	-5826	-9467	-16	0.023	9.069	0.914	36.374	1908.669	No
SLV 16	-5826	-9467	-16	0.023	9.069	0.914	36.374	1908.669	No
SLV 6	-6499	-13313	4	0.024	9.743	0.918	37.911	1667.536	No
SLV 5	-6499	-13313	4	0.024	9.743	0.918	37.911	1667.536	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.71	SLU 26	Si
V_SLV	3.703	SLU 71	Si
PF_SLV	3.009	SLV 13	Si
V_SLV	0.861	SLV 11	No
PFFP_SLV	1.641	SLV 15	Si
R_SLV	0.019	SLV 1	No



Maschio 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1389.3	-335.9	-1543.3	-335.9	L5	L6	154	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 83	898	-9613	-35370	2.23	537617	15.2	Si
SLU 83	1108	-10478	104516	2.43	566123	5.417	Si
SLU 84	898	-9561	-44238	2.22	535799	12.112	Si
SLU 84	1108	-10568	105881	2.45	568902	5.373	Si
SLU 75	898	-9477	-42739	2.2	532837	12.467	Si
SLU 75	1108	-10472	103584	2.43	565957	5.464	Si
SLU 76	898	-9269	-45927	2.15	525356	11.439	Si
SLU 76	1108	-10204	101313	2.37	557444	5.502	Si
SLU 73	898	-9165	-57138	2.13	521552	9.128	Si
SLU 73	1108	-10334	107166	2.4	561604	5.241	Si
SLU 82	898	-9457	-55449	2.19	532129	9.597	Si
SLU 82	1108	-10698	111734	2.48	572854	5.127	Si
SLU 39	898	-7730	-44093	1.79	464216	10.528	Si
SLU 39	1108	-8946	95805	2.07	513399	5.359	Si
SLU 40	898	-7678	-52961	1.78	461969	8.723	Si
SLU 40	1108	-9036	97170	2.1	516782	5.318	Si
SLU 81	898	-9509	-46581	2.21	533970	11.463	Si
SLU 81	1108	-10608	110368	2.46	570127	5.166	Si
SLU 31	898	-7386	-54650	1.71	449113	8.218	Si
SLU 31	1108	-8672	92602	2.01	502879	5.431	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 6	898	-1113	40329	0.26	83867	2.08	Si
SLV 6	1108	3547	144561	0	0	0	No, Trazione
SLV 9	898	-283	-104345	0	0	0	No, e>1/2
SLV 9	1108	269	232707	0	0	0	No, Trazione
SLV 15	898	-7155	-264789	1.66	476135	1.798	Si
SLV 15	1108	-15332	183308	3.56	837007	4.566	Si
SLV 14	898	-3536	-268639	0.82	254032	0.946	No, M>Mu
SLV 14	1108	-9897	253571	2.3	618895	2.441	Si
SLV 13	898	-3536	-268639	0.82	254032	0.946	No, M>Mu
SLV 13	1108	-9897	253571	2.3	618895	2.441	Si
SLV 16	898	-7155	-264789	1.66	476135	1.798	Si
SLV 16	1108	-15332	183308	3.56	837007	4.566	Si
SLV 5	898	-1113	40329	0.26	83867	2.08	Si
SLV 5	1108	3547	144561	0	0	0	No, Trazione
SLV 10	898	-283	-104345	0	0	0	No, e>1/2
SLV 10	1108	269	232707	0	0	0	No, Trazione
SLV 2	898	-6303	213607	1.46	427263	2	Si
SLV 2	1108	1030	-40248	0	0	0	No, Trazione
SLV 1	898	-6303	213607	1.46	427263	2	Si
SLV 1	1108	1030	-40248	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	898	-9561	-1751	-44238	2.22	154	0.85	3670				2.1	Si
SLU 84	1108	-10568	-2096	105881	2.45	154	0.88	3805				1.81	Si
SLU 81	898	-9509	-1782	-46581	2.21	154	0.85	3663				2.06	Si
SLU 81	1108	-10608	-2317	110368	2.46	154	0.88	3810				1.64	Si
SLU 31	898	-7386	-1676	-54650	1.71	154	0.78	3380				2.02	Si
SLU 31	1108	-8672	-1930	92602	2.01	154	0.82	3552				1.84	Si
SLU 61	898	-9018	-1601	-45311	2.09	154	0.83	3598				2.25	Si
SLU 61	1108	-9768	-2073	98202	2.27	154	0.86	3698				1.78	Si
SLU 40	898	-7678	-1679	-52961	1.78	154	0.79	3419				2.04	Si
SLU 40	1108	-9036	-2074	97170	2.1	154	0.83	3600				1.74	Si
SLU 83	898	-9613	-1643	-35370	2.23	154	0.85	3677				2.24	Si
SLU 83	1108	-10478	-2066	104516	2.43	154	0.88	3793				1.84	Si
SLU 73	898	-9165	-1886	-57138	2.13	154	0.84	3617				1.92	Si
SLU 73	1108	-10334	-2202	107166	2.4	154	0.88	3773				1.71	Si
SLU 60	898	-9070	-1494	-36444	2.1	154	0.84	3605				2.41	Si
SLU 60	1108	-9678	-2043	96836	2.24	154	0.85	3686				1.8	Si
SLU 82	898	-9457	-1890	-55449	2.19	154	0.85	3656				1.93	Si
SLU 82	1108	-10698	-2347	111734	2.48	154	0.89	3822				1.63	Si
SLU 39	898	-7730	-1572	-44093	1.79	154	0.79	3426				2.18	Si
SLU 39	1108	-8946	-2045	95805	2.07	154	0.83	3588				1.76	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	898	-7155	-5805	-264789	2.13	119.98	1.26	4231				0.73	No, Vu<V
SLV 15	1108	-15332	-5235	183308	3.56	154	1.54	6660				1.27	Si
SLV 13	898	-3536	-5723	-268639	40.56	3.11	1.63	142				0.02	No, Vu<V

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Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1108	-9897	-4471	253571		2.3	154	1.29	5573			1.25	Si
SLV 9	898	-283	-2408	-104345		0	0	0.83	0			0	No, Vu<V
SLV 9	1108	269	-1168	232707		0	0	0.83	0			0	No, Vu<V
SLV 14	898	-3536	-5723	-268639		40.56	3.11	1.63	142			0.02	No, Vu<V
SLV 14	1108	-9897	-4471	253571		2.3	154	1.29	5573			1.25	Si
SLV 2	898	-6303	3475	213607		1.74	129.33	1.18	4278			1.23	Si
SLV 2	1108	1030	2415	-40248		0	0	0.83	0			0	No, Vu<V
SLV 5	898	-1113	352	40329		0.33	122.26	0.9	3075			8.74	Si
SLV 5	1108	3547	898	144561		0	0	0.83	0			0	No, Vu<V
SLV 1	898	-6303	3475	213607		1.74	129.33	1.18	4278			1.23	Si
SLV 1	1108	1030	2415	-40248		0	0	0.83	0			0	No, Vu<V
SLV 16	898	-7155	-5805	-264789		2.13	119.98	1.26	4231			0.73	No, Vu<V
SLV 16	1108	-15332	-5235	183308		3.56	154	1.54	6660			1.27	Si
SLV 6	898	-1113	352	40329		0.33	122.26	0.9	3075			8.74	Si
SLV 6	1108	3547	898	144561		0	0	0.83	0			0	No, Vu<V
SLV 10	898	-283	-2408	-104345		0	0	0.83	0			0	No, Vu<V
SLV 10	1108	269	-1168	232707		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore $8 \gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.46	0	-416	18934	0	0	No, e>t/2
SLV 10	14	0.46	0	-416	18934	0	0	No, e>t/2
SLV 6	14	0.46	0	1663	18934	0	0	No, Trazione
SLV 5	14	0.46	0	1663	18934	0	0	No, Trazione
SLV 2	14	0.46	0.35	-1525	18934	20730	1.09	Si
SLV 1	14	0.46	0.35	-1525	18934	20730	1.09	Si
SLV 4	14	0.46	1.47	-6336	18934	78035	4.12	Si
SLV 3	14	0.46	1.47	-6336	18934	78035	4.12	Si
SLV 13	14	0.46	1.96	-8455	18934	99370	5.25	Si
SLV 14	14	0.46	1.96	-8455	18934	99370	5.25	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	2439	-1113	119	0	0	0	0	1908.669	No, Trazione
SLV 6	2439	-1113	119	0	0	0	0	1908.669	No, Trazione
SLV 9	1798	-283	125	0	0	0	0	1908.669	No, Trazione
SLV 10	1798	-283	125	0	0	0	0	1908.669	No, Trazione
SLV 7	-10332	-13175	-128	0.033	12.665	0.951	51.162	1908.669	No
SLV 8	-10332	-13175	-128	0.033	12.665	0.951	51.162	1908.669	No
SLV 12	-10974	-12346	-123	0.034	13.316	0.953	52.188	1908.669	No
SLV 11	-10974	-12346	-123	0.034	13.316	0.953	52.188	1908.669	No
SLV 4	-5115	-9922	-47	0.041	7.384	0.923	64.274	1093.542	No
SLV 3	-5115	-9922	-47	0.041	7.384	0.923	64.274	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.127	SLU 82	Si
V_SLU	1.628	SLU 82	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 6	No
R_SLV	0	SLV 10	No

Maschio 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.8	220.1	-1505.8	666.1	L5	L6	446	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 81	898	-19807	-196414	3.17	2696867	13.731	Si
SLU 81	1250	-9096	-49298	1.46	1665660	33.787	Si
SLU 73	898	-18999	-186616	3.04	2654180	14.223	Si
SLU 73	1250	-8746	-46353	1.4	1614973	34.841	Si
SLU 39	898	-16744	-165808	2.68	2504680	15.106	Si
SLU 39	1250	-7704	-42524	1.23	1457696	34.279	Si
SLU 82	898	-19809	-197875	3.17	2697001	13.63	Si
SLU 82	1250	-9097	-49855	1.46	1665788	33.413	Si
SLU 52	898	-17213	-175877	2.76	2539441	14.439	Si
SLU 52	1250	-7864	-43071	1.26	1482530	34.421	Si
SLU 18	898	-14958	-155069	2.4	2354617	15.184	Si
SLU 18	1250	-6822	-39242	1.09	1317192	33.566	Si
SLU 40	898	-16747	-167268	2.68	2504886	14.975	Si
SLU 40	1250	-7704	-43081	1.23	1457835	33.839	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 19	898	-14960	-156530	2.4	2354865	15.044	Si
SLU 19	1250	-6823	-39799	1.09	1317338	33.1	Si
SLU 60	898	-18020	-185676	2.89	2594778	13.975	Si
SLU 60	1250	-8214	-46016	1.32	1535924	33.378	Si
SLU 61	898	-18023	-187136	2.89	2594953	13.867	Si
SLU 61	1250	-8215	-46573	1.32	1536059	32.982	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 2	898	-15787	-311506	2.53	2792073	8.963	Si
SLV 2	1250	-7100	-9212	1.14	1435936	155.87	Si
SLV 5	898	-14357	-457519	2.3	2599166	5.681	Si
SLV 5	1250	-5697	139497	0.91	1175535	8.427	Si
SLV 7	898	-13677	149526	2.19	2503258	16.741	Si
SLV 7	1250	-7298	-219087	1.17	1471692	6.717	Si
SLV 12	898	-12248	206485	1.96	2292760	11.104	Si
SLV 12	1250	-6575	-199198	1.05	1339888	6.726	Si
SLV 1	898	-15787	-311506	2.53	2792073	8.963	Si
SLV 1	1250	-7100	-9212	1.14	1435936	155.87	Si
SLV 8	898	-13677	149526	2.19	2503258	16.741	Si
SLV 8	1250	-7298	-219087	1.17	1471692	6.717	Si
SLV 9	898	-12928	-400560	2.07	2394351	5.978	Si
SLV 9	1250	-4974	159386	0.8	1036971	6.506	Si
SLV 10	898	-12928	-400560	2.07	2394351	5.978	Si
SLV 10	1250	-4974	159386	0.8	1036971	6.506	Si
SLV 11	898	-12248	206485	1.96	2292760	11.104	Si
SLV 11	1250	-6575	-199198	1.05	1339888	6.726	Si
SLV 6	898	-14357	-457519	2.3	2599166	5.681	Si
SLV 6	1250	-5697	139497	0.91	1175535	8.427	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 71	898	-16761	824	-60931	2.68	446	0.91	5704				6.92	Si
SLU 71	1250	-8081	817	-1457	1.29	446	0.73	4546				5.57	Si
SLU 38	898	-15596	793	-60328	2.5	446	0.89	5548				7	Si
SLU 38	1250	-7510	786	-4278	1.2	446	0.72	4470				5.69	Si
SLU 72	898	-16764	823	-62392	2.68	446	0.91	5704				6.93	Si
SLU 72	1250	-8082	815	-2014	1.29	446	0.73	4546				5.58	Si
SLU 30	898	-13701	856	-31785	2.19	446	0.85	5296				6.18	Si
SLU 30	1250	-6689	849	4760	1.07	446	0.7	4361				5.14	Si
SLU 27	898	-14153	796	-40526	2.27	446	0.86	5356				6.73	Si
SLU 27	1250	-6990	789	4337	1.12	446	0.7	4401				5.58	Si
SLU 29	898	-13698	858	-30325	2.19	446	0.85	5295				6.17	Si
SLU 29	1250	-6689	850	5317	1.07	446	0.7	4361				5.13	Si
SLU 28	898	-14156	794	-41987	2.27	446	0.86	5356				6.74	Si
SLU 28	1250	-6991	787	3780	1.12	446	0.7	4401				5.59	Si
SLU 37	898	-15593	794	-58868	2.5	446	0.89	5548				6.99	Si
SLU 37	1250	-7509	787	-3722	1.2	446	0.72	4470				5.68	Si
SLU 8	898	-11912	746	-19586	1.91	446	0.81	5057				6.78	Si
SLU 8	1250	-5807	740	8599	0.93	446	0.68	4243				5.73	Si
SLU 9	898	-11915	745	-21047	1.91	446	0.81	5058				6.79	Si
SLU 9	1250	-5808	739	8042	0.93	446	0.68	4243				5.74	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 12	898	-12869	2257	16201	2.06	446	1.25	7777				3.45	Si
SLD 12	1250	-6321	1370	-100861	1.01	446	1.04	6467				4.72	Si
SLV 10	898	-12928	-5045	-400560	2.07	446	1.25	7789				1.54	Si
SLV 10	1250	-4974	-2811	159386	0.8	446	0.99	6198				2.2	Si
SLV 8	898	-13677	5103	149526	2.19	446	1.27	7939				1.56	Si
SLV 8	1250	-7298	2865	-219087	1.17	446	1.07	6663				2.33	Si
SLV 7	898	-13677	5103	149526	2.19	446	1.27	7939				1.56	Si
SLV 7	1250	-7298	2865	-219087	1.17	446	1.07	6663				2.33	Si
SLV 12	898	-12248	5320	206485	1.96	446	1.23	7653				1.44	Si
SLV 12	1250	-6575	3202	-199198	1.05	446	1.04	6518				2.04	Si
SLV 6	898	-14357	-5261	-457519	2.3	446	1.29	8075				1.53	Si
SLV 6	1250	-5697	-3148	139497	0.91	446	1.02	6343				2.01	Si
SLV 11	898	-12248	5320	206485	1.96	446	1.23	7653				1.44	Si
SLV 11	1250	-6575	3202	-199198	1.05	446	1.04	6518				2.04	Si
SLD 11	898	-12869	2257	16201	2.06	446	1.25	7777				3.45	Si
SLD 11	1250	-6321	1370	-100861	1.01	446	1.04	6467				4.72	Si
SLV 9	898	-12928	-5045	-400560	2.07	446	1.25	7789				1.54	Si
SLV 9	1250	-4974	-2811	159386	0.8	446	0.99	6198				2.2	Si
SLV 5	898	-14357	-5261	-457519	2.3	446	1.29	8075				1.53	Si
SLV 5	1250	-5697	-3148	139497	0.91	446	1.02	6343				2.01	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 W_a 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.46	1.18	-7390	29331	46718	1.59	Si
SLV 13	14	0.46	1.18	-7390	29331	46718	1.59	Si
SLV 15	14	0.46	1.27	-7909	29331	49623	1.69	Si
SLV 16	14	0.46	1.27	-7909	29331	49623	1.69	Si
SLV 10	14	0.46	1.29	-8040	29331	50349	1.72	Si
SLV 9	14	0.46	1.29	-8040	29331	50349	1.72	Si
SLV 6	14	0.46	1.46	-9117	29331	56191	1.92	Si
SLV 5	14	0.46	1.46	-9117	29331	56191	1.92	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.46	1.56	-9770	29331	59634	2.03	Si
SLV 12	14	0.46	1.56	-9770	29331	59634	2.03	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 $W_a = 0.03$ $T_a = 0.1478$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 2	-7100	-15787	8	0.023	10.385	0.921	36.749	1908.669	No
SLV 1	-7100	-15787	8	0.023	10.385	0.921	36.749	1908.669	No
SLV 3	-7580	-15583	-2	0.024	10.868	0.924	37.414	1908.669	No
SLV 4	-7580	-15583	-2	0.024	10.868	0.924	37.414	1908.669	No
SLV 15	-5172	-10817	-8	0.024	8.459	0.909	38.738	1908.669	No
SLV 16	-5172	-10817	-8	0.024	8.459	0.909	38.738	1908.669	No
SLV 8	-7298	-13677	-16	0.022	10.584	0.923	35.24	1667.536	No
SLV 7	-7298	-13677	-16	0.022	10.584	0.923	35.24	1667.536	No
SLV 11	-6575	-12248	-18	0.022	9.859	0.918	35.387	1667.536	No
SLV 12	-6575	-12248	-18	0.022	9.859	0.918	35.387	1667.536	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.63	SLU 82	Si
V_SLU	5.128	SLU 29	Si
PF_SLV	5.681	SLV 5	Si
V_SLV	1.439	SLV 11	Si
PFFP_SLV	1.593	SLV 13	Si
R_SLV	0.019	SLV 1	No

Maschio 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-35.4	-1375.3	-22.8	L5	L6	12.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 61	898	-857	12632	0	0	0	No, e>1/2
SLU 61	1108	-821	-9110	0	0	0	No, e>1/2
SLU 59	898	-913	9884	0	0	0	No, e>1/2
SLU 59	1108	-947	-9913	0	0	0	No, e>1/2
SLU 60	898	-871	12469	0	0	0	No, e>1/2
SLU 60	1108	-839	-9276	0	0	0	No, e>1/2
SLU 58	898	-927	9721	0	0	0	No, e>1/2
SLU 58	1108	-965	-10079	0	0	0	No, e>1/2
SLU 56	898	-927	9639	0	0	0	No, e>1/2
SLU 56	1108	-962	-10015	0	0	0	No, e>1/2
SLU 1	898	-508	4690	0	0	0	No, e>1/2
SLU 1	1108	-575	-5877	0	0	0	No, e>1/2
SLU 55	898	-839	10413	0	0	0	No, e>1/2
SLU 55	1108	-854	-9112	0	0	0	No, e>1/2
SLU 57	898	-912	9802	0	0	0	No, e>1/2
SLU 57	1108	-944	-9849	0	0	0	No, e>1/2
SLU 53	898	-862	10060	0	0	0	No, e>1/2
SLU 53	1108	-880	-9326	0	0	0	No, e>1/2
SLU 54	898	-848	10222	0	0	0	No, e>1/2
SLU 54	1108	-862	-9159	0	0	0	No, e>1/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 7	898	458	10318	0	0	0	No, Trazione
SLV 7	1108	562	4776	0	0	0	No, Trazione
SLV 8	898	458	10318	0	0	0	No, Trazione
SLV 8	1108	562	4776	0	0	0	No, Trazione
SLD 1	898	-938	3908	2.66	4608	1.179	Si
SLD 1	1108	-961	-9654	0	0	0	No, e>1/2
SLV 11	898	747	12231	0	0	0	No, Trazione
SLV 11	1108	801	6994	0	0	0	No, Trazione
SLV 13	898	-455	7535	0	0	0	No, e>1/2
SLV 13	1108	-618	-6513	0	0	0	No, e>1/2
SLV 14	898	-455	7535	0	0	0	No, e>1/2
SLV 14	1108	-618	-6513	0	0	0	No, e>1/2
SLV 6	898	-1910	-338	5.43	6673	19.746	Si
SLV 6	1108	-2051	-19985	0	0	0	No, e>1/2
SLV 10	898	-1621	1575	4.61	6348	4.032	Si
SLV 10	1108	-1811	-17767	0	0	0	No, e>1/2
SLV 12	898	747	12231	0	0	0	No, Trazione
SLV 12	1108	801	6994	0	0	0	No, Trazione
SLV 9	898	-1621	1575	4.61	6348	4.032	Si
SLV 9	1108	-1811	-17767	0	0	0	No, e>1/2



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 58	898	-927	67	9721		0	0	0.56	0			0	No, Vu<V
SLU 58	1108	-965	-30	-10079		0	0	0.56	0			0	No, Vu<V
SLU 59	898	-913	74	9884		0	0	0.56	0			0	No, Vu<V
SLU 59	1108	-947	-27	-9913		0	0	0.56	0			0	No, Vu<V
SLU 56	898	-927	65	9639		0	0	0.56	0			0	No, Vu<V
SLU 56	1108	-962	-29	-10015		0	0	0.56	0			0	No, Vu<V
SLU 57	898	-912	72	9802		0	0	0.56	0			0	No, Vu<V
SLU 57	1108	-944	-27	-9849		0	0	0.56	0			0	No, Vu<V
SLU 1	898	-508	25	4690		0	0	0.56	0			0	No, Vu<V
SLU 1	1108	-575	-11	-5877		0	0	0.56	0			0	No, Vu<V
SLU 55	898	-839	101	10413		0	0	0.56	0			0	No, Vu<V
SLU 55	1108	-854	-12	-9112		0	0	0.56	0			0	No, Vu<V
SLU 60	898	-871	143	12469		0	0	0.56	0			0	No, Vu<V
SLU 60	1108	-839	1	-9276		0	0	0.56	0			0	No, Vu<V
SLU 53	898	-862	88	10060		0	0	0.56	0			0	No, Vu<V
SLU 53	1108	-880	-16	-9326		0	0	0.56	0			0	No, Vu<V
SLU 54	898	-848	94	10222		0	0	0.56	0			0	No, Vu<V
SLU 54	1108	-862	-13	-9159		0	0	0.56	0			0	No, Vu<V
SLU 61	898	-857	150	12632		0	0	0.56	0			0	No, Vu<V
SLU 61	1108	-821	3	-9110		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 8	898	458	150	10318		0	0	0.83	0			0	No, Vu<V
SLV 8	1108	562	171	4776		0	0	0.83	0			0	No, Vu<V
SLV 13	898	-455	705	7535		0	0	0.83	0			0	No, Vu<V
SLV 13	1108	-618	-10	-6513		0	0	0.83	0			0	No, Vu<V
SLV 6	898	-1910	-529	-338		5.43	12.57	1.63	572			1.08	Si
SLV 6	1108	-2051	-228	-19985		0	0	0.83	0			0	No, Vu<V
SLV 7	898	458	150	10318		0	0	0.83	0			0	No, Vu<V
SLV 7	1108	562	171	4776		0	0	0.83	0			0	No, Vu<V
SLV 10	898	-1621	-69	1575		4.61	12.57	1.63	572			8.29	Si
SLV 10	1108	-1811	-192	-17767		0	0	0.83	0			0	No, Vu<V
SLV 9	898	-1621	-69	1575		4.61	12.57	1.63	572			8.29	Si
SLV 9	1108	-1811	-192	-17767		0	0	0.83	0			0	No, Vu<V
SLV 11	898	747	610	12231		0	0	0.83	0			0	No, Vu<V
SLV 11	1108	801	207	6994		0	0	0.83	0			0	No, Vu<V
SLV 14	898	-455	705	7535		0	0	0.83	0			0	No, Vu<V
SLV 14	1108	-618	-10	-6513		0	0	0.83	0			0	No, Vu<V
SLV 12	898	747	610	12231		0	0	0.83	0			0	No, Vu<V
SLV 12	1108	801	207	6994		0	0	0.83	0			0	No, Vu<V
SLD 1	898	-938	-329	3908		5.27	6.35	1.63	289			0.88	No, Vu<V
SLD 1	1108	-961	-62	-9654		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.46	0	141	1581	0	0	No, Trazione
SLV 8	14	0.46	0	537	1581	0	0	No, Trazione
SLV 12	14	0.46	0	776	1581	0	0	No, Trazione
SLV 7	14	0.46	0	537	1581	0	0	No, Trazione
SLV 16	14	0.46	0	141	1581	0	0	No, Trazione
SLV 11	14	0.46	0	776	1581	0	0	No, Trazione
SLV 13	14	0.46	1.83	-642	1581	7649	4.84	Si
SLV 14	14	0.46	1.83	-642	1581	7649	4.84	Si
SLV 4	14	0.46	1.87	-657	1581	7788	4.92	Si
SLV 3	14	0.46	1.87	-657	1581	7788	4.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-132	-1910	74	0	0.322	0.89	0	1908.669	No
SLV 7	-198	458	-5	0	0	0	0	1908.669	No, Trazione
SLV 9	-203	-1621	18	0	0.39	0.897	0	1908.669	No
SLV 2	-71	-1418	112	0	0.268	0.894	0	1093.542	No
SLV 6	-132	-1910	74	0	0.322	0.89	0	1908.669	No
SLV 8	-198	458	-5	0	0	0	0	1908.669	No, Trazione
SLV 4	-92	-708	88	0	0.285	0.89	0	1093.542	No
SLV 10	-203	-1621	18	0	0.39	0.897	0	1908.669	No
SLV 3	-92	-708	88	0	0.285	0.89	0	1093.542	No
SLV 1	-71	-1418	112	0	0.268	0.894	0	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 16	No



Maschio 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1375.3	67.2	-1375.3	104.6	L5	L6	37.4	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 28	898	-4837	-23602	4.61	39238	1.662	Si
SLU 28	1108	-1754	17994	1.67	26080	1.449	Si
SLU 71	898	-5529	-26008	5.28	36463	1.402	Si
SLU 71	1108	-2105	19259	2.01	29683	1.541	Si
SLU 69	898	-5619	-26109	5.36	35945	1.377	Si
SLU 69	1108	-2179	19409	2.08	30375	1.565	Si
SLU 29	898	-4829	-24602	4.61	39257	1.596	Si
SLU 29	1108	-1625	18875	1.55	24622	1.304	Si
SLU 78	898	-5808	-23900	5.54	34749	1.454	Si
SLU 78	1108	-2652	16354	2.53	34215	2.092	Si
SLU 70	898	-5537	-25009	5.28	36419	1.456	Si
SLU 70	1108	-2234	18378	2.13	30870	1.68	Si
SLU 27	898	-4919	-24703	4.69	39017	1.579	Si
SLU 27	1108	-1699	19025	1.62	25470	1.339	Si
SLU 77	898	-5891	-25000	5.62	34176	1.367	Si
SLU 77	1108	-2597	17385	2.48	33821	1.945	Si
SLU 79	898	-5800	-24899	5.53	34802	1.398	Si
SLU 79	1108	-2523	17235	2.41	33264	1.93	Si
SLU 30	898	-4746	-23501	4.53	39445	1.678	Si
SLU 30	1108	-1680	17844	1.6	25250	1.415	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 11	898	1878	73518	0	0	0	No, Trazione
SLV 11	1108	-5974	-56516	5.7	59648	1.055	Si
SLD 1	898	-4802	-32500	4.58	56170	1.728	Si
SLD 1	1108	-812	23077	0	0	0	No, e>l/2
SLV 10	898	-7574	-79082	7.23	57914	0.732	No, M>Mu
SLV 10	1108	1457	56342	0	0	0	No, Trazione
SLV 6	898	-8693	-95660	8.29	52256	0.546	No, M>Mu
SLV 6	1108	2261	69507	0	0	0	No, Trazione
SLV 7	898	759	56941	0	0	0	No, Trazione
SLV 7	1108	-5170	-43352	4.93	57695	1.331	Si
SLV 5	898	-8693	-95660	8.29	52256	0.546	No, M>Mu
SLV 5	1108	2261	69507	0	0	0	No, Trazione
SLV 12	898	1878	73518	0	0	0	No, Trazione
SLV 12	1108	-5974	-56516	5.7	59648	1.055	Si
SLV 8	898	759	56941	0	0	0	No, Trazione
SLV 8	1108	-5170	-43352	4.93	57695	1.331	Si
SLV 9	898	-7574	-79082	7.23	57914	0.732	No, M>Mu
SLV 9	1108	1457	56342	0	0	0	No, Trazione
SLV 2	898	-6690	-61590	6.38	59797	0.971	No, M>Mu
SLV 2	1108	598	45365	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 71	898	-5529	-476	-26008	4.61	5.28	37.43	1.08	1135			2.39	Si
SLU 71	1108	-2105	-473	19259	2.01	2.62	28.7	0.9	727			1.54	Si
SLU 29	898	-4829	-459	-24602	4.61	4.61	37.43	1.08	1135			2.48	Si
SLU 29	1108	-1625	-456	18875	1.55	2.72	21.3	0.92	548			1.2	Si
SLU 27	898	-4919	-461	-24703	4.69	4.69	37.43	1.08	1135			2.46	Si
SLU 27	1108	-1699	-458	19025	1.62	2.69	22.55	0.91	577			1.26	Si
SLU 8	898	-4132	-363	-19912	3.94	3.94	37.43	1.08	1133			3.12	Si
SLU 8	1108	-1530	-361	14820	2.02	2.02	27.08	0.82	625			1.73	Si
SLU 28	898	-4837	-440	-23602	4.61	4.61	37.43	1.08	1135			2.58	Si
SLU 28	1108	-1754	-435	17994	1.67	2.47	25.37	0.88	628			1.44	Si
SLU 70	898	-5537	-457	-25009	5.28	5.28	37.43	1.08	1135			2.49	Si
SLU 70	1108	-2234	-453	18378	2.13	2.54	31.47	0.89	787			1.74	Si
SLU 37	898	-5100	-431	-23493	4.87	4.87	37.43	1.08	1135			2.64	Si
SLU 37	1108	-2043	-427	16851	2.32	2.32	31.4	0.87	761			1.78	Si
SLU 69	898	-5619	-478	-26109	5.36	5.36	37.43	1.08	1135			2.37	Si
SLU 69	1108	-2179	-476	19409	2.08	2.64	29.43	0.91	748			1.57	Si
SLU 30	898	-4746	-437	-23501	4.53	4.53	37.43	1.08	1135			2.6	Si
SLU 30	1108	-1680	-432	17844	1.6	2.47	24.27	0.89	602			1.39	Si
SLU 72	898	-5446	-454	-24907	5.2	5.2	37.43	1.08	1135			2.5	Si
SLU 72	1108	-2160	-450	18228	2.5	2.5	30.83	0.89	768			1.7	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	898	-6690	-1329	-61590	6.38	8.38	28.53	1.63	1298			0.98	No, Vu<V
SLV 2	1108	598	-184	45365	0	0	0	0.83	0			0	No, Vu<V
SLV 12	898	1878	1760	73518	0	0	0	0.83	0			0	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	1108	-5974	1049	-56516		7.68	27.76	1.63	1263			1.2	Si
SLD 1	898	-4802	-667	-32500		4.78	35.84	1.63	1631			2.44	Si
SLD 1	1108	-812	-182	23077		0	0	0.83	0			0	No, Vu<V
SLV 11	898	1878	1760	73518		0	0	0.83	0			0	No, Vu<V
SLV 11	1108	-5974	1049	-56516		7.68	27.76	1.63	1263			1.2	Si
SLV 10	898	-7574	-1762	-79082		10.9	24.82	1.63	1129			0.64	No, Vu<V
SLV 10	1108	1457	-1667	56342		0	0	0.83	0			0	No, Vu<V
SLV 5	898	-8693	-2131	-95660		13.42	23.13	1.63	1052			0.49	No, Vu<V
SLV 5	1108	2261	-1421	69507		0	0	0.83	0			0	No, Vu<V
SLV 9	898	-7574	-1762	-79082		10.9	24.82	1.63	1129			0.64	No, Vu<V
SLV 9	1108	1457	-1667	56342		0	0	0.83	0			0	No, Vu<V
SLV 7	898	759	1391	56941		0	0	0.83	0			0	No, Vu<V
SLV 7	1108	-5170	1295	-43352		5.96	30.99	1.63	1410			1.09	Si
SLV 8	898	759	1391	56941		0	0	0.83	0			0	No, Vu<V
SLV 8	1108	-5170	1295	-43352		5.96	30.99	1.63	1410			1.09	Si
SLV 6	898	-8693	-2131	-95660		13.42	23.13	1.63	1052			0.49	No, Vu<V
SLV 6	1108	2261	-1421	69507		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.46	0	1370	4709	0	0	No, Trazione
SLV 1	14	0.46	0	508	4709	0	0	No, Trazione
SLV 5	14	0.46	0	2170	4709	0	0	No, Trazione
SLV 6	14	0.46	0	2170	4709	0	0	No, Trazione
SLV 10	14	0.46	0	1370	4709	0	0	No, Trazione
SLV 2	14	0.46	0	508	4709	0	0	No, Trazione
SLV 3	14	0.46	1.64	-1715	4709	20793	4.42	Si
SLV 4	14	0.46	1.64	-1715	4709	20793	4.42	Si
SLV 14	14	0.46	2.06	-2156	4709	25105	5.33	Si
SLV 13	14	0.46	2.06	-2156	4709	25105	5.33	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-1370	1878	2	0	0	0	0	1908.669	No, Trazione
SLV 7	-1377	759	1	0	0	0	0	1908.669	No, Trazione
SLV 8	-1377	759	1	0	0	0	0	1908.669	No, Trazione
SLV 11	-1370	1878	2	0	0	0	0	1908.669	No, Trazione
SLV 5	-1133	-8693	-2	0.047	1.684	0.919	74.714	1908.669	No
SLV 6	-1133	-8693	-2	0.047	1.684	0.919	74.714	1908.669	No
SLV 9	-1126	-7574	-1	0.048	1.677	0.919	75.838	1908.669	No
SLV 10	-1126	-7574	-1	0.048	1.677	0.919	75.838	1908.669	No
SLV 16	-1276	-125	2	0.047	1.828	0.924	73.54	1093.542	No
SLV 15	-1276	-125	2	0.047	1.828	0.924	73.54	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.304	SLU 29	Si
V_SLU	1.203	SLU 29	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 12	No

Maschio 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1239.3	333.1	-1239.3	104.6	L5	L6	228.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 69	898	-7558	178924	2.36	613056	3.426	Si
SLU 69	1250	-4981	106056	1.56	460335	4.34	Si
SLU 30	898	-6079	151870	1.9	532526	3.506	Si
SLU 30	1250	-3947	93449	1.23	382659	4.095	Si
SLU 80	898	-8049	187343	2.52	635554	3.392	Si
SLU 80	1250	-5024	108285	1.57	463335	4.279	Si
SLU 71	898	-7321	177678	2.29	601423	3.385	Si
SLU 71	1250	-4710	106643	1.47	440889	4.134	Si
SLU 70	898	-7542	178030	2.36	612298	3.439	Si
SLU 70	1250	-4965	105310	1.55	459145	4.36	Si
SLU 29	898	-6095	152764	1.91	533487	3.492	Si
SLU 29	1250	-3964	94196	1.24	384000	4.077	Si
SLU 79	898	-8065	188237	2.52	636243	3.38	Si
SLU 79	1250	-5041	109031	1.58	464517	4.26	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 78	898	-8286	188589	2.59	645672	3.424	Si
SLU 78	1250	-5295	107698	1.66	482036	4.476	Si
SLU 77	898	-8302	189483	2.6	646328	3.411	Si
SLU 77	1250	-5312	108444	1.66	483178	4.456	Si
SLU 72	898	-7305	176784	2.28	600631	3.398	Si
SLU 72	1250	-4694	105896	1.47	439658	4.152	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	898	-3886	131209	1.21	399846	3.047	Si
SLV 12	1250	-2540	137469	0.79	271316	1.974	Si
SLV 4	898	-4586	108285	1.43	462480	4.271	Si
SLV 4	1250	-3955	167654	1.24	406178	2.423	Si
SLD 11	898	-4758	120100	1.49	477463	3.976	Si
SLD 11	1250	-2963	92083	0.93	312835	3.397	Si
SLD 12	898	-4758	120100	1.49	477463	3.976	Si
SLD 12	1250	-2963	92083	0.93	312835	3.397	Si
SLV 3	898	-4586	108285	1.43	462480	4.271	Si
SLV 3	1250	-3955	167654	1.24	406178	2.423	Si
SLV 7	898	-3686	125944	1.15	381429	3.029	Si
SLV 7	1250	-3035	184583	0.95	319836	1.733	Si
SLV 8	898	-3686	125944	1.15	381429	3.029	Si
SLV 8	1250	-3035	184583	0.95	319836	1.733	Si
SLD 8	898	-4674	117875	1.46	470117	3.988	Si
SLD 8	1250	-3173	112085	0.99	333121	2.972	Si
SLV 11	898	-3886	131209	1.21	399846	3.047	Si
SLV 11	1250	-2540	137469	0.79	271316	1.974	Si
SLD 7	898	-4674	117875	1.46	470117	3.988	Si
SLD 7	1250	-3173	112085	0.99	333121	2.972	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	898	-6914	75	137880		2.16	228.5	0.84	2699			36.07	Si
SLU 52	1250	-4092	37	67998		1.28	228.5	0.73	2323			63.56	Si
SLU 46	898	-6593	79	144475		2.06	228.5	0.83	2656			33.66	Si
SLU 46	1250	-4261	46	79764		1.33	228.5	0.73	2345			51.13	Si
SLU 65	898	-6945	75	145564		2.17	228.5	0.85	2703			35.99	Si
SLU 65	1250	-4248	41	76911		1.33	228.5	0.73	2344			57.21	Si
SLU 64	898	-6971	86	147053		2.18	228.5	0.85	2707			31.6	Si
SLU 64	1250	-4276	47	78155		1.34	228.5	0.73	2347			50.41	Si
SLU 47	898	-6345	74	142633		1.98	228.5	0.82	2623			35.32	Si
SLU 47	1250	-3979	45	79853		1.24	228.5	0.72	2308			51.52	Si
SLU 60	898	-7260	79	143894		2.27	228.5	0.86	2745			34.79	Si
SLU 60	1250	-4262	35	70265		1.33	228.5	0.73	2345			66.49	Si
SLU 44	898	-6170	90	127321		1.93	228.5	0.81	2600			28.91	Si
SLU 44	1250	-3762	53	65609		1.18	228.5	0.71	2279			43.34	Si
SLU 45	898	-6609	85	145368		2.07	228.5	0.83	2658			31.19	Si
SLU 45	1250	-4278	49	80510		1.34	228.5	0.73	2348			47.68	Si
SLU 1	898	-4971	73	103896		1.55	228.5	0.76	2440			33.25	Si
SLU 1	1250	-3043	42	54406		0.95	228.5	0.68	2183			52.36	Si
SLU 43	898	-6196	100	128810		1.94	228.5	0.81	2603			25.91	Si
SLU 43	1250	-3790	58	66853		1.18	228.5	0.71	2283			39.23	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	898	-7124	4851	98306		2.23	228.5	1.28	4091			0.84	No, Vu<V
SLV 9	1250	-3518	3383	-67948		1.1	228.5	1.05	3369			1	No, Vu<V
SLV 8	898	-3686	-4721	125944		1.15	228.5	1.06	3403			0.72	No, Vu<V
SLV 8	1250	-3035	-3316	184583		1.35	160.3	1.1	2477			0.75	No, Vu<V
SLV 13	898	-6224	3450	115964		1.95	228.5	1.22	3911			1.13	Si
SLV 13	1250	-2598	2437	-51018		0.81	228.5	1	3185			1.31	Si
SLV 12	898	-3886	-3436	131209		1.21	228.5	1.08	3443			1	Si
SLV 12	1250	-2540	-2394	137469		1.01	180.37	1.03	2612			1.09	Si
SLV 11	898	-3886	-3436	131209		1.21	228.5	1.08	3443			1	Si
SLV 11	1250	-2540	-2394	137469		1.01	180.37	1.03	2612			1.09	Si
SLV 3	898	-4586	-3320	108285		1.43	228.5	1.12	3583			1.08	Si
SLV 3	1250	-3955	-2370	167654		1.31	215.59	1.1	3306			1.4	Si
SLV 4	898	-4586	-3320	108285		1.43	228.5	1.12	3583			1.08	Si
SLV 4	1250	-3955	-2370	167654		1.31	215.59	1.1	3306			1.4	Si
SLV 10	898	-7124	4851	98306		2.23	228.5	1.28	4091			0.84	No, Vu<V
SLV 10	1250	-3518	3383	-67948		1.1	228.5	1.05	3369			1	No, Vu<V
SLV 14	898	-6224	3450	115964		1.95	228.5	1.22	3911			1.13	Si
SLV 14	1250	-2598	2437	-51018		0.81	228.5	1	3185			1.31	Si
SLV 7	898	-3686	-4721	125944		1.15	228.5	1.06	3403			0.72	No, Vu<V
SLV 7	1250	-3035	-3316	184583		1.35	160.3	1.1	2477			0.75	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.46	1.14	-3650	13720	23167	1.69	Si
SLV 16	14	0.46	1.14	-3650	13720	23167	1.69	Si
SLV 12	14	0.46	1.21	-3865	13720	24380	1.78	Si
SLV 11	14	0.46	1.21	-3865	13720	24380	1.78	Si
SLV 14	14	0.46	1.25	-4001	13720	25140	1.83	Si
SLV 13	14	0.46	1.25	-4001	13720	25140	1.83	Si
SLV 8	14	0.46	1.38	-4399	13720	27329	1.99	Si
SLV 7	14	0.46	1.38	-4399	13720	27329	1.99	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	1.57	-5033	13720	30695	2.24	Si
SLV 9	14	0.46	1.57	-5033	13720	30695	2.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 $W_a = 0.03$ $T_a = 0.1478$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	-3955	-4586	-11	0.022	5.64	0.925	34.119	1908.669	No
SLV 4	-3955	-4586	-11	0.022	5.64	0.925	34.119	1908.669	No
SLV 8	-3035	-3686	-23	0.019	4.717	0.914	30.504	1667.536	No
SLV 7	-3035	-3686	-23	0.019	4.717	0.914	30.504	1667.536	No
SLV 9	-3518	-7124	22	0.019	5.201	0.92	30.632	1667.536	No
SLV 10	-3518	-7124	22	0.019	5.201	0.92	30.632	1667.536	No
SLV 5	-4013	-6924	20	0.02	5.699	0.926	31.348	1667.536	No
SLV 6	-4013	-6924	20	0.02	5.699	0.926	31.348	1667.536	No
SLV 14	-2598	-6224	10	0.023	4.282	0.908	36.104	1908.669	No
SLV 13	-2598	-6224	10	0.023	4.282	0.908	36.104	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.38	SLU 79	Si
V_SLU	25.913	SLU 43	Si
PF_SLV	1.733	SLV 7	Si
V_SLV	0.721	SLV 7	No
PFFP_SLV	1.689	SLV 15	Si
R_SLV	0.018	SLV 3	No

Maschio 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1505.8	333.1	-1074.8	333.1	L5	L6	431	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 79	898	-7699	-117823	1.28	1399327	11.877	Si
SLU 79	1088	-6755	-531353	1.12	1255630	2.363	Si
SLU 38	898	-6000	-92217	0.99	1135166	12.31	Si
SLU 38	1088	-5542	-462575	0.92	1059615	2.291	Si
SLU 37	898	-5992	-92454	0.99	1133870	12.264	Si
SLU 37	1088	-5536	-462337	0.92	1058660	2.29	Si
SLU 16	898	-5696	-84053	0.94	1085249	12.911	Si
SLU 16	1088	-4916	-395108	0.81	953357	2.413	Si
SLU 17	898	-5704	-83817	0.95	1086566	12.964	Si
SLU 17	1088	-4921	-395346	0.82	954342	2.414	Si
SLU 80	898	-7707	-117586	1.28	1400503	11.91	Si
SLU 80	1088	-6761	-531591	1.12	1256523	2.364	Si
SLU 41	898	-6485	-94810	1.07	1213193	12.796	Si
SLU 41	1088	-6173	-480301	1.02	1163270	2.422	Si
SLU 30	898	-5648	-95124	0.94	1077354	11.326	Si
SLU 30	1088	-4778	-395725	0.79	929610	2.349	Si
SLU 42	898	-6493	-94573	1.08	1214454	12.841	Si
SLU 42	1088	-6179	-480539	1.02	1164192	2.423	Si
SLU 29	898	-5640	-95361	0.93	1076034	11.284	Si
SLU 29	1088	-4773	-395487	0.79	928618	2.348	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 11	898	-5161	-21918	0.86	1034430	47.196	Si
SLD 11	1088	-3730	-519677	0.62	763150	1.469	Si
SLV 4	898	-3523	-428853	0.58	722951	1.686	Si
SLV 4	1088	-2613	-796192	0	0	0	No, e>l/2
SLD 12	898	-5161	-21918	0.86	1034430	47.196	Si
SLD 12	1088	-3730	-519677	0.62	763150	1.469	Si
SLD 8	898	-4707	-111773	0.78	949684	8.497	Si
SLD 8	1088	-3370	-596425	0.56	693103	1.162	Si
SLD 7	898	-4707	-111773	0.78	949684	8.497	Si
SLD 7	1088	-3370	-596425	0.56	693103	1.162	Si
SLV 11	898	-3731	77407	0.62	763291	9.861	Si
SLV 11	1088	-1794	-755084	0	0	0	No, e>l/2
SLV 12	898	-3731	77407	0.62	763291	9.861	Si
SLV 12	1088	-1794	-755084	0	0	0	No, e>l/2
SLV 8	898	-2659	-134554	0.44	552409	4.105	Si
SLV 8	1088	-945	-935651	0	0	0	No, e>l/2
SLV 7	898	-2659	-134554	0.44	552409	4.105	Si
SLV 7	1088	-945	-935651	0	0	0	No, e>l/2
SLV 3	898	-3523	-428853	0.58	722951	1.686	Si
SLV 3	1088	-2613	-796192	0	0	0	No, e>l/2



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 77	898	-8140	-274	-112257		1.35	431	0.74	4437			16.18	Si
SLU 77	1088	-7206	-274	-532311		1.21	424.9	0.72	4266			15.54	Si
SLU 84	898	-8201	-284	-119942		1.36	431	0.74	4446			15.67	Si
SLU 84	1088	-7398	-284	-549555		1.25	423.64	0.72	4281			15.08	Si
SLU 41	898	-6485	-253	-94810		1.07	431	0.7	4217			16.65	Si
SLU 41	1088	-6173	-253	-480301		1.07	413.09	0.7	4036			15.92	Si
SLU 78	898	-8147	-274	-112020		1.35	431	0.74	4439			16.18	Si
SLU 78	1088	-7212	-275	-532549		1.21	424.98	0.72	4267			15.54	Si
SLU 42	898	-6493	-253	-94573		1.08	431	0.7	4218			16.64	Si
SLU 42	1088	-6179	-254	-480539		1.07	413.19	0.7	4038			15.92	Si
SLU 81	898	-8535	-278	-123780		1.41	431	0.74	4490			16.13	Si
SLU 81	1088	-7702	-279	-538630		1.28	431	0.73	4379			15.72	Si
SLU 83	898	-8193	-284	-120178		1.36	431	0.74	4445			15.68	Si
SLU 83	1088	-7392	-284	-549316		1.25	423.57	0.72	4280			15.08	Si
SLU 80	898	-7707	-269	-117586		1.28	431	0.73	4380			16.26	Si
SLU 80	1088	-6761	-270	-531591		1.18	410.61	0.71	4095			15.19	Si
SLU 79	898	-7699	-269	-117823		1.28	431	0.73	4379			16.26	Si
SLU 79	1088	-6755	-269	-531353		1.18	410.51	0.71	4094			15.19	Si
SLU 82	898	-8543	-279	-123544		1.42	431	0.74	4491			16.12	Si
SLU 82	1088	-7708	-279	-538869		1.28	431	0.73	4380			15.71	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 4	898	-3523	-65	-428853		0.89	281.32	1.01	3987			61.21	Si
SLV 4	1088	-2613	-1572	-796192		0	0	0.83	0			0	No, Vu<V
SLV 2	898	-5335	271	-469150		1	382.68	1.03	5532			20.44	Si
SLV 2	1088	-4892	-1470	-496087		1.02	342.29	1.04	4972			3.38	Si
SLV 8	898	-2659	-647	-134554		0.44	431	0.92	5560			8.59	Si
SLV 8	1088	-945	-745	-935651		0	0	0.83	0			0	No, Vu<V
SLV 1	898	-5335	271	-469150		1	382.68	1.03	5532			20.44	Si
SLV 1	1088	-4892	-1470	-496087		1.02	342.29	1.04	4972			3.38	Si
SLD 4	898	-5074	-110	-236825		0.84	431	1	6043			54.99	Si
SLD 4	1088	-4083	-760	-536966		1.16	251.94	1.06	3756			4.94	Si
SLV 11	898	-3731	-810	77407		0.62	431	0.96	5774			7.13	Si
SLV 11	1088	-1794	66	-755084		0	0	0.83	0			0	No, Vu<V
SLV 7	898	-2659	-647	-134554		0.44	431	0.92	5560			8.59	Si
SLV 7	1088	-945	-745	-935651		0	0	0.83	0			0	No, Vu<V
SLD 3	898	-5074	-110	-236825		0.84	431	1	6043			54.99	Si
SLD 3	1088	-4083	-760	-536966		1.16	251.94	1.06	3756			4.94	Si
SLV 3	898	-3523	-65	-428853		0.89	281.32	1.01	3987			61.21	Si
SLV 3	1088	-2613	-1572	-796192		0	0	0.83	0			0	No, Vu<V
SLV 12	898	-3731	-810	77407		0.62	431	0.96	5774			7.13	Si
SLV 12	1088	-1794	66	-755084		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.46	0	-2613	25879	0	0	No, e>t/2
SLV 12	14	0.46	0	-1794	25879	0	0	No, e>t/2
SLV 11	14	0.46	0	-1794	25879	0	0	No, e>t/2
SLV 8	14	0.46	0	-945	25879	0	0	No, e>t/2
SLV 7	14	0.46	0	-945	25879	0	0	No, e>t/2
SLV 4	14	0.46	0	-2613	25879	0	0	No, e>t/2
SLV 1	14	0.46	0.81	-4892	25879	31973	1.24	Si
SLV 2	14	0.46	0.81	-4892	25879	31973	1.24	Si
SLV 15	14	0.46	0.9	-5442	25879	35285	1.36	Si
SLV 16	14	0.46	0.9	-5442	25879	35285	1.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-4398	-3731	286	0	7.58	0.904	0	1667.536	No
SLV 10	-7545	-9770	-288	0	10.724	0.925	0	1667.536	No
SLV 7	-4027	-2659	288	0	7.214	0.902	0	1667.536	No
SLV 6	-7174	-8699	-286	0	10.35	0.923	0	1667.536	No
SLV 8	-4027	-2659	288	0	7.214	0.902	0	1667.536	No
SLV 5	-7174	-8699	-286	0	10.35	0.923	0	1667.536	No
SLV 9	-7545	-9770	-288	0	10.724	0.925	0	1667.536	No
SLV 12	-4398	-3731	286	0	7.58	0.904	0	1667.536	No
SLV 4	-4694	-3523	90	0.012	7.873	0.907	19.335	1908.669	No
SLV 3	-4694	-3523	90	0.012	7.873	0.907	19.335	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.29	SLU 37	Si
V_SLU	15.08	SLU 84	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 3	No
R_SLV	0	SLV 5	No



Maschio 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-994.8	333.1	-972.8	333.1	L5	L6	22	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 56	898	388	9445	0	0	0	No, Trazione
SLU 56	1088	-1834	-9318	5.96	5425	0.582	No, M>Mu
SLU 59	898	396	9256	0	0	0	No, Trazione
SLU 59	1088	-1780	-9109	5.78	5689	0.625	No, M>Mu
SLU 54	898	324	9265	0	0	0	No, Trazione
SLU 54	1088	-1846	-9162	5.99	5363	0.585	No, M>Mu
SLU 55	898	332	9072	0	0	0	No, Trazione
SLU 55	1088	-1791	-8950	5.82	5636	0.63	No, M>Mu
SLU 57	898	388	9454	0	0	0	No, Trazione
SLU 57	1088	-1837	-9327	5.96	5413	0.58	No, M>Mu
SLU 1	898	128	5822	0	0	0	No, Trazione
SLU 1	1088	-1212	-5782	3.94	6892	1.192	Si
SLU 60	898	333	9654	0	0	0	No, Trazione
SLU 60	1088	-1928	-9526	6.26	4913	0.516	No, M>Mu
SLU 53	898	324	9256	0	0	0	No, Trazione
SLU 53	1088	-1844	-9153	5.99	5375	0.587	No, M>Mu
SLU 58	898	396	9247	0	0	0	No, Trazione
SLU 58	1088	-1778	-9100	5.77	5699	0.626	No, M>Mu
SLU 61	898	333	9663	0	0	0	No, Trazione
SLU 61	1088	-1930	-9535	6.27	4900	0.514	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 4	898	1027	12961	0	0	0	No, Trazione
SLV 4	1088	-2006	-16376	6.51	10304	0.629	No, M>Mu
SLV 10	898	-1086	-3277	3.52	8497	2.593	Si
SLV 10	1088	-97	4151	0	0	0	No, e>l/2
SLV 3	898	1027	12961	0	0	0	No, Trazione
SLV 3	1088	-2006	-16376	6.51	10304	0.629	No, M>Mu
SLV 11	898	1234	14774	0	0	0	No, Trazione
SLV 11	1088	-2471	-13347	8.02	9335	0.699	No, M>Mu
SLV 2	898	331	7545	0	0	0	No, Trazione
SLV 2	1088	-1293	-11127	4.2	9338	0.839	No, M>Mu
SLV 7	898	1513	16853	0	0	0	No, Trazione
SLV 7	1088	-2640	-17572	8.57	8670	0.493	No, M>Mu
SLV 9	898	-1086	-3277	3.52	8497	2.593	Si
SLV 9	1088	-97	4151	0	0	0	No, e>l/2
SLD 1	898	263	7117	0	0	0	No, Trazione
SLD 1	1088	-1336	-8585	4.34	9480	1.104	Si
SLV 12	898	1234	14774	0	0	0	No, Trazione
SLV 12	1088	-2471	-13347	8.02	9335	0.699	No, M>Mu
SLV 8	898	1513	16853	0	0	0	No, Trazione
SLV 8	1088	-2640	-17572	8.57	8670	0.493	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 53	898	324	232	9256	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 53	1088	-1844	231	-9153	7.27	18.11	1.08	275	0	0	0	1.19	Si
SLU 58	898	396	232	9247	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 58	1088	-1778	231	-9100	7.2	17.64	1.08	268	0	0	0	1.16	Si
SLU 59	898	396	232	9256	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 59	1088	-1780	232	-9109	7.2	17.65	1.08	268	0	0	0	1.16	Si
SLU 54	898	324	232	9265	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 54	1088	-1846	232	-9162	7.28	18.11	1.08	275	0	0	0	1.19	Si
SLU 56	898	388	237	9445	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 56	1088	-1834	236	-9318	7.38	17.76	1.08	269	0	0	0	1.14	Si
SLU 60	898	333	241	9654	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 60	1088	-1928	241	-9526	7.58	18.17	1.08	276	0	0	0	1.14	Si
SLU 61	898	333	241	9663	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 61	1088	-1930	241	-9535	7.58	18.18	1.08	276	0	0	0	1.14	Si
SLU 1	898	128	145	5822	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 1	1088	-1212	145	-5782	4.63	18.69	1.08	283	0	0	0	1.95	Si
SLU 57	898	388	237	9454	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 57	1088	-1837	237	-9327	7.38	17.77	1.08	269	0	0	0	1.14	Si
SLU 55	898	332	227	9072	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 55	1088	-1791	227	-8950	7.1	18.01	1.08	273	0	0	0	1.2	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	898	331	-15	7545	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 2	1088	-1293	165	-11127	12.85	7.19	1.63	164	0	0	0	0.99	No, Vu<V
SLV 9	898	-1086	-26	-3277	3.52	22	1.54	474	0	0	0	18.47	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	1088	-97	-128	4151		0	0	0.83	0			0	No, Vu<V
SLV 8	898	1513	365	16853		0	0	0.83	0			0	No, Vu<V
SLV 8	1088	-2640	467	-17572		14.47	13.03	1.63	296			0.63	No, Vu<V
SLV 11	898	1234	434	14774		0	0	0.83	0			0	No, Vu<V
SLV 11	1088	-2471	420	-13347		10.51	16.79	1.63	382			0.91	No, Vu<V
SLV 12	898	1234	434	14774		0	0	0.83	0			0	No, Vu<V
SLV 12	1088	-2471	420	-13347		10.51	16.79	1.63	382			0.91	No, Vu<V
SLV 7	898	1513	365	16853		0	0	0.83	0			0	No, Vu<V
SLV 7	1088	-2640	467	-17572		14.47	13.03	1.63	296			0.63	No, Vu<V
SLV 10	898	-1086	-26	-3277		3.52	22	1.54	474			18.47	Si
SLV 10	1088	-97	-128	4151		0	0	0.83	0			0	No, Vu<V
SLV 4	898	1027	123	12961		0	0	0.83	0			0	No, Vu<V
SLV 4	1088	-2006	329	-16376		16.84	8.5	1.63	193			0.59	No, Vu<V
SLV 3	898	1027	123	12961		0	0	0.83	0			0	No, Vu<V
SLV 3	1088	-2006	329	-16376		16.84	8.5	1.63	193			0.59	No, Vu<V
SLD 1	898	263	91	7117		0	0	0.83	0			0	No, Vu<V
SLD 1	1088	-1336	168	-8585		6.95	13.73	1.63	312			1.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.03 denominatore $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	0	-97	1321	0	0	No, $e>t/2$
SLV 9	14	0.46	0	-97	1321	0	0	No, $e>t/2$
SLV 5	14	0.46	0.86	-265	1321	1727	1.31	Si
SLV 6	14	0.46	0.86	-265	1321	1727	1.31	Si
SLV 13	14	0.46	2.37	-731	1321	4121	3.12	Si
SLV 14	14	0.46	2.37	-731	1321	4121	3.12	Si
SLV 8	14	0.46	8.57	-2640	1321	5518	4.18	Si
SLV 7	14	0.46	8.57	-2640	1321	5518	4.18	Si
SLV 11	14	0.46	8.02	-2471	1321	5941	4.5	Si
SLV 12	14	0.46	8.02	-2471	1321	5941	4.5	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 7	230	1513	10	0	0	0	0	1667.536	No, Trazione
SLV 4	113	1027	7	0	0	0	0	1908.669	No, Trazione
SLV 11	137	1234	8	0	0	0	0	1667.536	No, Trazione
SLV 2	-79	331	2	0	0	0	0	1908.669	No, Trazione
SLV 3	113	1027	7	0	0	0	0	1908.669	No, Trazione
SLV 12	137	1234	8	0	0	0	0	1667.536	No, Trazione
SLV 1	-79	331	2	0	0	0	0	1908.669	No, Trazione
SLV 8	230	1513	10	0	0	0	0	1667.536	No, Trazione
SLV 16	-196	96	-2	0	0	0	0	1908.669	No, Trazione
SLV 15	-196	96	-2	0	0	0	0	1908.669	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 9	No
R_SLV	0	SLV 16	No

Maschio 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1975.8	666.1	-1771.8	666.1	L5	L6	204	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 30	988	-5836	25728	1.02	520580	20.234	Si
SLU 30	1168	-3844	154214	0.67	359672	2.332	Si
SLU 29	988	-5845	27122	1.02	521307	19.221	Si
SLU 29	1168	-3853	153422	0.67	360483	2.35	Si
SLU 27	988	-6549	25982	1.15	573979	22.091	Si
SLU 27	1168	-4557	147676	0.8	419302	2.839	Si
SLU 37	988	-7146	17166	1.25	616933	35.939	Si
SLU 37	1168	-5154	160002	0.9	467468	2.922	Si
SLU 7	988	-5860	26836	1.03	522453	19.468	Si
SLU 7	1168	-3895	127023	0.68	364041	2.866	Si
SLU 8	988	-5166	29369	0.9	468411	15.949	Si
SLU 8	1168	-3201	131977	0.56	304017	2.304	Si
SLU 38	988	-7136	15773	1.25	616260	39.071	Si
SLU 38	1168	-5144	160794	0.9	466712	2.903	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 6	988	-5870	28230	1.03	523179	18.533	Si
SLU 6	1168	-3905	126231	0.68	364850	2.89	Si
SLU 28	988	-6540	24589	1.14	573281	23.315	Si
SLU 28	1168	-4548	148469	0.8	418520	2.819	Si
SLU 9	988	-5156	27975	0.9	467655	16.717	Si
SLU 9	1168	-3191	132769	0.56	303179	2.284	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	988	-7128	273844	1.25	652826	2.384	Si
SLV 12	1168	-5572	-144406	0.98	522994	3.622	Si
SLV 5	988	-9496	-259871	1.66	836814	3.22	Si
SLV 5	1168	-7107	276442	1.24	651071	2.355	Si
SLV 16	988	-3912	410839	0	0	0	No, $e > l/2$
SLV 16	1168	-2430	-254468	0	0	0	No, $e > l/2$
SLV 2	988	-12713	-396866	2.23	1060497	2.672	Si
SLV 2	1168	-10249	386504	1.79	891899	2.308	Si
SLV 14	988	-3822	314772	0.67	368498	1.171	Si
SLV 14	1168	-2162	-179119	0.38	213716	1.193	Si
SLV 1	988	-12713	-396866	2.23	1060497	2.672	Si
SLV 1	1168	-10249	386504	1.79	891899	2.308	Si
SLV 13	988	-3822	314772	0.67	368498	1.171	Si
SLV 13	1168	-2162	-179119	0.38	213716	1.193	Si
SLV 6	988	-9496	-259871	1.66	836814	3.22	Si
SLV 6	1168	-7107	276442	1.24	651071	2.355	Si
SLV 15	988	-3912	410839	0	0	0	No, $e > l/2$
SLV 15	1168	-2430	-254468	0	0	0	No, $e > l/2$
SLV 11	988	-7128	273844	1.25	652826	2.384	Si
SLV 11	1168	-5572	-144406	0.98	522994	3.622	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	988	-9941	-761	19939		1.74	204	0.79	4499			5.91	Si
SLU 77	1168	-7369	-761	164307		1.29	204	0.73	4156			5.46	Si
SLU 36	988	-7840	-749	14633		1.37	204	0.74	4219			5.63	Si
SLU 36	1168	-5848	-749	155049		1.02	204	0.69	3953			5.28	Si
SLU 38	988	-7136	-774	15773		1.25	204	0.72	4125			5.33	Si
SLU 38	1168	-5144	-774	160794		0.9	204	0.68	3859			4.98	Si
SLU 30	988	-5836	-682	25728		1.02	204	0.69	3951			5.79	Si
SLU 30	1168	-3844	-682	154214		0.74	185.64	0.65	3400			4.98	Si
SLU 78	988	-9931	-773	18546		1.74	204	0.79	4497			5.82	Si
SLU 78	1168	-7359	-773	165099		1.29	204	0.73	4155			5.37	Si
SLU 35	988	-7850	-737	16027		1.37	204	0.74	4220			5.73	Si
SLU 35	1168	-5858	-737	154256		1.03	204	0.69	3954			5.37	Si
SLU 29	988	-5845	-670	27122		1.02	204	0.69	3953			5.9	Si
SLU 29	1168	-3853	-670	153422		0.74	186.55	0.65	3416			5.1	Si
SLU 79	988	-9237	-787	21079		1.62	204	0.77	4405			5.6	Si
SLU 79	1168	-6665	-787	170052		1.17	204	0.71	4062			5.16	Si
SLU 37	988	-7146	-762	17166		1.25	204	0.72	4126			5.41	Si
SLU 37	1168	-5154	-762	160002		0.9	204	0.68	3861			5.07	Si
SLU 80	988	-9227	-799	19685		1.62	204	0.77	4404			5.51	Si
SLU 80	1168	-6655	-799	170845		1.17	204	0.71	4061			5.08	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	988	-12802	-3918	-300799		2.24	204	1.28	7320			1.87	Si
SLV 3	1168	-10517	-3070	311156		1.84	204	1.2	6863			2.24	Si
SLV 13	988	-3822	3325	314772		2.32	58.93	1.3	2139			0.64	No, $V_u < V$
SLV 13	1168	-2162	2477	-179119		1.34	57.48	1.1	1774			0.72	No, $V_u < V$
SLV 1	988	-12713	-4408	-396866		2.23	204	1.28	7303			1.66	Si
SLV 1	1168	-10249	-3671	386504		1.9	192.87	1.21	6550			1.78	Si
SLV 4	988	-12802	-3918	-300799		2.24	204	1.28	7320			1.87	Si
SLV 4	1168	-10517	-3070	311156		1.84	204	1.2	6863			2.24	Si
SLV 16	988	-3912	3815	410839		0	0	0.83	0			0	No, $V_u < V$
SLV 16	1168	-2430	3078	-254468		0	0	0.83	0			0	No, $V_u < V$
SLV 6	988	-9496	-2272	-259871		1.66	204	1.17	6659			2.93	Si
SLV 6	1168	-7107	-2221	276442		1.34	189.3	1.1	5838			2.63	Si
SLV 2	988	-12713	-4408	-396866		2.23	204	1.28	7303			1.66	Si
SLV 2	1168	-10249	-3671	386504		1.9	192.87	1.21	6550			1.78	Si
SLV 15	988	-3912	3815	410839		0	0	0.83	0			0	No, $V_u < V$
SLV 15	1168	-2430	3078	-254468		0	0	0.83	0			0	No, $V_u < V$
SLV 14	988	-3822	3325	314772		2.32	58.93	1.3	2139			0.64	No, $V_u < V$
SLV 14	1168	-2162	2477	-179119		1.34	57.48	1.1	1774			0.72	No, $V_u < V$
SLV 5	988	-9496	-2272	-259871		1.66	204	1.17	6659			2.93	Si
SLV 5	1168	-7107	-2221	276442		1.34	189.3	1.1	5838			2.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 W_a 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.46	0.48	-2718	25082	36576	1.46	Si
SLV 14	14	0.46	0.48	-2718	25082	36576	1.46	Si
SLV 15	14	0.46	0.53	-3019	25082	40440	1.61	Si
SLV 16	14	0.46	0.53	-3019	25082	40440	1.61	Si
SLV 9	14	0.46	0.95	-5399	25082	69744	2.78	Si
SLV 10	14	0.46	0.95	-5399	25082	69744	2.78	Si
SLV 11	14	0.46	1.12	-6402	25082	81406	3.25	Si
SLV 12	14	0.46	1.12	-6402	25082	81406	3.25	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.46	1.4	-7998	25082	99142	3.95	Si
SLV 5	14	0.46	1.4	-7998	25082	99142	3.95	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-6518	-11238	66	0.04	9.524	0.922	63.798	1908.669	No
SLV 7	-6518	-11238	66	0.04	9.524	0.922	63.798	1908.669	No
SLV 12	-5469	-7131	45	0.044	8.473	0.915	69.141	1908.669	No
SLV 11	-5469	-7131	45	0.044	8.473	0.915	69.141	1908.669	No
SLV 10	-2747	-5635	-51	0.044	5.795	0.893	72.251	1908.669	No
SLV 9	-2747	-5635	-51	0.044	5.795	0.893	72.251	1908.669	No
SLV 5	-3796	-9741	-29	0.047	6.814	0.901	76.368	1908.669	No
SLV 6	-3796	-9741	-29	0.047	6.814	0.901	76.368	1908.669	No
SLV 4	-6790	-15505	58	0.041	9.797	0.923	65.185	1093.542	No
SLV 3	-6790	-15505	58	0.041	9.797	0.923	65.185	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.284	SLU 9	Si
V_SLU	4.983	SLU 30	Si
PF_SLV	0	SLV 15	No
V_SLV	0	SLV 15	No
PFFP_SLV	1.458	SLV 13	Si
R_SLV	0.033	SLV 7	No

Maschio 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1681.8	666.1	-1283.8	666.1	L5	L6	398	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 7	988	-18192	103732	1.63	2894709	27.906	Si
SLU 7	1168	-14207	135660	1.27	2384682	17.578	Si
SLU 9	988	-17569	112193	1.58	2819542	25.131	Si
SLU 9	1168	-13539	156772	1.21	2292458	14.623	Si
SLU 51	988	-21689	117728	1.95	3284860	27.902	Si
SLU 51	1168	-16576	154911	1.49	2696285	17.405	Si
SLU 8	988	-17591	113214	1.58	2822228	24.928	Si
SLU 8	1168	-13562	155209	1.22	2295617	14.791	Si
SLU 6	988	-18214	104752	1.63	2897335	27.659	Si
SLU 6	1168	-14229	134096	1.28	2387775	17.806	Si
SLU 30	988	-19743	135913	1.77	3074363	22.62	Si
SLU 30	1168	-15688	161575	1.41	2582436	15.983	Si
SLU 72	988	-23863	141447	2.14	3500409	24.747	Si
SLU 72	1168	-18725	159714	1.68	2957650	18.518	Si
SLU 50	988	-21711	118748	1.95	3287148	27.682	Si
SLU 50	1168	-16599	153347	1.49	2699143	17.601	Si
SLU 71	988	-23885	142467	2.14	3502487	24.584	Si
SLU 71	1168	-18748	158150	1.68	2960294	18.718	Si
SLU 29	988	-19765	136933	1.77	3076840	22.47	Si
SLU 29	1168	-15711	160011	1.41	2585382	16.157	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLD 14	988	-16240	517853	1.46	2846380	5.497	Si
SLD 14	1168	-12935	-466302	1.16	2329578	4.996	Si
SLV 14	988	-14710	1138453	1.32	2611087	2.294	Si
SLV 14	1168	-11812	-1081950	1.06	2146613	1.984	Si
SLV 1	988	-17989	-1013005	1.61	3106832	3.067	Si
SLV 1	1168	-15620	1050632	1.4	2751770	2.619	Si
SLV 15	988	-16761	1123540	1.5	2924854	2.603	Si
SLV 15	1168	-11932	-1066550	1.07	2166448	2.031	Si
SLV 13	988	-14710	1138453	1.32	2611087	2.294	Si
SLV 13	1168	-11812	-1081950	1.06	2146613	1.984	Si
SLV 2	988	-17989	-1013005	1.61	3106832	3.067	Si
SLV 2	1168	-15620	1050632	1.4	2751770	2.619	Si
SLV 4	988	-20039	-1027917	1.8	3400949	3.309	Si
SLV 4	1168	-15740	1066032	1.41	2770262	2.599	Si
SLD 13	988	-16240	517853	1.46	2846380	5.497	Si
SLD 13	1168	-12935	-466302	1.16	2329578	4.996	Si
SLV 16	988	-16761	1123540	1.5	2924854	2.603	Si
SLV 16	1168	-11932	-1066550	1.07	2166448	2.031	Si
SLV 3	988	-20039	-1027917	1.8	3400949	3.309	Si
SLV 3	1168	-15740	1066032	1.41	2770262	2.599	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 40	988	-21047	559	82930		1.89	398	0.81	8997			16.1	Si
SLU 40	1168	-17622	559	-37431		1.58	398	0.77	8541			15.28	Si
SLU 61	988	-22993	477	64745		2.06	398	0.83	9257			19.43	Si
SLU 61	1168	-18510	477	-44095		1.66	398	0.78	8659			18.17	Si
SLU 31	988	-20230	462	77847		1.82	398	0.8	8888			19.23	Si
SLU 31	1168	-16732	462	-23464		1.5	398	0.76	8422			18.22	Si
SLU 39	988	-21069	573	83950		1.89	398	0.81	9000			15.71	Si
SLU 39	1168	-17645	573	-38995		1.58	398	0.77	8544			14.91	Si
SLU 60	988	-23015	491	65765		2.07	398	0.83	9260			18.87	Si
SLU 60	1168	-18533	491	-45659		1.66	398	0.78	8662			17.64	Si
SLU 82	988	-25167	578	88464		2.26	398	0.86	9547			16.51	Si
SLU 82	1168	-20659	578	-39292		1.85	398	0.8	8946			15.47	Si
SLU 81	988	-25189	593	89484		2.26	398	0.86	9550			16.12	Si
SLU 81	1168	-20682	593	-40856		1.86	398	0.8	8949			15.1	Si
SLU 19	988	-18873	457	59210		1.69	398	0.78	8708			19.05	Si
SLU 19	1168	-15473	457	-42234		1.39	398	0.74	8254			18.06	Si
SLU 73	988	-24350	482	83381		2.18	398	0.85	9438			19.59	Si
SLU 73	1168	-19769	482	-25325		1.77	398	0.79	8827			18.32	Si
SLU 18	988	-18895	471	60231		1.7	398	0.78	8710			18.48	Si
SLU 18	1168	-15496	471	-43797		1.39	398	0.74	8257			17.52	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 14	988	-14710	12997	1138453		1.44	364.82	1.12	11455			0.88	No, Vu<V
SLV 14	1168	-11812	11488	-1081950		1.31	322.2	1.1	9880			0.86	No, Vu<V
SLV 2	988	-17989	-12332	-1013005		1.61	398	1.16	12884			1.04	Si
SLV 2	1168	-15620	-10965	1050632		1.41	395.21	1.12	12346			1.13	Si
SLV 16	988	-16761	12869	1123540		1.51	395.9	1.14	12590			0.98	No, Vu<V
SLV 16	1168	-11932	11502	-1066550		1.3	328.85	1.09	10060			0.87	No, Vu<V
SLV 15	988	-16761	12869	1123540		1.51	395.9	1.14	12590			0.98	No, Vu<V
SLV 15	1168	-11932	11502	-1066550		1.3	328.85	1.09	10060			0.87	No, Vu<V
SLV 1	988	-17989	-12332	-1013005		1.61	398	1.16	12884			1.04	Si
SLV 1	1168	-15620	-10965	1050632		1.41	395.21	1.12	12346			1.13	Si
SLD 13	988	-16240	5703	517853		1.46	398	1.12	12535			2.2	Si
SLD 13	1168	-12935	5059	-466302		1.16	398	1.07	11874			2.35	Si
SLV 4	988	-20039	-12460	-1027917		1.8	398	1.19	13295			1.07	Si
SLV 4	1168	-15740	-10951	1066032		1.43	393.82	1.12	12337			1.13	Si
SLV 13	988	-14710	12997	1138453		1.44	364.82	1.12	11455			0.88	No, Vu<V
SLV 13	1168	-11812	11488	-1081950		1.31	322.2	1.1	9880			0.86	No, Vu<V
SLD 14	988	-16240	5703	517853		1.46	398	1.12	12535			2.2	Si
SLD 14	1168	-12935	5059	-466302		1.16	398	1.07	11874			2.35	Si
SLV 3	988	-20039	-12460	-1027917		1.8	398	1.19	13295			1.07	Si
SLV 3	1168	-15740	-10951	1066032		1.43	393.82	1.12	12337			1.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.46	1.16	-12941	48934	163959	3.35	Si
SLV 10	14	0.46	1.16	-12941	48934	163959	3.35	Si
SLV 13	14	0.46	1.17	-13054	48934	165239	3.38	Si
SLV 14	14	0.46	1.17	-13054	48934	165239	3.38	Si
SLV 6	14	0.46	1.25	-13967	48934	175483	3.59	Si
SLV 5	14	0.46	1.25	-13967	48934	175483	3.59	Si
SLV 15	14	0.46	1.27	-14177	48934	177814	3.63	Si
SLV 16	14	0.46	1.27	-14177	48934	177814	3.63	Si
SLV 1	14	0.46	1.48	-16474	48934	202732	4.14	Si
SLV 2	14	0.46	1.48	-16474	48934	202732	4.14	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-10161	-12764	-622	0.005	16.022	0.913	7.302	1908.669	No
SLV 10	-10161	-12764	-622	0.005	16.022	0.913	7.302	1908.669	No
SLV 11	-10420	-20441	617	0.006	16.281	0.914	8.92	1908.669	No
SLV 12	-10420	-20441	617	0.006	16.281	0.914	8.92	1908.669	No
SLV 5	-10893	-14024	-626	0.006	16.753	0.915	9.71	1908.669	No
SLV 6	-10893	-14024	-626	0.006	16.753	0.915	9.71	1908.669	No
SLV 7	-11153	-21701	613	0.008	17.013	0.916	11.995	1908.669	No
SLV 8	-11153	-21701	613	0.008	17.013	0.916	11.995	1908.669	No
SLV 1	-11838	-18181	-196	0.036	17.699	0.919	57.151	1093.542	No
SLV 2	-11838	-18181	-196	0.036	17.699	0.919	57.151	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	14.623	SLV 9	Si
V_SLV	14.907	SLV 39	Si
PF_SLV	1.984	SLV 13	Si
V_SLV	0.86	SLV 13	No
PFFP_SLV	3.351	SLV 9	Si
R_SLV	0.004	SLV 9	No



Maschio 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1193.8	666.1	-795.8	666.1	L5	L6	398	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 6	988	-19028	5850	1.71	2992850	511.558	Si
SLU 6	1168	-15038	-85530	1.35	2496753	29.192	Si
SLU 72	988	-24842	-3257	2.23	3590668	1000	Si
SLU 72	1168	-19730	-99861	1.77	3072867	30.771	Si
SLU 8	988	-18465	5624	1.66	2927145	520.498	Si
SLU 8	1168	-14426	-104450	1.29	2414507	23.116	Si
SLU 51	988	-22544	-1068	2.02	3372157	1000	Si
SLU 51	1168	-17427	-102181	1.56	2802181	27.424	Si
SLU 9	988	-18436	6607	1.65	2923659	442.509	Si
SLU 9	1168	-14398	-106375	1.29	2410717	22.663	Si
SLU 29	988	-20763	3434	1.86	3186739	928.002	Si
SLU 29	1168	-16728	-102131	1.5	2715494	26.588	Si
SLU 50	988	-22574	-2051	2.03	3375111	1000	Si
SLU 50	1168	-17455	-100257	1.57	2805600	27.984	Si
SLU 7	988	-18998	6834	1.7	2989437	437.454	Si
SLU 7	1168	-15010	-87454	1.35	2493038	28.507	Si
SLU 30	988	-20733	4417	1.86	3183550	720.712	Si
SLU 30	1168	-16701	-104055	1.5	2711986	26.063	Si
SLU 71	988	-24871	-4241	2.23	3593325	847.35	Si
SLU 71	1168	-19757	-97937	1.77	3076004	31.408	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	988	-20549	1061612	1.84	3472123	3.271	Si
SLV 15	1168	-16337	-1013252	1.47	2860943	2.824	Si
SLV 14	988	-18651	1068078	1.67	3203119	2.999	Si
SLV 14	1168	-15914	-1092086	1.43	2796827	2.561	Si
SLV 1	988	-14484	-1125280	1.3	2575782	2.289	Si
SLV 1	1168	-11615	1067240	1.04	2114207	1.981	Si
SLD 4	988	-17030	-501507	1.53	2965190	5.913	Si
SLD 4	1168	-13150	504624	1.18	2364092	4.685	Si
SLV 13	988	-18651	1068078	1.67	3203119	2.999	Si
SLV 13	1168	-15914	-1092086	1.43	2796827	2.561	Si
SLV 2	988	-14484	-1125280	1.3	2575782	2.289	Si
SLV 2	1168	-11615	1067240	1.04	2114207	1.981	Si
SLD 3	988	-17030	-501507	1.53	2965190	5.913	Si
SLD 3	1168	-13150	504624	1.18	2364092	4.685	Si
SLV 3	988	-16383	-1131745	1.47	2867903	2.534	Si
SLV 3	1168	-12037	1146074	1.08	2183629	1.905	Si
SLV 4	988	-16383	-1131745	1.47	2867903	2.534	Si
SLV 4	1168	-12037	1146074	1.08	2183629	1.905	Si
SLV 16	988	-20549	1061612	1.84	3472123	3.271	Si
SLV 16	1168	-16337	-1013252	1.47	2860943	2.824	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	988	-24842	592	-3257	2.23	398	0.85	9503				16.04	Si
SLU 72	1168	-19730	593	-99861	1.77	398	0.79	8822				14.88	Si
SLU 8	988	-18465	638	5624	1.66	398	0.78	8653				13.56	Si
SLU 8	1168	-14426	638	-104450	1.29	398	0.73	8115				12.71	Si
SLU 7	988	-18998	557	6834	1.7	398	0.78	8724				15.67	Si
SLU 7	1168	-15010	557	-87454	1.35	398	0.74	8192				14.71	Si
SLU 6	988	-19028	540	5850	1.71	398	0.78	8728				16.16	Si
SLU 6	1168	-15038	541	-85530	1.35	398	0.74	8196				15.16	Si
SLU 30	988	-20733	636	4417	1.86	398	0.8	8956				14.07	Si
SLU 30	1168	-16701	637	-104055	1.5	398	0.76	8418				13.22	Si
SLU 51	988	-22544	610	-1068	2.02	398	0.83	9197				15.07	Si
SLU 51	1168	-17427	611	-102181	1.56	398	0.76	8515				13.94	Si
SLU 29	988	-20763	620	3434	1.86	398	0.8	8959				14.45	Si
SLU 29	1168	-16728	620	-102131	1.5	398	0.76	8422				13.57	Si
SLU 50	988	-22574	594	-2051	2.03	398	0.83	9201				15.49	Si
SLU 50	1168	-17455	595	-100257	1.57	398	0.76	8518				14.33	Si
SLU 71	988	-24871	576	-4241	2.23	398	0.85	9507				16.5	Si
SLU 71	1168	-19757	577	-97937	1.77	398	0.79	8825				15.31	Si
SLU 9	988	-18436	654	6607	1.65	398	0.78	8649				13.22	Si
SLU 9	1168	-14398	655	-106375	1.29	398	0.73	8111				12.39	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	988	-16383	-13310	-1131745	1.5	389.75	1.13	12371				0.93	No, Vu<V
SLV 4	1168	-12037	-11689	1146074	1.38	311.36	1.11	9673				0.83	No, Vu<V
SLV 13	988	-18651	12836	1068078	1.67	398	1.17	13017				1.01	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1168	-15914	11215	-1092086		1.45	391.13	1.12	12309			1.1	Si
SLV 2	988	-14484	-12754	-1125280		1.42	363.93	1.12	11389			0.89	No, Vu<V
SLV 2	1168	-11615	-11505	1067240		1.29	321.34	1.09	9821			0.85	No, Vu<V
SLV 16	988	-20549	12280	1061612		1.84	398	1.2	13396			1.09	Si
SLV 16	1168	-16337	11030	-1013252		1.47	398	1.13	12554			1.14	Si
SLV 3	988	-16383	-13310	-1131745		1.5	389.75	1.13	12371			0.93	No, Vu<V
SLV 3	1168	-12037	-11689	1146074		1.38	311.36	1.11	9673			0.83	No, Vu<V
SLD 4	988	-17030	-5819	-501507		1.53	398	1.14	12693			2.18	Si
SLD 4	1168	-13150	-5128	504624		1.18	398	1.07	11917			2.32	Si
SLV 15	988	-20549	12280	1061612		1.84	398	1.2	13396			1.09	Si
SLV 15	1168	-16337	11030	-1013252		1.47	398	1.13	12554			1.14	Si
SLV 1	988	-14484	-12754	-1125280		1.42	363.93	1.12	11389			0.89	No, Vu<V
SLV 1	1168	-11615	-11505	1067240		1.29	321.34	1.09	9821			0.85	No, Vu<V
SLV 14	988	-18651	12836	1068078		1.67	398	1.17	13017			1.01	Si
SLV 14	1168	-15914	11215	-1092086		1.45	391.13	1.12	12309			1.1	Si
SLD 3	988	-17030	-5819	-501507		1.53	398	1.14	12693			2.18	Si
SLD 3	1168	-13150	-5128	504624		1.18	398	1.07	11917			2.32	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.46	1.16	-12945	48934	164000	3.35	Si
SLV 1	14	0.46	1.16	-12945	48934	164000	3.35	Si
SLV 5	14	0.46	1.18	-13125	48934	166043	3.39	Si
SLV 6	14	0.46	1.18	-13125	48934	166043	3.39	Si
SLV 4	14	0.46	1.26	-14003	48934	175883	3.59	Si
SLV 3	14	0.46	1.26	-14003	48934	175883	3.59	Si
SLV 10	14	0.46	1.29	-14338	48934	179600	3.67	Si
SLV 9	14	0.46	1.29	-14338	48934	179600	3.67	Si
SLV 8	14	0.46	1.49	-16653	48934	204628	4.18	Si
SLV 7	14	0.46	1.49	-16653	48934	204628	4.18	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-10338	-12833	-510	0.013	16.199	0.913	20.846	1908.669	No
SLV 5	-10338	-12833	-510	0.013	16.199	0.913	20.846	1908.669	No
SLV 7	-10434	-20436	503	0.014	16.295	0.914	21.942	1908.669	No
SLV 8	-10434	-20436	503	0.014	16.295	0.914	21.942	1908.669	No
SLV 10	-11085	-14323	-511	0.014	16.946	0.916	22.821	1908.669	No
SLV 9	-11085	-14323	-511	0.014	16.946	0.916	22.821	1908.669	No
SLV 12	-11181	-21927	502	0.015	17.042	0.916	24.094	1908.669	No
SLV 11	-11181	-21927	502	0.015	17.042	0.916	24.094	1908.669	No
SLV 14	-11991	-18724	-158	0.039	17.852	0.919	61.08	1093.542	No
SLV 13	-11991	-18724	-158	0.039	17.852	0.919	61.08	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	22.663	SLU 9	Si
V_SLU	12.387	SLU 9	Si
PF_SLV	1.905	SLV 3	Si
V_SLV	0.827	SLV 3	No
PFFP_SLV	3.351	SLV 1	Si
R_SLV	0.011	SLV 5	No

Maschio 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-705.8	666.1	-501.8	666.1	L5	L6	204	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 51	988	-10081	-5626	1.76	805497	143.173	Si
SLU 51	1168	-7536	-103663	1.32	644153	6.214	Si
SLU 71	988	-11275	-1521	1.97	871352	573.035	Si
SLU 71	1168	-8702	-115143	1.52	721613	6.267	Si
SLU 28	988	-9699	3296	1.7	783067	237.574	Si
SLU 28	1168	-7707	-102564	1.35	655879	6.395	Si
SLU 29	988	-9174	2205	1.61	751235	340.771	Si
SLU 29	1168	-7182	-105694	1.26	619461	5.861	Si
SLU 7	988	-8512	-2522	1.49	709394	281.242	Si
SLU 7	1168	-6547	-90412	1.15	573813	6.347	Si
SLU 9	988	-7980	-1901	1.4	674386	354.763	Si
SLU 9	1168	-6015	-94214	1.05	534224	5.67	Si
SLU 8	988	-7987	-3614	1.4	674830	186.73	Si
SLU 8	1168	-6022	-93542	1.05	534725	5.716	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 30	988	-9167	3918	1.6	750825	191.659	Si
SLU 30	1168	-7175	-106366	1.26	618993	5.819	Si
SLU 72	988	-11268	192	1.97	871004	1000	Si
SLU 72	1168	-8696	-115815	1.52	721190	6.227	Si
SLU 50	988	-10088	-7339	1.77	805880	109.807	Si
SLU 50	1168	-7542	-102991	1.32	644611	6.259	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 14	988	-13701	399095	2.4	1123131	2.814	Si
SLV 14	1168	-12084	-330487	2.12	1019163	3.084	Si
SLV 13	988	-13701	399095	2.4	1123131	2.814	Si
SLV 13	1168	-12084	-330487	2.12	1019163	3.084	Si
SLV 3	988	-4480	-401409	0.78	427603	1.065	Si
SLV 3	1168	-2150	230597	0	0	0	No, $e > l/2$
SLV 1	988	-4267	-327050	0.75	408602	1.249	Si
SLV 1	1168	-1628	169525	0	0	0	No, $e > l/2$
SLV 4	988	-4480	-401409	0.78	427603	1.065	Si
SLV 4	1168	-2150	230597	0	0	0	No, $e > l/2$
SLV 9	988	-10150	231697	1.78	884753	3.819	Si
SLV 9	1168	-7815	-226734	1.37	707842	3.122	Si
SLV 2	988	-4267	-327050	0.75	408602	1.249	Si
SLV 2	1168	-1628	169525	0	0	0	No, $e > l/2$
SLV 10	988	-10150	231697	1.78	884753	3.819	Si
SLV 10	1168	-7815	-226734	1.37	707842	3.122	Si
SLV 7	988	-8030	-234011	1.41	724825	3.097	Si
SLV 7	1168	-6420	126844	1.12	594580	4.687	Si
SLV 8	988	-8030	-234011	1.41	724825	3.097	Si
SLV 8	1168	-6420	126844	1.12	594580	4.687	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	988	-12639	682	10510		2.21	204	0.85	4858			7.12	Si
SLU 80	1168	-10066	682	-119625		1.76	204	0.79	4515			6.62	Si
SLU 72	988	-11268	604	192		1.97	204	0.82	4676			7.74	Si
SLU 72	1168	-8696	604	-115815		1.52	204	0.76	4333			7.18	Si
SLU 37	988	-10544	647	12522		1.85	204	0.8	4579			7.08	Si
SLU 37	1168	-8552	647	-109504		1.5	204	0.76	4314			6.67	Si
SLU 30	988	-9167	581	3918		1.6	204	0.77	4396			7.56	Si
SLU 30	1168	-7175	581	-106366		1.26	204	0.72	4130			7.1	Si
SLU 79	988	-12645	669	8797		2.21	204	0.85	4859			7.26	Si
SLU 79	1168	-10073	669	-118953		1.76	204	0.79	4516			6.75	Si
SLU 78	988	-13170	658	9889		2.31	204	0.86	4929			7.49	Si
SLU 78	1168	-10598	658	-115823		1.86	204	0.8	4586			6.97	Si
SLU 38	988	-10538	660	14235		1.84	204	0.8	4578			6.94	Si
SLU 38	1168	-8546	660	-110176		1.5	204	0.76	4313			6.54	Si
SLU 35	988	-11076	622	11901		1.94	204	0.81	4650			7.48	Si
SLU 35	1168	-9084	622	-105702		1.59	204	0.77	4385			7.05	Si
SLU 77	988	-13177	644	8176		2.31	204	0.86	4930			7.65	Si
SLU 77	1168	-10604	644	-115151		1.86	204	0.8	4587			7.12	Si
SLU 36	988	-11069	635	13614		1.94	204	0.81	4649			7.32	Si
SLU 36	1168	-9077	635	-106374		1.59	204	0.77	4384			6.9	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	988	-4480	-3999	-401409		4.3	37.18	1.63	1692			0.42	No, $V_u < V$
SLV 3	1168	-2150	-3144	230597		0	0	0.83	0			0	No, $V_u < V$
SLV 15	988	-13913	3998	324736		2.44	204	1.32	7543			1.89	Si
SLV 15	1168	-12607	3227	-269415		2.21	204	1.27	7281			2.26	Si
SLV 10	988	-10150	2240	231697		1.78	204	1.19	6790			3.03	Si
SLV 10	1168	-7815	1857	-226734		1.37	204	1.11	6323			3.41	Si
SLV 9	988	-10150	2240	231697		1.78	204	1.19	6790			3.03	Si
SLV 9	1168	-7815	1857	-226734		1.37	204	1.11	6323			3.41	Si
SLV 4	988	-4480	-3999	-401409		4.3	37.18	1.63	1692			0.42	No, $V_u < V$
SLV 4	1168	-2150	-3144	230597		0	0	0.83	0			0	No, $V_u < V$
SLV 13	988	-13701	4478	399095		2.4	204	1.31	7500			1.67	Si
SLV 13	1168	-12084	3624	-330487		2.12	204	1.26	7177			1.98	Si
SLV 14	988	-13701	4478	399095		2.4	204	1.31	7500			1.67	Si
SLV 14	1168	-12084	3624	-330487		2.12	204	1.26	7177			1.98	Si
SLV 2	988	-4267	-3518	-327050		2	76.05	1.23	2628			0.75	No, $V_u < V$
SLV 2	1168	-1628	-2748	169525		0	0	0.83	0			0	No, $V_u < V$
SLV 1	988	-4267	-3518	-327050		2	76.05	1.23	2628			0.75	No, $V_u < V$
SLV 1	1168	-1628	-2748	169525		0	0	0.83	0			0	No, $V_u < V$
SLV 16	988	-13913	3998	324736		2.44	204	1.32	7543			1.89	Si
SLV 16	1168	-12607	3227	-269415		2.21	204	1.27	7281			2.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 W_a 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.46	0.52	-2985	25082	39999	1.59	Si
SLV 2	14	0.46	0.52	-2985	25082	39999	1.59	Si
SLV 4	14	0.46	0.58	-3314	25082	44191	1.76	Si
SLV 3	14	0.46	0.58	-3314	25082	44191	1.76	Si
SLV 5	14	0.46	1.05	-5981	25082	76555	3.05	Si
SLV 6	14	0.46	1.05	-5981	25082	76555	3.05	Si
SLV 8	14	0.46	1.24	-7078	25082	89040	3.55	Si
SLV 7	14	0.46	1.24	-7078	25082	89040	3.55	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	1.55	-8878	25082	108479	4.33	Si
SLV 9	14	0.46	1.55	-8878	25082	108479	4.33	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	σ_0	M*	e*	a0*	aLim	Verifica
SLV 11	-7529	-12040	85	0.038	10.541	0.928	60.15	1908.669	No
SLV 12	-7529	-12040	85	0.038	10.541	0.928	60.15	1908.669	No
SLV 8	-5770	-7534	66	0.041	8.774	0.917	64.366	1908.669	No
SLV 7	-5770	-7534	66	0.041	8.774	0.917	64.366	1908.669	No
SLV 6	-3263	-6184	-71	0.04	6.294	0.897	64.626	1908.669	No
SLV 5	-3263	-6184	-71	0.04	6.294	0.897	64.626	1908.669	No
SLV 10	-5023	-10690	-52	0.043	8.028	0.911	68.049	1908.669	No
SLV 9	-5023	-10690	-52	0.043	8.028	0.911	68.049	1908.669	No
SLV 15	-8705	-16824	59	0.041	11.727	0.933	63.797	1093.542	No
SLV 16	-8705	-16824	59	0.041	11.727	0.933	63.797	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.67	SLU 9	Si
V_SLU	6.536	SLU 38	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	1.595	SLV 1	Si
R_SLV	0.032	SLV 11	No

Maschio 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2066.8	104.6	-2467.8	104.6	L5	L6	401	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 38	898	-27460	-243261	2.45	3852727	15.838	Si
SLU 38	1108	-25101	-586177	2.24	3651516	6.229	Si
SLU 80	898	-33005	-294933	2.94	4229484	14.34	Si
SLU 80	1108	-29266	-643571	2.61	3990244	6.2	Si
SLU 36	898	-28319	-260985	2.52	3919877	15.02	Si
SLU 36	1108	-26069	-606363	2.32	3737077	6.163	Si
SLU 27	898	-26155	-237135	2.33	3744452	15.79	Si
SLU 27	1108	-23099	-550289	2.06	3461714	6.291	Si
SLU 35	898	-28115	-254158	2.5	3904232	15.361	Si
SLU 35	1108	-25916	-623961	2.31	3723784	5.968	Si
SLU 77	898	-33660	-305830	3	4265073	13.946	Si
SLU 77	1108	-30081	-681354	2.68	4047627	5.941	Si
SLU 79	898	-32801	-288106	2.92	4218025	14.641	Si
SLU 79	1108	-29113	-661168	2.59	3979105	6.018	Si
SLU 37	898	-27256	-236434	2.43	3836316	16.226	Si
SLU 37	1108	-24947	-603775	2.22	3637571	6.025	Si
SLU 78	898	-33863	-312657	3.02	4275765	13.676	Si
SLU 78	1108	-30235	-663757	2.69	4058114	6.114	Si
SLU 69	898	-31700	-288807	2.82	4152935	14.38	Si
SLU 69	1108	-27265	-607683	2.43	3836994	6.314	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 2	898	-28173	559760	2.51	4488677	8.019	Si
SLV 2	1108	-27859	-1331111	2.48	4451437	3.344	Si
SLV 14	898	-16421	-905501	1.46	2898396	3.201	Si
SLV 14	1108	-10949	680230	0.98	2020055	2.97	Si
SLV 1	898	-28173	559760	2.51	4488677	8.019	Si
SLV 1	1108	-27859	-1331111	2.48	4451437	3.344	Si
SLV 16	898	-16937	-960630	1.51	2976671	3.099	Si
SLV 16	1108	-10331	628210	0.92	1915415	3.049	Si
SLV 7	898	-25177	-72528	2.24	4121653	56.829	Si
SLV 7	1108	-20602	-739851	1.83	3510393	4.745	Si
SLV 3	898	-28689	504631	2.56	4549235	9.015	Si
SLV 3	1108	-27241	-1383131	2.43	4377328	3.165	Si
SLV 15	898	-16937	-960630	1.51	2976671	3.099	Si
SLV 15	1108	-10331	628210	0.92	1915415	3.049	Si
SLV 4	898	-28689	504631	2.56	4549235	9.015	Si
SLV 4	1108	-27241	-1383131	2.43	4377328	3.165	Si
SLV 13	898	-16421	-905501	1.46	2898396	3.201	Si
SLV 13	1108	-10949	680230	0.98	2020055	2.97	Si
SLV 8	898	-25177	-72528	2.24	4121653	56.829	Si
SLV 8	1108	-20602	-739851	1.83	3510393	4.745	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 42	898	-27528	3685	-244469		2.45	401	0.88	9908			2.69	Si
SLU 42	1108	-25489	3718	-552672		2.27	401	0.86	9636			2.59	Si
SLU 37	898	-27256	3720	-236434		2.43	401	0.88	9872			2.65	Si
SLU 37	1108	-24947	3730	-603775		2.22	401	0.85	9564			2.56	Si
SLU 41	898	-27324	3862	-237642		2.43	401	0.88	9881			2.56	Si
SLU 41	1108	-25335	3869	-570269		2.26	401	0.86	9616			2.49	Si
SLU 39	898	-26551	3538	-231555		2.36	401	0.87	9778			2.76	Si
SLU 39	1108	-24516	3542	-505191		2.18	401	0.85	9507			2.68	Si
SLU 32	898	-27342	3514	-248070		2.44	401	0.88	9883			2.81	Si
SLU 32	1108	-25097	3520	-558882		2.24	401	0.85	9584			2.72	Si
SLU 36	898	-28319	3660	-260985		2.52	401	0.89	10014			2.74	Si
SLU 36	1108	-26069	3695	-606363		2.32	401	0.87	9714			2.63	Si
SLU 38	898	-27460	3543	-243261		2.45	401	0.88	9899			2.79	Si
SLU 38	1108	-25101	3579	-586177		2.24	401	0.85	9585			2.68	Si
SLU 83	898	-32868	3746	-289315		2.93	401	0.95	10620			2.84	Si
SLU 83	1108	-29501	3753	-627663		2.63	401	0.91	10171			2.71	Si
SLU 35	898	-28115	3838	-254158		2.5	401	0.89	9986			2.6	Si
SLU 35	1108	-25916	3847	-623961		2.31	401	0.86	9693			2.52	Si
SLU 77	898	-33660	3721	-305830		3	401	0.96	10726			2.88	Si
SLU 77	1108	-30081	3730	-681354		2.68	401	0.91	10249			2.75	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 15	898	-16937	-10727	-960630		1.51	401	1.14	12744			1.19	Si
SLV 15	1108	-10331	-8660	628210		0.92	401	1.02	11423			1.32	Si
SLV 4	898	-28689	12870	504631		2.56	401	1.34	15094			1.17	Si
SLV 4	1108	-27241	11309	-1383131		2.43	401	1.32	14805			1.31	Si
SLV 14	898	-16421	-9861	-905501		1.46	401	1.13	12641			1.28	Si
SLV 14	1108	-10949	-8295	680230		0.98	401	1.03	11546			1.39	Si
SLV 3	898	-28689	12870	504631		2.56	401	1.34	15094			1.17	Si
SLV 3	1108	-27241	11309	-1383131		2.43	401	1.32	14805			1.31	Si
SLV 2	898	-28173	13736	559760		2.51	401	1.34	14991			1.09	Si
SLV 2	1108	-27859	11674	-1331111		2.48	401	1.33	14928			1.28	Si
SLV 16	898	-16937	-10727	-960630		1.51	401	1.14	12744			1.19	Si
SLV 16	1108	-10331	-8660	628210		0.92	401	1.02	11423			1.32	Si
SLD 2	898	-24953	6719	123806		2.22	401	1.28	14347			2.14	Si
SLD 2	1108	-22835	5845	-770125		2.03	401	1.24	13924			2.38	Si
SLV 13	898	-16421	-9861	-905501		1.46	401	1.13	12641			1.28	Si
SLV 13	1108	-10949	-8295	680230		0.98	401	1.03	11546			1.39	Si
SLD 1	898	-24953	6719	123806		2.22	401	1.28	14347			2.14	Si
SLD 1	1108	-22835	5845	-770125		2.03	401	1.24	13924			2.38	Si
SLV 1	898	-28173	13736	559760		2.51	401	1.34	14991			1.09	Si
SLV 1	1108	-27859	11674	-1331111		2.48	401	1.33	14928			1.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.46	0.99	-11068	50449	142450	2.82	Si
SLV 15	14	0.46	0.99	-11068	50449	142450	2.82	Si
SLV 13	14	0.46	1.03	-11548	50449	148058	2.93	Si
SLV 14	14	0.46	1.03	-11548	50449	148058	2.93	Si
SLV 12	14	0.46	1.46	-16444	50449	202622	4.02	Si
SLV 11	14	0.46	1.46	-16444	50449	202622	4.02	Si
SLV 9	14	0.46	1.61	-18043	50449	219379	4.35	Si
SLV 10	14	0.46	1.61	-18043	50449	219379	4.35	Si
SLV 8	14	0.46	1.92	-21532	50449	254134	5.04	Si
SLV 7	14	0.46	1.92	-21532	50449	254134	5.04	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-14595	-19933	-600	0.014	20.514	0.927	22.733	1908.669	No
SLV 10	-14595	-19933	-600	0.014	20.514	0.927	22.733	1908.669	No
SLV 7	-16480	-25177	606	0.017	22.415	0.932	25.896	1908.669	No
SLV 8	-16480	-25177	606	0.017	22.415	0.932	25.896	1908.669	No
SLV 12	-14281	-21652	524	0.018	20.197	0.926	28.725	1908.669	No
SLV 11	-14281	-21652	524	0.018	20.197	0.926	28.725	1908.669	No
SLV 6	-16794	-23458	-519	0.021	22.732	0.933	33.068	1908.669	No
SLV 5	-16794	-23458	-519	0.021	22.732	0.933	33.068	1908.669	No
SLV 13	-11919	-16421	-301	0.029	17.824	0.919	46.573	1093.542	No
SLV 14	-11919	-16421	-301	0.029	17.824	0.919	46.573	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.941	SLV 77	Si
V_SLV	2.485	SLU 41	Si
PF_SLV	2.97	SLV 13	Si
V_SLV	1.091	SLV 1	Si
PFFP_SLV	2.824	SLV 15	Si
R_SLV	0.012	SLV 9	No



Maschio 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s, sx	a.s, dx
-1228.3	104.6	-1986.8	104.6	L5	L6	758.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 45	898	-62889	-107506	2.96	15180471	141.206	Si
SLU 45	1148	-51753	-716640	2.44	13755875	19.195	Si
SLU 56	898	-71101	-209355	3.35	15882793	75.865	Si
SLU 56	1148	-61086	-767341	2.88	14986733	19.531	Si
SLU 66	898	-69149	-192452	3.26	15742673	81.8	Si
SLU 66	1148	-58765	-771614	2.77	14716355	19.072	Si
SLU 6	898	-54567	-106590	2.57	14167223	132.913	Si
SLU 6	1148	-46737	-663511	2.2	12936458	19.497	Si
SLU 50	898	-64577	-103709	3.04	15349029	148	Si
SLU 50	1148	-53804	-760877	2.53	14059046	18.477	Si
SLU 71	898	-70838	-188656	3.34	15864881	84.094	Si
SLU 71	1148	-60816	-815851	2.86	14956484	18.332	Si
SLU 69	898	-72522	-192872	3.41	15974341	82.823	Si
SLU 69	1148	-62563	-845481	2.95	15146532	17.915	Si
SLU 77	898	-77361	-294301	3.64	16219577	55.112	Si
SLU 77	1148	-68098	-822315	3.21	15660289	19.044	Si
SLU 48	898	-66262	-107926	3.12	15504728	143.661	Si
SLU 48	1148	-55551	-790507	2.62	14302804	18.093	Si
SLU 27	898	-60828	-191536	2.86	14957837	78.094	Si
SLU 27	1148	-53749	-718485	2.53	14051166	19.557	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	898	-47933	-2973857	2.26	14820701	4.984	Si
SLV 15	1148	-35373	1719603	1.67	11586516	6.738	Si
SLD 3	898	-51322	880439	2.42	15614361	17.735	Si
SLD 3	1148	-43739	-1527512	2.06	13792082	9.029	Si
SLV 1	898	-50683	2664289	2.39	15467393	5.805	Si
SLV 1	1148	-46586	-2710073	2.19	14495978	5.349	Si
SLV 4	898	-54055	2268925	2.55	16230010	7.153	Si
SLV 4	1148	-47461	-2912429	2.23	14707518	5.05	Si
SLV 3	898	-54055	2268925	2.55	16230010	7.153	Si
SLV 3	1148	-47461	-2912429	2.23	14707518	5.05	Si
SLV 16	898	-47933	-2973857	2.26	14820701	4.984	Si
SLV 16	1148	-35373	1719603	1.67	11586516	6.738	Si
SLD 4	898	-51322	880439	2.42	15614361	17.735	Si
SLD 4	1148	-43739	-1527512	2.06	13792082	9.029	Si
SLV 14	898	-44561	-2578493	2.1	13997749	5.429	Si
SLV 14	1148	-34498	1921959	1.62	11344067	5.902	Si
SLV 2	898	-50683	2664289	2.39	15467393	5.805	Si
SLV 2	1148	-46586	-2710073	2.19	14495978	5.349	Si
SLV 13	898	-44561	-2578493	2.1	13997749	5.429	Si
SLV 13	1148	-34498	1921959	1.62	11344067	5.902	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	898	-63205	1342	-104035	2.98	758.5	0.95	20226				15.07	Si
SLU 52	1148	-52197	1255	-446810	2.46	758.5	0.88	18758				14.94	Si
SLU 30	898	-59464	-637	-127162	2.8	758.5	0.93	19727				30.97	Si
SLU 30	1148	-52274	-931	-602955	2.46	758.5	0.88	18769				20.15	Si
SLU 10	898	-51510	963	-102699	2.43	758.5	0.88	18667				19.39	Si
SLU 10	1148	-43383	945	-319814	2.04	758.5	0.83	17583				18.61	Si
SLU 18	898	-53049	980	-246432	2.5	758.5	0.89	18872				19.26	Si
SLU 18	1148	-45302	994	-453052	2.13	758.5	0.84	17839				17.95	Si
SLU 44	898	-58366	1166	-2606	2.75	758.5	0.92	19581				16.79	Si
SLU 44	1148	-46662	953	-469977	2.2	758.5	0.85	18020				18.9	Si
SLU 60	898	-64744	1360	-247768	3.05	758.5	0.96	20431				15.03	Si
SLU 60	1148	-54116	1304	-580048	2.55	758.5	0.9	19014				14.58	Si
SLU 43	898	-57831	1109	-102870	2.72	758.5	0.92	19510				17.6	Si
SLU 43	1148	-46209	873	-613143	2.18	758.5	0.85	17960				20.58	Si
SLU 29	898	-59143	-672	-187320	2.78	758.5	0.93	19685				29.31	Si
SLU 29	1148	-52002	-980	-688855	2.45	758.5	0.88	18732				19.12	Si
SLU 19	898	-53370	1015	-186274	2.51	758.5	0.89	18915				18.64	Si
SLU 19	1148	-45574	1042	-367153	2.15	758.5	0.84	17875				17.15	Si
SLU 61	898	-65065	1394	-187610	3.06	758.5	0.96	20474				14.69	Si
SLU 61	1148	-54388	1352	-494149	2.56	758.5	0.9	19051				14.09	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	898	-50683	33799	2664289	2.39	758.5	1.31	27835				0.82	No, Vu < V
SLV 2	1148	-46586	26535	-2710073	2.19	758.5	1.27	27016				1.02	Si
SLD 3	898	-51322	15860	880439	2.42	758.5	1.32	27963				1.76	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 3	1148	-43739	12821	-1527512		2.06	758.5	1.25	26446			2.06	Si
SLV 1	898	-50683	33799	2664289		2.39	758.5	1.31	27835			0.82	No, Vu<V
SLV 1	1148	-46586	26535	-2710073		2.19	758.5	1.27	27016			1.02	Si
SLV 4	898	-54055	36275	2268925		2.55	758.5	1.34	28509			0.79	No, Vu<V
SLV 4	1148	-47461	29317	-2912429		2.23	758.5	1.28	27190			0.93	No, Vu<V
SLV 3	898	-54055	36275	2268925		2.55	758.5	1.34	28509			0.79	No, Vu<V
SLV 3	1148	-47461	29317	-2912429		2.23	758.5	1.28	27190			0.93	No, Vu<V
SLD 4	898	-51322	15860	880439		2.42	758.5	1.32	27963			1.76	Si
SLD 4	1148	-43739	12821	-1527512		2.06	758.5	1.25	26446			2.06	Si
SLV 16	898	-47933	-32508	-2973857		2.26	758.5	1.28	27285			0.84	No, Vu<V
SLV 16	1148	-35373	-25473	1719603		1.67	758.5	1.17	24773			0.97	No, Vu<V
SLV 14	898	-44561	-34983	-2578493		2.1	758.5	1.25	26611			0.76	No, Vu<V
SLV 14	1148	-34498	-28255	1921959		1.62	758.5	1.16	24598			0.87	No, Vu<V
SLV 13	898	-44561	-34983	-2578493		2.1	758.5	1.25	26611			0.76	No, Vu<V
SLV 13	1148	-34498	-28255	1921959		1.62	758.5	1.16	24598			0.87	No, Vu<V
SLV 15	898	-47933	-32508	-2973857		2.26	758.5	1.28	27285			0.84	No, Vu<V
SLV 15	1148	-35373	-25473	1719603		1.67	758.5	1.17	24773			0.97	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.46	2.01	-42786	95426	500242	5.24	Si
SLV 13	14	0.46	2.01	-42786	95426	500242	5.24	Si
SLV 15	14	0.46	2.03	-43068	95426	502883	5.27	Si
SLV 16	14	0.46	2.03	-43068	95426	502883	5.27	Si
SLV 9	14	0.46	2.05	-43513	95426	507031	5.31	Si
SLV 10	14	0.46	2.05	-43513	95426	507031	5.31	Si
SLV 5	14	0.46	2.09	-44417	95426	515405	5.4	Si
SLV 6	14	0.46	2.09	-44417	95426	515405	5.4	Si
SLV 11	14	0.46	2.09	-44452	95426	515729	5.4	Si
SLV 12	14	0.46	2.09	-44452	95426	515729	5.4	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 12	-35516	-54009	-399	0.037	46.788	0.937	56.833	1908.669	No
SLV 11	-35516	-54009	-399	0.037	46.788	0.937	56.833	1908.669	No
SLV 6	-39224	-44607	398	0.037	50.542	0.941	57.021	1908.669	No
SLV 5	-39224	-44607	398	0.037	50.542	0.941	57.021	1908.669	No
SLV 7	-38922	-55846	-246	0.04	50.236	0.941	62.168	1908.669	No
SLV 8	-38922	-55846	-246	0.04	50.236	0.941	62.168	1908.669	No
SLV 9	-35818	-42770	245	0.04	47.094	0.938	62.48	1908.669	No
SLV 10	-35818	-42770	245	0.04	47.094	0.938	62.48	1908.669	No
SLV 15	-31648	-47933	-353	0.038	42.878	0.933	58.511	1093.542	No
SLV 16	-31648	-47933	-353	0.038	42.878	0.933	58.511	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	17.915	SLU 69	Si
V_SLU	14.088	SLU 61	Si
PF_SLV	4.984	SLV 15	Si
V_SLV	0.761	SLV 13	No
PFFP_SLV	5.242	SLV 13	Si
R_SLV	0.03	SLV 11	No

Maschio 168

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1046.6	104.6	-1116.3	104.6	L5	L6	69.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 37	898	-5913	38762	3.03	129237	3.334	Si
SLU 37	1148	-7171	-34874	3.68	136955	3.927	Si
SLU 32	898	-5910	37785	3.03	129210	3.42	Si
SLU 32	1148	-6840	-33822	3.51	135595	4.009	Si
SLU 81	898	-6940	40583	3.56	136056	3.352	Si
SLU 81	1148	-7469	-35627	3.83	137765	3.867	Si
SLU 41	898	-5934	41994	3.04	129419	3.082	Si
SLU 41	1148	-6972	-37370	3.58	136193	3.644	Si
SLU 35	898	-6104	38883	3.13	130853	3.365	Si
SLU 35	1148	-7345	-35003	3.77	137475	3.928	Si
SLU 84	898	-7146	40292	3.67	136870	3.397	Si
SLU 84	1148	-7926	-35578	4.07	138255	3.886	Si
SLU 83	898	-7133	41682	3.66	136824	3.283	Si
SLU 83	1148	-7974	-36809	4.09	138253	3.756	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 42	898	-5947	40604	3.05	129532	3.19	Si
SLU 42	1148	-6924	-36139	3.55	135985	3.763	Si
SLU 40	898	-5753	39506	2.95	127756	3.234	Si
SLU 40	1148	-6419	-34958	3.29	133172	3.81	Si
SLU 39	898	-5740	40896	2.94	127632	3.121	Si
SLU 39	1148	-6466	-36188	3.32	133485	3.689	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 16	898	-7017	-236634	3.6	172363	0.728	No, M>Mu
SLV 16	1148	-3995	211507	0	0	0	No, e>l/2
SLV 13	898	-5987	-239607	0	0	0	No, e>l/2
SLV 13	1148	-5182	213373	0	0	0	No, e>l/2
SLV 1	898	-2636	276997	0	0	0	No, e>l/2
SLV 1	1148	-5904	-247070	0	0	0	No, e>l/2
SLV 4	898	-3666	279970	0	0	0	No, e>l/2
SLV 4	1148	-4717	-248936	0	0	0	No, e>l/2
SLV 2	898	-2636	276997	0	0	0	No, e>l/2
SLV 2	1148	-5904	-247070	0	0	0	No, e>l/2
SLV 6	898	-2608	92717	0	0	0	No, e>l/2
SLV 6	1148	-7037	-83737	3.61	172641	2.062	Si
SLV 5	898	-2608	92717	0	0	0	No, e>l/2
SLV 5	1148	-7037	-83737	3.61	172641	2.062	Si
SLV 15	898	-7017	-236634	3.6	172363	0.728	No, M>Mu
SLV 15	1148	-3995	211507	0	0	0	No, e>l/2
SLV 14	898	-5987	-239607	0	0	0	No, e>l/2
SLV 14	1148	-5182	213373	0	0	0	No, e>l/2
SLV 3	898	-3666	279970	0	0	0	No, e>l/2
SLV 3	1148	-4717	-248936	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	898	-7133	490	41682	3.66	69.64	1.04	2034				4.16	Si
SLU 83	1148	-7974	460	-36809	4.09	69.64	1.08	2112				4.59	Si
SLU 32	898	-5910	443	37785	3.03	69.64	0.96	1871				4.22	Si
SLU 32	1148	-6840	422	-33822	3.51	69.64	1.02	1995				4.73	Si
SLU 38	898	-5926	461	37372	3.04	69.64	0.96	1873				4.06	Si
SLU 38	1148	-7124	441	-33643	3.65	69.64	1.04	2033				4.61	Si
SLU 42	898	-5947	472	40604	3.05	69.64	0.96	1876				3.97	Si
SLU 42	1148	-6924	444	-36139	3.55	69.64	1.03	2006				4.52	Si
SLU 35	898	-6104	476	38883	3.13	69.64	0.97	1897				3.98	Si
SLU 35	1148	-7345	455	-35003	3.77	69.64	1.06	2063				4.53	Si
SLU 41	898	-5934	488	41994	3.04	69.64	0.96	1874				3.84	Si
SLU 41	1148	-6972	459	-37370	3.58	69.64	1.03	2013				4.38	Si
SLU 36	898	-6117	461	37493	3.14	69.64	0.97	1899				4.12	Si
SLU 36	1148	-7297	440	-33772	3.74	69.64	1.05	2056				4.67	Si
SLU 39	898	-5740	455	40896	2.94	69.64	0.95	1849				4.07	Si
SLU 39	1148	-6466	426	-36188	3.32	69.64	1	1945				4.57	Si
SLU 40	898	-5753	439	39506	2.95	69.64	0.95	1850				4.21	Si
SLU 40	1148	-6419	411	-34958	3.29	69.64	0.99	1939				4.72	Si
SLU 37	898	-5913	477	38762	3.03	69.64	0.96	1872				3.93	Si
SLU 37	1148	-7171	456	-34874	3.68	69.64	1.05	2039				4.48	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	898	-2608	1104	92717	0	0	0	0.83	0			0	No, Vu<V
SLV 5	1148	-7037	1076	-83737	3.66	68.75	1.56	3012				2.8	Si
SLV 14	898	-5987	-2104	-239607	0	0	0	0.83	0			0	No, Vu<V
SLV 14	1148	-5182	-1798	213373	0	0	0	0.83	0			0	No, Vu<V
SLV 3	898	-3666	2579	279970	0	0	0	0.83	0			0	No, Vu<V
SLV 3	1148	-4717	2254	-248936	0	0	0	0.83	0			0	No, Vu<V
SLV 15	898	-7017	-2195	-236634	76.21	3.29	1.63	150				0.07	No, Vu<V
SLV 15	1148	-3995	-1929	211507	0	0	0	0.83	0			0	No, Vu<V
SLV 6	898	-2608	1104	92717	0	0	0	0.83	0			0	No, Vu<V
SLV 6	1148	-7037	1076	-83737	3.66	68.75	1.56	3012				2.8	Si
SLV 13	898	-5987	-2104	-239607	0	0	0	0.83	0			0	No, Vu<V
SLV 13	1148	-5182	-1798	213373	0	0	0	0.83	0			0	No, Vu<V
SLV 4	898	-3666	2579	279970	0	0	0	0.83	0			0	No, Vu<V
SLV 4	1148	-4717	2254	-248936	0	0	0	0.83	0			0	No, Vu<V
SLV 16	898	-7017	-2195	-236634	76.21	3.29	1.63	150				0.07	No, Vu<V
SLV 16	1148	-3995	-1929	211507	0	0	0	0.83	0			0	No, Vu<V
SLV 1	898	-2636	2669	276997	0	0	0	0.83	0			0	No, Vu<V
SLV 1	1148	-5904	2386	-247070	0	0	0	0.83	0			0	No, Vu<V
SLV 2	898	-2636	2669	276997	0	0	0	0.83	0			0	No, Vu<V
SLV 2	1148	-5904	2386	-247070	0	0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.46	2.02	-3939	8761	46024	5.25	Si
SLV 11	14	0.46	2.02	-3939	8761	46024	5.25	Si
SLV 7	14	0.46	2.14	-4165	8761	48118	5.49	Si
SLV 8	14	0.46	2.14	-4165	8761	48118	5.49	Si
SLV 16	14	0.46	2.2	-4288	8761	49227	5.62	Si
SLV 15	14	0.46	2.2	-4288	8761	49227	5.62	Si
SLV 14	14	0.46	2.47	-4814	8761	53778	6.14	Si
SLV 13	14	0.46	2.47	-4814	8761	53778	6.14	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.46	2.59	-5043	8761	55660	6.35	Si
SLV 3	14	0.46	2.59	-5043	8761	55660	6.35	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 12	-2485	-7045	-231	0	3.513	0.926	0	1908.669	No
SLV 7	-1910	-6040	-257	0	2.935	0.915	0	1908.669	No
SLV 5	-2492	-2608	233	0	3.519	0.926	0	1908.669	No
SLV 3	-1443	-3666	-116	0	2.471	0.905	0	1093.542	No
SLV 11	-2485	-7045	-231	0	3.513	0.926	0	1908.669	No
SLV 4	-1443	-3666	-116	0	2.471	0.905	0	1093.542	No
SLV 8	-1910	-6040	-257	0	2.935	0.915	0	1908.669	No
SLV 10	-3067	-3613	258	0	4.1	0.935	0	1908.669	No
SLV 9	-3067	-3613	258	0	4.1	0.935	0	1908.669	No
SLV 6	-2492	-2608	233	0	3.519	0.926	0	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.082	SLU 41	Si
V_SLU	3.844	SLU 41	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	5.253	SLV 11	Si
R_SLV	0	SLV 3	No

Maschio 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-727.8	104.6	-938.6	104.6	L5	L6	210.9	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 61	898	-21164	-65897	3.58	1249448	18.961	Si
SLU 61	1148	-16560	156768	2.8	1144788	7.302	Si
SLU 57	898	-23375	-33368	3.96	1266674	37.961	Si
SLU 57	1148	-18507	157168	3.13	1200387	7.638	Si
SLU 55	898	-21683	-52360	3.67	1255411	23.976	Si
SLU 55	1148	-16980	154414	2.88	1158183	7.501	Si
SLU 82	898	-23356	-51656	3.96	1266618	24.52	Si
SLU 82	1148	-18464	159702	3.13	1199335	7.51	Si
SLU 54	898	-22205	-48722	3.76	1260230	25.866	Si
SLU 54	1148	-17473	156232	2.96	1172930	7.508	Si
SLU 52	898	-20514	-67714	3.47	1240296	18.317	Si
SLU 52	1148	-15946	153478	2.7	1123803	7.322	Si
SLU 73	898	-22705	-53473	3.85	1263718	23.633	Si
SLU 73	1148	-17850	156412	3.02	1183476	7.566	Si
SLU 63	898	-22333	-50543	3.78	1261228	24.954	Si
SLU 63	1148	-17594	157704	2.98	1176384	7.459	Si
SLU 84	898	-24525	-36301	4.15	1267165	34.907	Si
SLU 84	1148	-19498	160638	3.3	1222301	7.609	Si
SLU 60	898	-21065	-54701	3.57	1248168	22.818	Si
SLU 60	1148	-16446	151237	2.79	1140994	7.544	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 12	898	-17197	-394690	2.91	1380895	3.499	Si
SLV 12	1148	-15224	366141	2.58	1266378	3.459	Si
SLV 13	898	-16828	-672364	2.85	1360358	2.023	Si
SLV 13	1148	-16582	602360	2.81	1346412	2.235	Si
SLV 1	898	-14763	722444	2.5	1237941	1.714	Si
SLV 1	1148	-7321	-454670	1.24	693561	1.525	Si
SLV 14	898	-16828	-672364	2.85	1360358	2.023	Si
SLV 14	1148	-16582	602360	2.81	1346412	2.235	Si
SLV 15	898	-17332	-769522	2.94	1388325	1.804	Si
SLV 15	1148	-17451	664087	2.96	1394827	2.1	Si
SLV 16	898	-17332	-769522	2.94	1388325	1.804	Si
SLV 16	1148	-17451	664087	2.96	1394827	2.1	Si
SLV 2	898	-14763	722444	2.5	1237941	1.714	Si
SLV 2	1148	-7321	-454670	1.24	693561	1.525	Si
SLV 3	898	-15266	625286	2.59	1268950	2.029	Si
SLV 3	1148	-8191	-392943	1.39	765505	1.948	Si
SLV 11	898	-17197	-394690	2.91	1380895	3.499	Si
SLV 11	1148	-15224	366141	2.58	1266378	3.459	Si
SLV 4	898	-15266	625286	2.59	1268950	2.029	Si
SLV 4	1148	-8191	-392943	1.39	765505	1.948	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 19	898	-17433	-374	-53861		2.95	210.86	0.95	5604			15	Si
SLU 19	1148	-13799	-83	128009		2.34	210.86	0.87	5120			61.68	Si
SLU 71	898	-23204	121	9070		3.93	210.86	1.08	6374			52.69	Si
SLU 71	1148	-18115	396	132783		3.07	210.86	0.96	5695			14.4	Si
SLU 61	898	-21164	-464	-65897		3.58	210.86	1.03	6102			13.15	Si
SLU 61	1148	-16560	-109	156768		2.8	210.86	0.93	5488			50.27	Si
SLU 28	898	-20161	103	6085		3.41	210.86	1.01	5968			57.85	Si
SLU 28	1148	-16038	357	115061		2.72	210.86	0.92	5418			15.19	Si
SLU 29	898	-19473	211	21106		3.3	210.86	1	5876			27.81	Si
SLU 29	1148	-15354	422	104024		2.6	210.86	0.9	5327			12.63	Si
SLU 27	898	-20062	180	17280		3.4	210.86	1.01	5955			33.12	Si
SLU 27	1148	-15923	406	109530		2.7	210.86	0.92	5403			13.32	Si
SLU 69	898	-23793	90	5245		4.03	210.86	1.08	6396			71.46	Si
SLU 69	1148	-18685	380	138289		3.16	210.86	0.98	5771			15.2	Si
SLU 10	898	-16782	-381	-55678		2.84	210.86	0.93	5518			14.48	Si
SLU 10	1148	-13184	-90	124718		2.23	210.86	0.85	5038			56.2	Si
SLU 30	898	-19572	135	9911		3.31	210.86	1	5890			43.75	Si
SLU 30	1148	-15468	373	109555		2.62	210.86	0.9	5343			14.33	Si
SLU 52	898	-20514	-471	-67714		3.47	210.86	1.02	6015			12.76	Si
SLU 52	1148	-15946	-116	153478		2.7	210.86	0.92	5406			46.68	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 13	898	-16828	-6879	-672364		3.06	196.43	1.45	7949			1.16	Si
SLV 13	1148	-16582	-3109	602360		2.86	207.32	1.4	8154			2.62	Si
SLV 16	898	-17332	-7679	-769522		3.38	183.1	1.51	7739			1.01	Si
SLV 16	1148	-17451	-3763	664087		3.08	202.13	1.45	8207			2.18	Si
SLV 2	898	-14763	7393	722444		3.11	169.48	1.46	6907			0.93	No, Vu<V
SLV 2	1148	-7321	3904	-454670		2.01	129.99	1.24	4497			1.15	Si
SLV 1	898	-14763	7393	722444		3.11	169.48	1.46	6907			0.93	No, Vu<V
SLV 1	1148	-7321	3904	-454670		2.01	129.99	1.24	4497			1.15	Si
SLV 12	898	-17197	-3618	-394690		2.91	210.86	1.42	8360			2.31	Si
SLV 12	1148	-15224	-2072	366141		2.58	210.86	1.35	7965			3.84	Si
SLV 3	898	-15266	6593	625286		2.82	193.42	1.4	7566			1.15	Si
SLV 3	1148	-8191	3250	-392943		1.7	172.37	1.17	5660			1.74	Si
SLV 11	898	-17197	-3618	-394690		2.91	210.86	1.42	8360			2.31	Si
SLV 11	1148	-15224	-2072	366141		2.58	210.86	1.35	7965			3.84	Si
SLV 15	898	-17332	-7679	-769522		3.38	183.1	1.51	7739			1.01	Si
SLV 15	1148	-17451	-3763	664087		3.08	202.13	1.45	8207			2.18	Si
SLV 4	898	-15266	6593	625286		2.82	193.42	1.4	7566			1.15	Si
SLV 4	1148	-8191	3250	-392943		1.7	172.37	1.17	5660			1.74	Si
SLV 14	898	-16828	-6879	-672364		3.06	196.43	1.45	7949			1.16	Si
SLV 14	1148	-16582	-3109	602360		2.86	207.32	1.4	8154			2.62	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.46	2.19	-12935	26528	148622	5.6	Si
SLV 2	14	0.46	2.19	-12935	26528	148622	5.6	Si
SLV 3	14	0.46	2.24	-13242	26528	151357	5.71	Si
SLV 4	14	0.46	2.24	-13242	26528	151357	5.71	Si
SLV 5	14	0.46	2.26	-13357	26528	152379	5.74	Si
SLV 6	14	0.46	2.26	-13357	26528	152379	5.74	Si
SLV 10	14	0.46	2.38	-14026	26528	158187	5.96	Si
SLV 9	14	0.46	2.38	-14026	26528	158187	5.96	Si
SLV 7	14	0.46	2.44	-14380	26528	161188	6.08	Si
SLV 8	14	0.46	2.44	-14380	26528	161188	6.08	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-8704	-14898	491	0	11.825	0.932	0.642	1908.669	No
SLV 6	-8704	-14898	491	0	11.825	0.932	0.642	1908.669	No
SLV 8	-9832	-16577	-518	0.002	12.966	0.937	2.836	1908.669	No
SLV 7	-9832	-16577	-518	0.002	12.966	0.937	2.836	1908.669	No
SLV 9	-11257	-15517	521	0.006	14.408	0.942	8.865	1908.669	No
SLV 10	-11257	-15517	521	0.006	14.408	0.942	8.865	1908.669	No
SLV 12	-12385	-17197	-488	0.011	15.551	0.946	16.521	1908.669	No
SLV 11	-12385	-17197	-488	0.011	15.551	0.946	16.521	1908.669	No
SLV 4	-6460	-15266	-201	0.025	9.566	0.92	38.874	1093.542	No
SLV 3	-6460	-15266	-201	0.025	9.566	0.92	38.874	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.302	SLU 61	Si
V_SLV	12.63	SLU 29	Si
PF_SLV	1.525	SLV 1	Si
V_SLV	0.934	SLV 1	No
PFFP_SLV	5.602	SLV 1	Si
R_SLV	0	SLV 5	No



Maschio 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s, sx	a.s, dx
-496.8	104.6	-647.8	104.6	L5	L6	151	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 78	898	-16617	-55536	3.93	649267	11.691	Si
SLU 78	1108	-16060	104073	3.8	647117	6.218	Si
SLU 79	898	-16071	-55757	3.8	647172	11.607	Si
SLU 79	1108	-15344	103079	3.63	642345	6.232	Si
SLU 38	898	-13725	-48758	3.25	623285	12.783	Si
SLU 38	1108	-13510	92944	3.2	619881	6.669	Si
SLU 80	898	-16244	-54181	3.84	647975	11.96	Si
SLU 80	1108	-15618	103184	3.69	644441	6.246	Si
SLU 77	898	-16444	-57112	3.89	648746	11.359	Si
SLU 77	1108	-15786	103968	3.73	645554	6.209	Si
SLU 56	898	-15113	-52123	3.57	640332	12.285	Si
SLU 56	1108	-14111	94620	3.34	628868	6.646	Si
SLU 57	898	-15285	-50546	3.62	641859	12.698	Si
SLU 57	1108	-14386	94725	3.4	632450	6.677	Si
SLU 35	898	-13926	-51689	3.29	626274	12.116	Si
SLU 35	1108	-13677	93728	3.23	622539	6.642	Si
SLU 58	898	-14740	-50767	3.49	636579	12.539	Si
SLU 58	1108	-13669	93730	3.23	622413	6.64	Si
SLU 37	898	-13553	-50334	3.21	620579	12.329	Si
SLU 37	1108	-13235	92839	3.13	615243	6.627	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 16	898	-10672	-284125	2.52	639301	2.25	Si
SLD 16	1108	-10158	290700	2.4	616113	2.119	Si
SLD 15	898	-10672	-284125	2.52	639301	2.25	Si
SLD 15	1108	-10158	290700	2.4	616113	2.119	Si
SLV 13	898	-10636	-569454	2.52	637688	1.12	Si
SLV 13	1108	-10252	563218	2.42	620409	1.102	Si
SLV 16	898	-10824	-628154	2.56	645985	1.028	Si
SLV 16	1108	-10542	613186	2.49	633489	1.033	Si
SLV 14	898	-10636	-569454	2.52	637688	1.12	Si
SLV 14	1108	-10252	563218	2.42	620409	1.102	Si
SLV 2	898	-10298	571980	2.44	622507	1.088	Si
SLV 2	1108	-9208	-511787	2.18	571301	1.116	Si
SLV 15	898	-10824	-628154	2.56	645985	1.028	Si
SLV 15	1108	-10542	613186	2.49	633489	1.033	Si
SLV 1	898	-10298	571980	2.44	622507	1.088	Si
SLV 1	1108	-9208	-511787	2.18	571301	1.116	Si
SLV 4	898	-10486	513280	2.48	630990	1.229	Si
SLV 4	1108	-9498	-461819	2.25	585265	1.267	Si
SLV 3	898	-10486	513280	2.48	630990	1.229	Si
SLV 3	1108	-9498	-461819	2.25	585265	1.267	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	898	-16444	-939	-57112		3.89	151	1.07	4541			4.84	Si
SLU 77	1108	-15786	-939	103968		3.73	151	1.05	4454			4.74	Si
SLU 78	898	-16617	-882	-55536		3.93	151	1.08	4564			5.18	Si
SLU 78	1108	-16060	-879	104073		3.8	151	1.06	4490			5.11	Si
SLU 79	898	-16071	-925	-55757		3.8	151	1.06	4492			4.86	Si
SLU 79	1108	-15344	-925	103079		3.63	151	1.04	4395			4.75	Si
SLU 80	898	-16244	-868	-54181		3.84	151	1.07	4515			5.2	Si
SLU 80	1108	-15618	-865	103184		3.69	151	1.05	4431			5.12	Si
SLU 83	898	-15776	-859	-54342		3.73	151	1.05	4452			5.18	Si
SLU 83	1108	-15506	-859	94180		3.67	151	1.04	4416			5.14	Si
SLU 56	898	-15113	-843	-52123		3.57	151	1.03	4364			5.18	Si
SLU 56	1108	-14111	-843	94620		3.34	151	1	4230			5.02	Si
SLU 58	898	-14740	-829	-50767		3.49	151	1.02	4314			5.21	Si
SLU 58	1108	-13669	-829	93730		3.23	151	0.99	4171			5.03	Si
SLU 37	898	-13553	-845	-50334		3.21	151	0.98	4156			4.92	Si
SLU 37	1108	-13235	-845	92839		3.13	151	0.97	4114			4.87	Si
SLU 14	898	-12595	-763	-46700		2.98	151	0.95	4028			5.28	Si
SLU 14	1108	-12002	-763	84380		2.84	151	0.93	3949			5.18	Si
SLU 35	898	-13926	-859	-51689		3.29	151	0.99	4206			4.9	Si
SLU 35	1108	-13677	-859	93728		3.23	151	0.99	4172			4.86	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	898	-10486	5485	513280		4.7	79.65	1.63	3624			0.66	No, Vu<V
SLV 3	1108	-9498	4915	-461819		4.21	80.63	1.63	3669			0.75	No, Vu<V
SLV 13	898	-10636	-6366	-569454		5.77	65.88	1.63	2997			0.47	No, Vu<V

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Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1108	-10252	-5795	563218		5.94	61.68	1.63	2807			0.48	No, Vu<V
SLV 12	898	-10925	-4996	-297135		2.69	144.91	1.37	5566			1.11	Si
SLV 12	1108	-10515	-4593	295231		2.64	142.27	1.36	5422			1.18	Si
SLV 1	898	-10298	7014	571980		6.14	59.87	1.63	2724			0.39	No, Vu<V
SLV 1	1108	-9208	6316	-511787		5.5	59.76	1.63	2719			0.43	No, Vu<V
SLV 14	898	-10636	-6366	-569454		5.77	65.88	1.63	2997			0.47	No, Vu<V
SLV 14	1108	-10252	-5795	563218		5.94	61.68	1.63	2807			0.48	No, Vu<V
SLV 11	898	-10925	-4996	-297135		2.69	144.91	1.37	5566			1.11	Si
SLV 11	1108	-10515	-4593	295231		2.64	142.27	1.36	5422			1.18	Si
SLV 15	898	-10824	-7895	-628154		7.38	52.4	1.63	2384			0.3	No, Vu<V
SLV 15	1108	-10542	-7197	613186		7.24	52	1.63	2366			0.33	No, Vu<V
SLV 16	898	-10824	-7895	-628154		7.38	52.4	1.63	2384			0.3	No, Vu<V
SLV 16	1108	-10542	-7197	613186		7.24	52	1.63	2366			0.33	No, Vu<V
SLV 2	898	-10298	7014	571980		6.14	59.87	1.63	2724			0.39	No, Vu<V
SLV 2	1108	-9208	6316	-511787		5.5	59.76	1.63	2719			0.43	No, Vu<V
SLV 4	898	-10486	5485	513280		4.7	79.65	1.63	3624			0.66	No, Vu<V
SLV 4	1108	-9498	4915	-461819		4.21	80.63	1.63	3669			0.75	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.46	2.23	-9441	18997	108021	5.69	Si
SLV 2	14	0.46	2.23	-9441	18997	108021	5.69	Si
SLV 5	14	0.46	2.25	-9501	18997	108550	5.71	Si
SLV 6	14	0.46	2.25	-9501	18997	108550	5.71	Si
SLV 4	14	0.46	2.3	-9725	18997	110522	5.82	Si
SLV 3	14	0.46	2.3	-9725	18997	110522	5.82	Si
SLV 9	14	0.46	2.33	-9836	18997	111486	5.87	Si
SLV 10	14	0.46	2.33	-9836	18997	111486	5.87	Si
SLV 7	14	0.46	2.47	-10448	18997	116686	6.14	Si
SLV 8	14	0.46	2.47	-10448	18997	116686	6.14	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-6914	-10197	162	0.027	9.156	0.936	41.296	1908.669	No
SLV 6	-6914	-10197	162	0.027	9.156	0.936	41.296	1908.669	No
SLV 10	-7138	-10298	163	0.027	9.383	0.938	41.648	1908.669	No
SLV 9	-7138	-10298	163	0.027	9.383	0.938	41.648	1908.669	No
SLV 8	-7460	-10823	-163	0.027	9.709	0.939	42.275	1908.669	No
SLV 7	-7460	-10823	-163	0.027	9.709	0.939	42.275	1908.669	No
SLV 12	-7685	-10925	-162	0.028	9.936	0.941	42.823	1908.669	No
SLV 11	-7685	-10925	-162	0.028	9.936	0.941	42.823	1908.669	No
SLV 13	-7591	-10636	50	0.04	9.841	0.94	62.084	1093.542	No
SLV 14	-7591	-10636	50	0.04	9.841	0.94	62.084	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.209	SLU 77	Si
V_SLU	4.744	SLU 77	Si
PF_SLV	1.028	SLV 15	Si
V_SLV	0.302	SLV 15	No
PFFP_SLV	5.686	SLV 1	Si
R_SLV	0.022	SLV 5	No

Maschio 171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	104.6	-416.8	104.6	L5	L6	404.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 41	898	-25739	284510	2.27	3753433	13.193	Si
SLU 41	1108	-23950	638403	2.11	3586490	5.618	Si
SLU 35	898	-26514	288354	2.34	3821412	13.253	Si
SLU 35	1108	-24491	685163	2.16	3638451	5.31	Si
SLU 83	898	-31139	332950	2.75	4172240	12.531	Si
SLU 83	1108	-28007	706637	2.47	3944868	5.583	Si
SLU 80	898	-31408	324925	2.77	4189743	12.895	Si
SLU 80	1108	-27836	713833	2.46	3931210	5.507	Si
SLU 37	898	-25728	267920	2.27	3752386	14.006	Si
SLU 37	1108	-23612	653650	2.08	3553319	5.436	Si
SLU 77	898	-31914	336794	2.82	4221869	12.535	Si
SLU 77	1108	-28548	753396	2.52	3987209	5.292	Si
SLU 79	898	-31127	316360	2.75	4171470	13.186	Si
SLU 79	1108	-27668	721883	2.44	3917718	5.427	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 78	898	-32195	345358	2.84	4239174	12.275	Si
SLU 78	1108	-28715	745346	2.54	4000055	5.367	Si
SLU 38	898	-26008	276484	2.3	3777298	13.662	Si
SLU 38	1108	-23779	645599	2.1	3569789	5.529	Si
SLU 36	898	-26795	296918	2.37	3845356	12.951	Si
SLU 36	1108	-24659	677112	2.18	3654276	5.397	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	898	-25361	-537473	2.24	4189263	7.794	Si
SLV 13	1108	-25296	1348917	2.23	4180924	3.099	Si
SLV 3	898	-17872	980963	1.58	3147753	3.209	Si
SLV 3	1108	-11291	-545082	1	2097301	3.848	Si
SLV 11	898	-23364	7960	2.06	3927600	493.396	Si
SLV 11	1108	-21225	839367	1.87	3634413	4.33	Si
SLV 16	898	-25705	-529777	2.27	4233129	7.99	Si
SLV 16	1108	-25753	1433330	2.27	4239324	2.958	Si
SLV 12	898	-23364	7960	2.06	3927600	493.396	Si
SLV 12	1108	-21225	839367	1.87	3634413	4.33	Si
SLV 2	898	-17528	973267	1.55	3096018	3.181	Si
SLV 2	1108	-10834	-629494	0.96	2019561	3.208	Si
SLV 1	898	-17528	973267	1.55	3096018	3.181	Si
SLV 1	1108	-10834	-629494	0.96	2019561	3.208	Si
SLV 15	898	-25705	-529777	2.27	4233129	7.99	Si
SLV 15	1108	-25753	1433330	2.27	4239324	2.958	Si
SLV 4	898	-17872	980963	1.58	3147753	3.209	Si
SLV 4	1108	-11291	-545082	1	2097301	3.848	Si
SLV 14	898	-25361	-537473	2.24	4189263	7.794	Si
SLV 14	1108	-25296	1348917	2.23	4180924	3.099	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	898	-31127	-4217	316360	2.75	404.5	0.92	10443				2.48	Si
SLU 79	1108	-27668	-4229	721883	2.44	404.5	0.88	9981				2.36	Si
SLU 36	898	-26795	-4112	296918	2.37	404.5	0.87	9865				2.4	Si
SLU 36	1108	-24659	-4159	677112	2.18	404.5	0.85	9580				2.3	Si
SLU 41	898	-25739	-4340	284510	2.27	404.5	0.86	9724				2.24	Si
SLU 41	1108	-23950	-4348	638403	2.11	404.5	0.84	9486				2.18	Si
SLU 35	898	-26514	-4318	288354	2.34	404.5	0.87	9827				2.28	Si
SLU 35	1108	-24491	-4329	685163	2.16	404.5	0.84	9558				2.21	Si
SLU 39	898	-25053	-4013	286335	2.21	404.5	0.85	9633				2.4	Si
SLU 39	1108	-23206	-4017	582956	2.05	404.5	0.83	9386				2.34	Si
SLU 37	898	-25728	-4175	267920	2.27	404.5	0.86	9723				2.33	Si
SLU 37	1108	-23612	-4187	653650	2.08	404.5	0.83	9440				2.25	Si
SLU 42	898	-26020	-4134	293074	2.3	404.5	0.86	9762				2.36	Si
SLU 42	1108	-24118	-4178	630353	2.13	404.5	0.84	9508				2.28	Si
SLU 83	898	-31139	-4381	332950	2.75	404.5	0.92	10444				2.38	Si
SLU 83	1108	-28007	-4390	706637	2.47	404.5	0.89	10026				2.28	Si
SLU 77	898	-31914	-4359	336794	2.82	404.5	0.93	10547				2.42	Si
SLU 77	1108	-28548	-4371	753396	2.52	404.5	0.89	10099				2.31	Si
SLU 38	898	-26008	-3970	276484	2.3	404.5	0.86	9760				2.46	Si
SLU 38	1108	-23779	-4017	645599	2.1	404.5	0.84	9463				2.36	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 16	898	-23361	-7413	-99929	2.06	404.5	1.25	14110				1.9	Si
SLD 16	1108	-21478	-6616	841613	1.9	404.5	1.21	13734				2.08	Si
SLD 15	898	-23361	-7413	-99929	2.06	404.5	1.25	14110				1.9	Si
SLD 15	1108	-21478	-6616	841613	1.9	404.5	1.21	13734				2.08	Si
SLV 13	898	-25361	-14125	-537473	2.24	404.5	1.28	14511				1.03	Si
SLV 13	1108	-25296	-12226	1348917	2.23	404.5	1.28	14497				1.19	Si
SLV 16	898	-25705	-14750	-529777	2.27	404.5	1.29	14579				0.99	No, Vu<V
SLV 16	1108	-25753	-12874	1433330	2.27	404.5	1.29	14589				1.13	Si
SLV 2	898	-17528	10837	973267	1.55	404.5	1.14	12944				1.19	Si
SLV 2	1108	-10834	8954	-629494	0.96	404.5	1.02	11605				1.3	Si
SLV 14	898	-25361	-14125	-537473	2.24	404.5	1.28	14511				1.03	Si
SLV 14	1108	-25296	-12226	1348917	2.23	404.5	1.28	14497				1.19	Si
SLV 3	898	-17872	10212	980963	1.58	404.5	1.15	13013				1.27	Si
SLV 3	1108	-11291	8306	-545082	1	404.5	1.03	11697				1.41	Si
SLV 1	898	-17528	10837	973267	1.55	404.5	1.14	12944				1.19	Si
SLV 1	1108	-10834	8954	-629494	0.96	404.5	1.02	11605				1.3	Si
SLV 4	898	-17872	10212	980963	1.58	404.5	1.15	13013				1.27	Si
SLV 4	1108	-11291	8306	-545082	1	404.5	1.03	11697				1.41	Si
SLV 15	898	-25705	-14750	-529777	2.27	404.5	1.29	14579				0.99	No, Vu<V
SLV 15	1108	-25753	-12874	1433330	2.27	404.5	1.29	14589				1.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.46	1.02	-11536	50890	148046	2.91	Si
SLV 1	14	0.46	1.02	-11536	50890	148046	2.91	Si
SLV 4	14	0.46	1.06	-12045	50890	153951	3.03	Si
SLV 3	14	0.46	1.06	-12045	50890	153951	3.03	Si
SLV 5	14	0.46	1.41	-15998	50890	198076	3.89	Si
SLV 6	14	0.46	1.41	-15998	50890	198076	3.89	Si
SLV 7	14	0.46	1.56	-17692	50890	216023	4.24	Si
SLV 8	14	0.46	1.56	-17692	50890	216023	4.24	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	1.79	-20330	50890	242805	4.77	Si
SLV 9	14	0.46	1.79	-20330	50890	242805	4.77	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	σ_0	M*	e*	a0*	aLim	Verifica
SLV 8	-14333	-21014	-581	0.015	20.301	0.926	24.002	1908.669	No
SLV 7	-14333	-21014	-581	0.015	20.301	0.926	24.002	1908.669	No
SLV 10	-14927	-22218	581	0.016	20.898	0.928	25.202	1908.669	No
SLV 9	-14927	-22218	581	0.016	20.898	0.928	25.202	1908.669	No
SLV 6	-13372	-19868	540	0.016	19.334	0.923	25.732	1908.669	No
SLV 5	-13372	-19868	540	0.016	19.334	0.923	25.732	1908.669	No
SLV 11	-15888	-23364	-540	0.019	21.867	0.93	30.251	1908.669	No
SLV 12	-15888	-23364	-540	0.019	21.867	0.93	30.251	1908.669	No
SLV 4	-12184	-17872	-237	0.034	18.141	0.919	53.433	1093.542	No
SLV 3	-12184	-17872	-237	0.034	18.141	0.919	53.433	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.292	SLU 77	Si
V_SLU	2.182	SLU 41	Si
PF_SLV	2.958	SLV 15	Si
V_SLV	0.988	SLV 15	No
PFFP_SLV	2.909	SLV 1	Si
R_SLV	0.013	SLV 7	No

Maschio 172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-350.9	-1100.3	-331.4	L5	L6	19.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 77	898	-1396	-10056	2.55	9387	0.933	No, M>Mu
SLU 77	1250	-641	4829	1.17	5370	1.112	Si
SLU 56	898	-1301	-9352	2.37	9018	0.964	No, M>Mu
SLU 56	1250	-597	4620	1.09	5057	1.095	Si
SLU 80	898	-1397	-10082	2.55	9392	0.932	No, M>Mu
SLU 80	1250	-637	4888	1.16	5346	1.094	Si
SLU 78	898	-1402	-10025	2.56	9408	0.938	No, M>Mu
SLU 78	1250	-640	4789	1.17	5364	1.12	Si
SLU 83	898	-1386	-9715	2.53	9350	0.962	No, M>Mu
SLU 83	1250	-596	4315	1.09	5052	1.171	Si
SLU 79	898	-1392	-10113	2.54	9371	0.927	No, M>Mu
SLU 79	1250	-638	4928	1.16	5352	1.086	Si
SLU 59	898	-1302	-9378	2.38	9023	0.962	No, M>Mu
SLU 59	1250	-593	4680	1.08	5033	1.075	Si
SLU 58	898	-1296	-9409	2.37	9000	0.957	No, M>Mu
SLU 58	1250	-594	4720	1.08	5039	1.068	Si
SLU 71	898	-1281	-9323	2.34	8936	0.959	No, M>Mu
SLU 71	1250	-634	5056	1.16	5320	1.052	Si
SLU 72	898	-1287	-9292	2.35	8960	0.964	No, M>Mu
SLU 72	1250	-633	5016	1.15	5314	1.059	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 10	898	-1035	-9339	1.89	8561	0.917	No, M>Mu
SLD 10	1250	-448	5009	0	0	0	No, e>1/2
SLV 1	898	-1102	-14298	0	0	0	No, e>1/2
SLV 1	1250	-432	4890	0	0	0	No, e>1/2
SLV 2	898	-1102	-14298	0	0	0	No, e>1/2
SLV 2	1250	-432	4890	0	0	0	No, e>1/2
SLV 5	898	-1258	-17033	0	0	0	No, e>1/2
SLV 5	1250	-497	8089	0	0	0	No, e>1/2
SLD 9	898	-1035	-9339	1.89	8561	0.917	No, M>Mu
SLD 9	1250	-448	5009	0	0	0	No, e>1/2
SLD 5	898	-1059	-10722	0	0	0	No, e>1/2
SLD 5	1250	-447	5124	0	0	0	No, e>1/2
SLD 6	898	-1059	-10722	0	0	0	No, e>1/2
SLD 6	1250	-447	5124	0	0	0	No, e>1/2
SLV 9	898	-1202	-13794	0	0	0	No, e>1/2
SLV 9	1250	-500	7826	0	0	0	No, e>1/2
SLV 10	898	-1202	-13794	0	0	0	No, e>1/2
SLV 10	1250	-500	7826	0	0	0	No, e>1/2
SLV 6	898	-1258	-17033	0	0	0	No, e>1/2
SLV 6	1250	-497	8089	0	0	0	No, e>1/2



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 83	898	-1386	-75	-9715		5.95	8.33	1.08	253			3.38	Si
SLU 83	1250	-596	86	4315		2.79	7.63	0.93	198			2.29	Si
SLU 74	898	-1343	-67	-9320		5.62	8.53	1.08	259			3.85	Si
SLU 74	1250	-596	90	4270		2.71	7.87	0.92	202			2.25	Si
SLU 84	898	-1392	-72	-9684		5.86	8.48	1.08	257			3.55	Si
SLU 84	1250	-595	88	4275		2.73	7.8	0.92	201			2.28	Si
SLU 78	898	-1402	-80	-10025		6.34	7.9	1.08	240			3	Si
SLU 78	1250	-640	84	4789		3.31	6.9	1	193			2.29	Si
SLU 75	898	-1349	-65	-9289		5.54	8.69	1.08	264			4.07	Si
SLU 75	1250	-596	92	4230		2.64	8.05	0.91	205			2.23	Si
SLU 82	898	-1338	-58	-8948		5.14	9.3	1.08	282			4.9	Si
SLU 82	1250	-551	95	3717		2.16	9.1	0.84	215			2.25	Si
SLU 76	898	-1348	-65	-9325		5.6	8.6	1.08	261			4.02	Si
SLU 76	1250	-592	85	4303		2.8	7.56	0.93	197			2.3	Si
SLU 67	898	-1238	-51	-8499		5.05	8.76	1.08	266			5.21	Si
SLU 67	1250	-591	83	4358		2.92	7.23	0.94	191			2.3	Si
SLU 81	898	-1333	-60	-8979		5.21	9.14	1.08	277			4.63	Si
SLU 81	1250	-551	94	3757		2.21	8.92	0.85	212			2.26	Si
SLU 73	898	-1295	-50	-8588		4.89	9.45	1.08	287			5.74	Si
SLU 73	1250	-548	93	3745		2.21	8.86	0.85	211			2.27	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLD 9	898	-1035	-161	-9339		16.19	2.28	1.63	104			0.64	No, Vu<V
SLD 9	1250	-448	-24	5009		0	0	0.83	0			0	No, Vu<V
SLV 5	898	-1258	-462	-17033		0	0	0.83	0			0	No, Vu<V
SLV 5	1250	-497	-196	8089		0	0	0.83	0			0	No, Vu<V
SLV 10	898	-1202	-338	-13794		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	-500	-142	7826		0	0	0.83	0			0	No, Vu<V
SLV 9	898	-1202	-338	-13794		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	-500	-142	7826		0	0	0.83	0			0	No, Vu<V
SLV 2	898	-1102	-349	-14298		0	0	0.83	0			0	No, Vu<V
SLV 2	1250	-432	-96	4890		0	0	0.83	0			0	No, Vu<V
SLD 5	898	-1059	-214	-10722		0	0	0.83	0			0	No, Vu<V
SLD 5	1250	-447	-47	5124		0	0	0.83	0			0	No, Vu<V
SLV 6	898	-1258	-462	-17033		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	-497	-196	8089		0	0	0.83	0			0	No, Vu<V
SLD 6	898	-1059	-214	-10722		0	0	0.83	0			0	No, Vu<V
SLD 6	1250	-447	-47	5124		0	0	0.83	0			0	No, Vu<V
SLV 1	898	-1102	-349	-14298		0	0	0.83	0			0	No, Vu<V
SLV 1	1250	-432	-96	4890		0	0	0.83	0			0	No, Vu<V
SLD 10	898	-1035	-161	-9339		16.19	2.28	1.63	104			0.64	No, Vu<V
SLD 10	1250	-448	-24	5009		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.46	0.38	-208	2462	2827	1.15	Si
SLV 3	14	0.46	0.38	-208	2462	2827	1.15	Si
SLV 7	14	0.46	0.39	-215	2462	2910	1.18	Si
SLV 8	14	0.46	0.39	-215	2462	2910	1.18	Si
SLV 1	14	0.46	0.67	-367	2462	4857	1.97	Si
SLV 2	14	0.46	0.67	-367	2462	4857	1.97	Si
SLV 11	14	0.46	0.69	-379	2462	5003	2.03	Si
SLV 12	14	0.46	0.69	-379	2462	5003	2.03	Si
SLV 5	14	0.46	1.36	-743	2462	9252	3.76	Si
SLV 6	14	0.46	1.36	-743	2462	9252	3.76	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-325	-570	12	0.03	0.615	0.898	49.142	1908.669	No
SLV 11	-325	-570	12	0.03	0.615	0.898	49.142	1908.669	No
SLV 8	-322	-626	10	0.033	0.612	0.898	53.439	1908.669	No
SLV 7	-322	-626	10	0.033	0.612	0.898	53.439	1908.669	No
SLV 6	-497	-1258	-10	0.036	0.785	0.912	56.78	1908.669	No
SLV 5	-497	-1258	-10	0.036	0.785	0.912	56.78	1908.669	No
SLV 9	-500	-1202	-8	0.038	0.788	0.913	59.965	1908.669	No
SLV 10	-500	-1202	-8	0.038	0.788	0.913	59.965	1908.669	No
SLV 16	-390	-726	6	0.041	0.679	0.904	66.018	1093.542	No
SLV 15	-390	-726	6	0.041	0.679	0.904	66.018	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.927	SLU 79	No
V_SLU	2.233	SLU 75	Si
PF_SLV	0	SLD 5	No
V_SLV	0	SLD 5	No
PFFP_SLV	1.148	SLV 3	Si
R_SLV	0.026	SLV 11	No



Maschio 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1100.3	-331.4	-1100.3	-35.4	L5	Z medio 1161 cm	296	28	263	174	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 28	898	-18853	51347	2.27	2011068	39.166	Si
SLU 28	1072	-14933	124019	1.8	1721236	13.879	Si
SLU 67	898	-21791	67894	2.63	2184117	32.169	Si
SLU 67	1072	-17142	143717	2.07	1892879	13.171	Si
SLU 66	898	-21801	68256	2.63	2184641	32.007	Si
SLU 66	1072	-17173	144099	2.07	1895118	13.152	Si
SLU 69	898	-22675	59537	2.74	2228751	37.435	Si
SLU 69	1072	-17935	145982	2.16	1949226	13.353	Si
SLU 64	898	-20669	66785	2.49	2122488	31.781	Si
SLU 64	1072	-16169	130950	1.95	1819930	13.898	Si
SLU 24	898	-17990	60428	2.17	1953015	32.32	Si
SLU 24	1072	-14202	122518	1.71	1659744	13.547	Si
SLU 25	898	-17980	60066	2.17	1952324	32.503	Si
SLU 25	1072	-14171	122136	1.71	1657104	13.568	Si
SLU 27	898	-18863	51709	2.28	2011721	38.905	Si
SLU 27	1072	-14964	124401	1.81	1723774	13.857	Si
SLU 65	898	-20652	66182	2.49	2121532	32.056	Si
SLU 65	1072	-16118	130313	1.94	1815970	13.935	Si
SLU 70	898	-22665	59175	2.73	2228265	37.656	Si
SLU 70	1072	-17904	145600	2.16	1947089	13.373	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 6	898	-17402	-168799	2.1	2132909	12.636	Si
SLV 6	1072	-13530	47865	1.63	1734895	36.245	Si
SLV 5	898	-17402	-168799	2.1	2132909	12.636	Si
SLV 5	1072	-13530	47865	1.63	1734895	36.245	Si
SLV 8	898	-13588	237476	1.64	1741176	7.332	Si
SLV 8	1072	-10796	112923	1.3	1427421	12.641	Si
SLD 12	898	-15404	130920	1.86	1933053	14.765	Si
SLD 12	1072	-12223	99860	1.47	1590676	15.929	Si
SLV 7	898	-13588	237476	1.64	1741176	7.332	Si
SLV 7	1072	-10796	112923	1.3	1427421	12.641	Si
SLV 9	898	-18405	-154106	2.22	2228893	14.463	Si
SLV 9	1072	-14422	56157	1.74	1830483	32.596	Si
SLV 10	898	-18405	-154106	2.22	2228893	14.463	Si
SLV 10	1072	-14422	56157	1.74	1830483	32.596	Si
SLD 11	898	-15404	130920	1.86	1933053	14.765	Si
SLD 11	1072	-12223	99860	1.47	1590676	15.929	Si
SLV 11	898	-14591	252170	1.76	1848344	7.33	Si
SLV 11	1072	-11688	121215	1.41	1530138	12.623	Si
SLV 12	898	-14591	252170	1.76	1848344	7.33	Si
SLV 12	1072	-11688	121215	1.41	1530138	12.623	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 40	898	-19464	348	27007		2.35	296	0.87	7200			20.71	Si
SLU 40	1072	-15711	741	47231		1.9	296	0.81	6699			9.04	Si
SLU 31	898	-18672	407	36242		2.25	296	0.86	7094			17.44	Si
SLU 31	1072	-14927	698	65503		1.8	296	0.8	6595			9.45	Si
SLU 61	898	-21337	444	19499		2.57	296	0.9	7449			16.79	Si
SLU 61	1072	-17145	835	51343		2.07	296	0.83	6890			8.25	Si
SLU 60	898	-21347	332	19861		2.58	296	0.9	7451			22.44	Si
SLU 60	1072	-17175	742	51725		2.07	296	0.83	6894			9.29	Si
SLU 52	898	-20546	503	28735		2.48	296	0.89	7344			14.61	Si
SLU 52	1072	-16361	792	69615		1.97	296	0.82	6786			8.57	Si
SLU 82	898	-23275	419	34835		2.81	296	0.93	7708			18.4	Si
SLU 82	1072	-18682	832	68812		2.25	296	0.86	7095			8.52	Si
SLU 81	898	-23285	307	35197		2.81	296	0.93	7709			25.08	Si
SLU 81	1072	-18713	740	69194		2.26	296	0.86	7099			9.6	Si
SLU 73	898	-22484	478	44070		2.71	296	0.92	7602			15.91	Si
SLU 73	1072	-17898	789	87084		2.16	296	0.84	6991			8.86	Si
SLU 10	898	-16734	431	20906		2.02	296	0.82	6836			15.85	Si
SLU 10	1072	-13390	701	48034		1.62	296	0.77	6390			9.12	Si
SLU 19	898	-17526	372	11671		2.11	296	0.84	6941			18.64	Si
SLU 19	1072	-14173	744	29762		1.71	296	0.78	6494			8.73	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	898	-14591	7256	252170		1.76	296	1.19	9825			1.35	Si
SLV 11	1072	-11688	6817	121215		1.41	296	1.12	9244			1.36	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	898	-14591	7256	252170		1.76	296	1.19	9825			1.35	Si
SLV 12	1072	-11688	6817	121215		1.41	296	1.12	9244			1.36	Si
SLV 6	898	-17402	-6831	-168799		2.1	296	1.25	10387			1.52	Si
SLV 6	1072	-13530	-6078	47865		1.63	296	1.16	9613			1.58	Si
SLV 3	898	-13752	4363	78137		1.66	296	1.17	9657			2.21	Si
SLV 3	1072	-10712	4216	80479		1.29	296	1.09	9049			2.15	Si
SLV 7	898	-13588	8378	237476		1.64	296	1.16	9624			1.15	Si
SLV 7	1072	-10796	7870	112923		1.3	296	1.09	9066			1.15	Si
SLV 4	898	-13752	4363	78137		1.66	296	1.17	9657			2.21	Si
SLV 4	1072	-10712	4216	80479		1.29	296	1.09	9049			2.15	Si
SLV 9	898	-18405	-7953	-154106		2.22	296	1.28	10588			1.33	Si
SLV 9	1072	-14422	-7130	56157		1.74	296	1.18	9791			1.37	Si
SLV 10	898	-18405	-7953	-154106		2.22	296	1.28	10588			1.33	Si
SLV 10	1072	-14422	-7130	56157		1.74	296	1.18	9791			1.37	Si
SLV 5	898	-17402	-6831	-168799		2.1	296	1.25	10387			1.52	Si
SLV 5	1072	-13530	-6078	47865		1.63	296	1.16	9613			1.58	Si
SLV 8	898	-13588	8378	237476		1.64	296	1.16	9624			1.15	Si
SLV 8	1072	-10796	7870	112923		1.3	296	1.09	9066			1.15	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 985 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.44	1.36	-11256	19978	140064	7.01	Si
SLV 8	14	0.44	1.36	-11256	19978	140064	7.01	Si
SLV 4	14	0.44	1.36	-11287	19978	140411	7.03	Si
SLV 3	14	0.44	1.36	-11287	19978	140411	7.03	Si
SLV 11	14	0.44	1.49	-12378	19978	152116	7.61	Si
SLV 12	14	0.44	1.49	-12378	19978	152116	7.61	Si
SLV 1	14	0.44	1.5	-12438	19978	152741	7.65	Si
SLV 2	14	0.44	1.5	-12438	19978	152741	7.65	Si
SLV 15	14	0.44	1.81	-15030	19978	179193	8.97	Si
SLV 16	14	0.44	1.81	-15030	19978	179193	8.97	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 985 Wa = 0.05 Ta = 0.0413

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 7	-10796	-13588	-315	0.037	14.088	0.939	56.833	1087.416	No
SLV 8	-10796	-13588	-315	0.037	14.088	0.939	56.833	1087.416	No
SLV 11	-11688	-14591	-197	0.046	14.991	0.942	71.713	1087.416	No
SLV 12	-11688	-14591	-197	0.046	14.991	0.942	71.713	1087.416	No
SLV 10	-14422	-18405	127	0.052	17.765	0.95	79.376	1087.416	No
SLV 9	-14422	-18405	127	0.052	17.765	0.95	79.376	1087.416	No
SLV 4	-10712	-13752	-340	0.035	14.003	0.939	53.597	645.763	No
SLV 3	-10712	-13752	-340	0.035	14.003	0.939	53.597	645.763	No
SLV 5	-13530	-17402	8	0.059	16.859	0.948	91.192	1087.416	No
SLV 6	-13530	-17402	8	0.059	16.859	0.948	91.192	1087.416	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.152	SLU 66	Si
V_SLU	8.251	SLU 61	Si
PF_SLV	7.33	SLV 11	Si
V_SLV	1.149	SLV 7	Si
PFFP_SLV	7.011	SLV 7	Si
R_SLV	0.052	SLV 7	No

Maschio 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-35.4	-1100.3	104.6	L5	L6	140	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 27	898	-11378	-19482	2.9	512670	26.316	Si
SLU 27	1250	-7069	65605	1.8	385269	5.873	Si
SLU 72	898	-13231	-21637	3.38	542406	25.068	Si
SLU 72	1250	-8001	69577	2.04	419746	6.033	Si
SLU 30	898	-11059	-20224	2.82	506036	25.021	Si
SLU 30	1250	-6794	62603	1.73	374398	5.981	Si
SLU 8	898	-9743	-18666	2.49	473909	25.39	Si
SLU 8	1250	-6015	53676	1.53	341742	6.367	Si
SLU 28	898	-11343	-18831	2.89	511967	27.188	Si
SLU 28	1250	-7030	64703	1.79	383746	5.931	Si
SLU 29	898	-11094	-20875	2.83	506782	24.277	Si
SLU 29	1250	-6833	63505	1.74	375961	5.92	Si
SLU 71	898	-13265	-22288	3.38	542820	24.355	Si

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 71	1250	-8040	70479	2.05	421103	5.975	Si
SLU 69	898	-13549	-20894	3.46	546005	26.132	Si
SLU 69	1250	-8276	72579	2.11	429164	5.913	Si
SLU 6	898	-10027	-17272	2.56	481479	27.876	Si
SLU 6	1250	-6251	55776	1.59	351894	6.309	Si
SLU 70	898	-13514	-20244	3.45	545634	26.954	Si
SLU 70	1250	-8237	71677	2.1	427847	5.969	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 3	898	-9453	103185	2.41	531101	5.147	Si
SLV 3	1250	-4135	25084	1.05	264443	10.542	Si
SLV 14	898	-9466	-106265	2.41	531682	5.003	Si
SLV 14	1250	-6609	44322	1.69	398816	8.998	Si
SLV 9	898	-9338	-106495	2.38	526231	4.941	Si
SLV 9	1250	-7055	81647	1.8	421120	5.158	Si
SLV 8	898	-9581	103415	2.44	536509	5.188	Si
SLV 8	1250	-3689	-12242	0.94	238333	19.469	Si
SLV 5	898	-9310	-58206	2.37	525011	9.02	Si
SLV 5	1250	-6572	84591	1.68	396934	4.692	Si
SLV 6	898	-9310	-58206	2.37	525011	9.02	Si
SLV 6	1250	-6572	84591	1.68	396934	4.692	Si
SLV 10	898	-9338	-106495	2.38	526231	4.941	Si
SLV 10	1250	-7055	81647	1.8	421120	5.158	Si
SLV 7	898	-9581	103415	2.44	536509	5.188	Si
SLV 7	1250	-3689	-12242	0.94	238333	19.469	Si
SLV 4	898	-9453	103185	2.41	531101	5.147	Si
SLV 4	1250	-4135	25084	1.05	264443	10.542	Si
SLV 13	898	-9466	-106265	2.41	531682	5.003	Si
SLV 13	1250	-6609	44322	1.69	398816	8.998	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	898	-13231	-983	-21637		3.38	140	1.01	3942			4.01	Si
SLU 72	1250	-8001	-1718	69577		2.04	140	0.83	3245			1.89	Si
SLU 28	898	-11343	-943	-18831		2.89	140	0.94	3690			3.92	Si
SLU 28	1250	-7030	-1616	64703		1.79	140	0.79	3115			1.93	Si
SLU 69	898	-13549	-1003	-20894		3.46	140	1.02	3984			3.97	Si
SLU 69	1250	-8276	-1753	72579		2.11	140	0.84	3281			1.87	Si
SLU 77	898	-14571	-878	1245		3.72	140	1.05	4121			4.69	Si
SLU 77	1250	-8905	-1636	63531		2.27	140	0.86	3365			2.06	Si
SLU 70	898	-13514	-956	-20244		3.45	140	1.02	3980			4.16	Si
SLU 70	1250	-8237	-1723	71677		2.1	140	0.84	3276			1.9	Si
SLU 79	898	-14287	-905	-149		3.64	140	1.04	4083			4.51	Si
SLU 79	1250	-8669	-1631	61431		2.21	140	0.85	3334			2.04	Si
SLU 30	898	-11059	-970	-20224		2.82	140	0.93	3652			3.77	Si
SLU 30	1250	-6794	-1612	62603		1.73	140	0.79	3084			1.91	Si
SLU 27	898	-11378	-990	-19482		2.9	140	0.94	3695			3.73	Si
SLU 27	1250	-7069	-1646	65605		1.8	140	0.8	3120			1.9	Si
SLU 71	898	-13265	-1030	-22288		3.38	140	1.01	3946			3.83	Si
SLU 71	1250	-8040	-1748	70479		2.05	140	0.83	3250			1.86	Si
SLU 29	898	-11094	-1017	-20875		2.83	140	0.93	3657			3.6	Si
SLU 29	1250	-6833	-1641	63505		1.74	140	0.79	3089			1.88	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	898	-9466	-2074	-106265		2.41	140	1.32	5160			2.49	Si
SLV 14	1250	-6609	-2488	44322		1.69	140	1.17	4589			1.84	Si
SLV 10	898	-9338	-3799	-106495		2.38	140	1.31	5134			1.35	Si
SLV 10	1250	-7055	-3542	81647		1.8	140	1.19	4678			1.32	Si
SLV 11	898	-9609	2656	55126		2.45	140	1.32	5189			1.95	Si
SLV 11	1250	-4172	1475	-15185		1.06	140	1.05	4101			2.78	Si
SLV 13	898	-9466	-2074	-106265		2.41	140	1.32	5160			2.49	Si
SLV 13	1250	-6609	-2488	44322		1.69	140	1.17	4589			1.84	Si
SLV 6	898	-9310	-3340	-58206		2.37	140	1.31	5129			1.54	Si
SLV 6	1250	-6572	-2941	84591		1.68	140	1.17	4581			1.56	Si
SLV 5	898	-9310	-3340	-58206		2.37	140	1.31	5129			1.54	Si
SLV 5	1250	-6572	-2941	84591		1.68	140	1.17	4581			1.56	Si
SLV 7	898	-9581	3115	103415		2.44	140	1.32	5183			1.66	Si
SLV 7	1250	-3689	2076	-12242		0.94	140	1.02	4004			1.93	Si
SLV 8	898	-9581	3115	103415		2.44	140	1.32	5183			1.66	Si
SLV 8	1250	-3689	2076	-12242		0.94	140	1.02	4004			1.93	Si
SLV 12	898	-9609	2656	55126		2.45	140	1.32	5189			1.95	Si
SLV 12	1250	-4172	1475	-15185		1.06	140	1.05	4101			2.78	Si
SLV 9	898	-9338	-3799	-106495		2.38	140	1.31	5134			1.35	Si
SLV 9	1250	-7055	-3542	81647		1.8	140	1.19	4678			1.32	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 W_a 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.46	1.15	-4509	17613	57188	3.25	Si
SLV 4	14	0.46	1.15	-4509	17613	57188	3.25	Si
SLV 2	14	0.46	1.33	-5201	17613	64912	3.69	Si
SLV 1	14	0.46	1.33	-5201	17613	64912	3.69	Si
SLV 8	14	0.46	1.43	-5594	17613	69167	3.93	Si
SLV 7	14	0.46	1.43	-5594	17613	69167	3.93	Si
SLV 12	14	0.46	1.84	-7215	17613	85796	4.87	Si

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Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.46	1.84	-7215	17613	85796	4.87	Si
SLV 6	14	0.46	2.02	-7900	17613	92361	5.24	Si
SLV 5	14	0.46	2.02	-7900	17613	92361	5.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-7055	-9338	-57	0.039	9.142	0.94	60.106	1908.669	No
SLV 10	-7055	-9338	-57	0.039	9.142	0.94	60.106	1908.669	No
SLV 12	-4172	-9609	-53	0.039	6.233	0.919	61.719	1908.669	No
SLV 11	-4172	-9609	-53	0.039	6.233	0.919	61.719	1908.669	No
SLV 5	-6572	-9310	26	0.043	8.653	0.937	66.398	1908.669	No
SLV 6	-6572	-9310	26	0.043	8.653	0.937	66.398	1908.669	No
SLV 16	-5744	-9548	-151	0.025	7.816	0.932	39.419	1093.542	No
SLV 15	-5744	-9548	-151	0.025	7.816	0.932	39.419	1093.542	No
SLV 7	-3689	-9581	29	0.044	5.75	0.914	69.875	1908.669	No
SLV 8	-3689	-9581	29	0.044	5.75	0.914	69.875	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.873	SLU 27	Si
V_SLU	1.859	SLU 71	Si
PF_SLV	4.692	SLV 5	Si
V_SLV	1.32	SLV 9	Si
PFFP_SLV	3.247	SLV 3	Si
R_SLV	0.031	SLV 9	No

Maschio 176

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-972.8	220.1	-972.8	666.1	L5	L6	446	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 60	898	-19165	-268320	3.07	2663430	9.926	Si
SLU 60	1250	-8302	-43751	1.33	1549107	35.407	Si
SLU 82	898	-20793	-262208	3.33	2741262	10.455	Si
SLU 82	1250	-8992	-31140	1.44	1650650	53.007	Si
SLU 19	898	-15871	-220650	2.54	2434862	11.035	Si
SLU 19	1250	-6833	-32192	1.09	1319003	40.974	Si
SLU 10	898	-14982	-204366	2.4	2356889	11.533	Si
SLU 10	1250	-6498	-31322	1.04	1263880	40.351	Si
SLU 73	898	-19904	-245925	3.19	2701649	10.986	Si
SLU 73	1250	-8657	-30271	1.39	1601868	52.918	Si
SLU 61	898	-19178	-270990	3.07	2664118	9.831	Si
SLU 61	1250	-8307	-44707	1.33	1549970	34.669	Si
SLU 44	898	-16195	-212557	2.59	2461592	11.581	Si
SLU 44	1250	-7182	-40323	1.15	1375409	34.11	Si
SLU 81	898	-20780	-259537	3.33	2740751	10.56	Si
SLU 81	1250	-8986	-30184	1.44	1649821	54.658	Si
SLU 52	898	-18289	-254707	2.93	2611916	10.255	Si
SLU 52	1250	-7972	-43838	1.28	1499179	34.198	Si
SLU 18	898	-15858	-217979	2.54	2433810	11.165	Si
SLU 18	1250	-6827	-31236	1.09	1318065	42.197	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 11	898	-13628	179223	2.18	2496247	13.928	Si
SLV 11	1250	-7014	-215505	1.12	1420319	6.591	Si
SLD 10	898	-14096	-317333	2.26	2562577	8.075	Si
SLD 10	1250	-5857	45090	0.94	1205768	26.741	Si
SLD 9	898	-14096	-317333	2.26	2562577	8.075	Si
SLD 9	1250	-5857	45090	0.94	1205768	26.741	Si
SLV 8	898	-13503	183861	2.16	2478179	13.479	Si
SLV 8	1250	-6739	-185874	1.08	1370011	7.371	Si
SLV 9	898	-14353	-518459	2.3	2598508	5.012	Si
SLV 9	1250	-5499	139191	0.88	1137903	8.175	Si
SLV 12	898	-13628	179223	2.18	2496247	13.928	Si
SLV 12	1250	-7014	-215505	1.12	1420319	6.591	Si
SLV 10	898	-14353	-518459	2.3	2598508	5.012	Si
SLV 10	1250	-5499	139191	0.88	1137903	8.175	Si
SLV 6	898	-14227	-513821	2.28	2580973	5.023	Si
SLV 6	1250	-5224	168822	0.84	1085159	6.428	Si
SLV 7	898	-13503	183861	2.16	2478179	13.479	Si
SLV 7	1250	-6739	-185874	1.08	1370011	7.371	Si
SLV 5	898	-14227	-513821	2.28	2580973	5.023	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 5	1250	-5224	168822	0.84	1085159	6.428	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLU 8	898	-12154	992	3355		1.95	446	0.82	5089			5.13	Si
SLU 8	1250	-5632	987	29280		0.9	446	0.68	4220			4.27	Si
SLU 27	898	-14310	1060	-7715		2.29	446	0.86	5377			5.07	Si
SLU 27	1250	-6667	1055	37904		1.07	446	0.7	4358			4.13	Si
SLU 38	898	-15875	1078	-32683		2.54	446	0.89	5586			5.18	Si
SLU 38	1250	-7112	1072	38376		1.14	446	0.71	4417			4.12	Si
SLU 28	898	-14322	1054	-10385		2.29	446	0.86	5379			5.1	Si
SLU 28	1250	-6673	1049	36948		1.07	446	0.7	4359			4.16	Si
SLU 71	898	-17076	1106	-38204		2.73	446	0.92	5746			5.19	Si
SLU 71	1250	-7791	1101	30332		1.25	446	0.72	4508			4.09	Si
SLU 29	898	-13769	1137	12137		2.21	446	0.85	5305			4.67	Si
SLU 29	1250	-6316	1131	42847		1.01	446	0.69	4311			3.81	Si
SLU 37	898	-15862	1084	-30012		2.54	446	0.89	5584			5.15	Si
SLU 37	1250	-7107	1078	39332		1.14	446	0.71	4416			4.1	Si
SLU 30	898	-13782	1131	9466		2.21	446	0.85	5306			4.69	Si
SLU 30	1250	-6322	1125	41891		1.01	446	0.69	4312			3.83	Si
SLU 72	898	-17088	1100	-40874		2.74	446	0.92	5747			5.22	Si
SLU 72	1250	-7796	1095	29376		1.25	446	0.72	4508			4.12	Si
SLU 9	898	-12166	986	684		1.95	446	0.82	5091			5.16	Si
SLU 9	1250	-5638	981	28324		0.9	446	0.68	4221			4.3	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLD 8	898	-13760	2425	-17265		2.2	446	1.27	7955			3.28	Si
SLD 8	1250	-6381	1436	-91774		1.02	446	1.04	6480			4.51	Si
SLV 12	898	-13628	5252	179223		2.18	446	1.27	7929			1.51	Si
SLV 12	1250	-7014	2770	-215505		1.12	446	1.06	6606			2.38	Si
SLV 6	898	-14227	-5071	-513821		2.28	446	1.29	8049			1.59	Si
SLV 6	1250	-5224	-2592	168822		0.84	446	1	6248			2.41	Si
SLV 7	898	-13503	5620	183861		2.16	446	1.27	7904			1.41	Si
SLV 7	1250	-6739	3266	-185874		1.08	446	1.05	6551			2.01	Si
SLV 11	898	-13628	5252	179223		2.18	446	1.27	7929			1.51	Si
SLV 11	1250	-7014	2770	-215505		1.12	446	1.06	6606			2.38	Si
SLV 5	898	-14227	-5071	-513821		2.28	446	1.29	8049			1.59	Si
SLV 5	1250	-5224	-2592	168822		0.84	446	1	6248			2.41	Si
SLV 9	898	-14353	-5439	-518459		2.3	446	1.29	8074			1.48	Si
SLV 9	1250	-5499	-3088	139191		0.88	446	1.01	6303			2.04	Si
SLD 7	898	-13760	2425	-17265		2.2	446	1.27	7955			3.28	Si
SLD 7	1250	-6381	1436	-91774		1.02	446	1.04	6480			4.51	Si
SLV 10	898	-14353	-5439	-518459		2.3	446	1.29	8074			1.48	Si
SLV 10	1250	-5499	-3088	139191		0.88	446	1.01	6303			2.04	Si
SLV 8	898	-13503	5620	183861		2.16	446	1.27	7904			1.41	Si
SLV 8	1250	-6739	3266	-185874		1.08	446	1.05	6551			2.01	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.46	1.32	-8224	26780	51364	1.92	Si
SLV 5	14	0.46	1.32	-8224	26780	51364	1.92	Si
SLV 2	14	0.46	1.37	-8562	26780	53210	1.99	Si
SLV 1	14	0.46	1.37	-8562	26780	53210	1.99	Si
SLV 10	14	0.46	1.39	-8652	26780	53695	2.01	Si
SLV 9	14	0.46	1.39	-8652	26780	53695	2.01	Si
SLV 3	14	0.46	1.49	-9280	26780	57057	2.13	Si
SLV 4	14	0.46	1.49	-9280	26780	57057	2.13	Si
SLV 14	14	0.46	1.6	-9987	26780	60760	2.27	Si
SLV 13	14	0.46	1.6	-9987	26780	60760	2.27	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 1074 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 16	-6805	-14029	-15	0.023	10.089	0.92	35.751	1908.669	No
SLV 15	-6805	-14029	-15	0.023	10.089	0.92	35.751	1908.669	No
SLV 13	-6350	-14246	-13	0.023	9.634	0.917	36.436	1908.669	No
SLV 14	-6350	-14246	-13	0.023	9.634	0.917	36.436	1908.669	No
SLV 4	-5887	-13609	15	0.023	9.171	0.914	36.551	1908.669	No
SLV 3	-5887	-13609	15	0.023	9.171	0.914	36.551	1908.669	No
SLV 2	-5433	-13827	17	0.023	8.718	0.911	36.594	1908.669	No
SLV 1	-5433	-13827	17	0.023	8.718	0.911	36.594	1908.669	No
SLV 12	-7014	-13628	-7	0.024	10.299	0.921	37.094	1667.536	No
SLV 11	-7014	-13628	-7	0.024	10.299	0.921	37.094	1667.536	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.831	SLU 61	Si
V_SLU	3.81	SLU 29	Si
PF_SLV	5.012	SLV 9	Si
V_SLV	1.406	SLV 7	Si
PFFP_SLV	1.918	SLV 5	Si
R_SLV	0.019	SLV 15	No



Maschio 177

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-944.8	-335.9	-1100.3	-335.9	L5	L6	155.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	898	-9385	71429	2.16	536590	7.512	Si
SLU 84	1108	-9009	-157841	2.07	522529	3.31	Si
SLU 73	898	-8595	80005	1.97	506328	6.329	Si
SLU 73	1108	-8372	-154625	1.92	497256	3.216	Si
SLU 42	898	-7673	66185	1.76	467516	7.064	Si
SLU 42	1108	-7603	-140353	1.75	464414	3.309	Si
SLU 31	898	-6884	74762	1.58	431330	5.769	Si
SLU 31	1108	-6966	-137138	1.6	435211	3.174	Si
SLU 40	898	-7152	74049	1.64	443914	5.995	Si
SLU 40	1108	-7220	-146530	1.66	447067	3.051	Si
SLU 82	898	-8863	79293	2.04	516902	6.519	Si
SLU 82	1108	-8626	-164018	1.98	507545	3.094	Si
SLU 81	898	-8977	70510	2.06	521281	7.393	Si
SLU 81	1108	-8628	-160668	1.98	507651	3.16	Si
SLU 19	898	-6723	59748	1.54	423625	7.09	Si
SLU 19	1108	-6429	-125000	1.48	409246	3.274	Si
SLU 39	898	-7265	65266	1.67	449143	6.882	Si
SLU 39	1108	-7222	-143181	1.66	447190	3.123	Si
SLU 61	898	-8435	64991	1.94	499829	7.691	Si
SLU 61	1108	-7835	-142487	1.8	474598	3.331	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	898	-7233	-230586	1.66	485923	2.107	Si
SLV 16	1108	-1893	213733	0	0	0	No, e>1/2
SLV 8	898	-2021	156081	0.46	151128	0.968	No, M>Mu
SLV 8	1108	-4193	-102410	0.96	300282	2.932	Si
SLV 3	898	-3353	331518	0	0	0	No, e>1/2
SLV 3	1108	-8414	-359141	1.93	550736	1.533	Si
SLV 4	898	-3353	331518	0	0	0	No, e>1/2
SLV 4	1108	-8414	-359141	1.93	550736	1.533	Si
SLV 14	898	-9539	-248842	2.19	608688	2.446	Si
SLV 14	1108	-3555	165541	0.82	257930	1.558	Si
SLV 1	898	-5659	313261	1.3	393160	1.255	Si
SLV 1	1108	-10076	-407334	2.31	635052	1.559	Si
SLV 2	898	-5659	313261	1.3	393160	1.255	Si
SLV 2	1108	-10076	-407334	2.31	635052	1.559	Si
SLV 7	898	-2021	156081	0.46	151128	0.968	No, M>Mu
SLV 7	1108	-4193	-102410	0.96	300282	2.932	Si
SLV 13	898	-9539	-248842	2.19	608688	2.446	Si
SLV 13	1108	-3555	165541	0.82	257930	1.558	Si
SLV 15	898	-7233	-230586	1.66	485923	2.107	Si
SLV 15	1108	-1893	213733	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 40	898	-7152	1656	74049		1.64	155.5	0.77	3372			2.04	Si
SLU 40	1108	-7220	1895	-146530		1.66	155.5	0.78	3382			1.78	Si
SLU 31	898	-6884	1654	74762		1.58	155.5	0.77	3337			2.02	Si
SLU 31	1108	-6966	1730	-137138		1.6	155.5	0.77	3348			1.93	Si
SLU 81	898	-8977	1728	70510		2.06	155.5	0.83	3616			2.09	Si
SLU 81	1108	-8628	2096	-160668		1.98	155.5	0.82	3569			1.7	Si
SLU 61	898	-8435	1518	64991		1.94	155.5	0.81	3543			2.33	Si
SLU 61	1108	-7835	1841	-142487		1.8	155.5	0.8	3464			1.88	Si
SLU 73	898	-8595	1836	80005		1.97	155.5	0.82	3565			1.94	Si
SLU 73	1108	-8372	1946	-154625		1.92	155.5	0.81	3535			1.82	Si
SLU 82	898	-8863	1838	79293		2.04	155.5	0.83	3601			1.96	Si
SLU 82	1108	-8626	2111	-164018		1.98	155.5	0.82	3569			1.69	Si
SLU 84	898	-9385	1737	71429		2.16	155.5	0.84	3670			2.11	Si
SLU 84	1108	-9009	1921	-157841		2.07	155.5	0.83	3620			1.88	Si
SLU 39	898	-7265	1546	65266		1.67	155.5	0.78	3388			2.19	Si
SLU 39	1108	-7222	1880	-143181		1.66	155.5	0.78	3382			1.8	Si
SLU 83	898	-9498	1626	62646		2.18	155.5	0.85	3685			2.27	Si
SLU 83	1108	-9012	1906	-154492		2.07	155.5	0.83	3620			1.9	Si
SLU 60	898	-8548	1408	56209		1.96	155.5	0.82	3559			2.53	Si
SLU 60	1108	-7838	1826	-139138		1.8	155.5	0.8	3464			1.9	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	898	-3353	5945	331518		0	0	0.83	0			0	No, Vu<V
SLV 4	1108	-8414	5377	-359141		2.86	105.2	1.4	4138			0.77	No, Vu<V
SLV 7	898	-2021	3145	156081		47.97	1.5	1.63	68			0.02	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1108	-4193	4314	-102410		0.96	155.5	1.03	4467			1.04	Si
SLV 2	898	-5659	5562	313261		3.01	67.17	1.44	2699			0.49	No, Vu<V
SLV 2	1108	-10076	4160	-407334		3.21	111.98	1.48	4628			1.11	Si
SLV 13	898	-9539	-3715	-248842		2.2	154.99	1.27	5524			1.49	Si
SLV 13	1108	-3555	-2936	165541		1.36	93.55	1.1	2894			0.99	No, Vu<V
SLV 8	898	-2021	3145	156081		47.97	1.5	1.63	68			0.02	No, Vu<V
SLV 8	1108	-4193	4314	-102410		0.96	155.5	1.03	4467			1.04	Si
SLV 14	898	-9539	-3715	-248842		2.2	154.99	1.27	5524			1.49	Si
SLV 14	1108	-3555	-2936	165541		1.36	93.55	1.1	2894			0.99	No, Vu<V
SLV 3	898	-3353	5945	331518		0	0	0.83	0			0	No, Vu<V
SLV 3	1108	-8414	5377	-359141		2.86	105.2	1.4	4138			0.77	No, Vu<V
SLV 1	898	-5659	5562	313261		3.01	67.17	1.44	2699			0.49	No, Vu<V
SLV 1	1108	-10076	4160	-407334		3.21	111.98	1.48	4628			1.11	Si
SLV 16	898	-7233	-3332	-230586		1.88	137.61	1.21	4658			1.4	Si
SLV 16	1108	-1893	-1719	213733		0	0	0.83	0			0	No, Vu<V
SLV 15	898	-7233	-3332	-230586		1.88	137.61	1.21	4658			1.4	Si
SLV 15	1108	-1893	-1719	213733		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.46	0.48	-2104	19119	28295	1.48	Si
SLV 16	14	0.46	0.48	-2104	19119	28295	1.48	Si
SLV 12	14	0.46	0.62	-2691	19119	35768	1.87	Si
SLV 11	14	0.46	0.62	-2691	19119	35768	1.87	Si
SLV 13	14	0.46	0.84	-3660	19119	47716	2.5	Si
SLV 14	14	0.46	0.84	-3660	19119	47716	2.5	Si
SLV 7	14	0.46	1.09	-4750	19119	60558	3.17	Si
SLV 8	14	0.46	1.09	-4750	19119	60558	3.17	Si
SLV 10	14	0.46	1.81	-7877	19119	93950	4.91	Si
SLV 9	14	0.46	1.81	-7877	19119	93950	4.91	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-2386	-2021	-214	0	4.698	0.896	0	1908.669	No
SLV 7	-2386	-2021	-214	0	4.698	0.896	0	1908.669	No
SLV 11	-2454	-3185	-216	0	4.765	0.897	0	1908.669	No
SLV 12	-2454	-3185	-216	0	4.765	0.897	0	1908.669	No
SLV 5	-4932	-9707	215	0.014	7.223	0.921	22.814	1908.669	No
SLV 6	-4932	-9707	215	0.014	7.223	0.921	22.814	1908.669	No
SLV 9	-5001	-10871	212	0.015	7.292	0.922	23.882	1908.669	No
SLV 10	-5001	-10871	212	0.015	7.292	0.922	23.882	1908.669	No
SLV 15	-3426	-7233	-69	0.037	5.719	0.907	58.875	1093.542	No
SLV 16	-3426	-7233	-69	0.037	5.719	0.907	58.875	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.051	SLU 40	Si
V_SLU	1.691	SLU 82	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	1.48	SLV 15	Si
R_SLV	0	SLV 7	No

Maschio 178

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-626.8	-335.9	-626.8	104.6	L5	L6	440.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 13	898	-14699	350337	2.38	2290170	6.537	Si
SLU 13	1250	-7682	263109	1.25	1433218	5.447	Si
SLU 70	898	-18874	437427	3.06	2595141	5.933	Si
SLU 70	1250	-10446	336522	1.69	1822345	5.415	Si
SLU 5	898	-12840	308233	2.08	2105203	6.83	Si
SLU 5	1250	-6927	250868	1.12	1315362	5.243	Si
SLU 68	898	-17829	417430	2.89	2533172	6.068	Si
SLU 68	1250	-9502	320535	1.54	1697026	5.294	Si
SLU 23	898	-14181	337974	2.3	2241635	6.633	Si
SLU 23	1250	-7318	253010	1.19	1377009	5.443	Si
SLU 28	898	-15878	385912	2.57	2391772	6.198	Si
SLU 28	1250	-8902	297465	1.44	1613167	5.423	Si
SLU 76	898	-19688	459534	3.19	2636824	5.738	Si
SLU 76	1250	-10257	332776	1.66	1797844	5.403	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 34	898	-16692	408019	2.71	2454847	6.017	Si
SLU 34	1250	-8712	293720	1.41	1586103	5.4	Si
SLU 26	898	-14833	365916	2.41	2302368	6.292	Si
SLU 26	1250	-7958	281478	1.29	1475065	5.24	Si
SLU 47	898	-15836	359748	2.57	2388366	6.639	Si
SLU 47	1250	-8472	289924	1.37	1551279	5.351	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 11	898	-12235	422352	1.98	2257209	5.344	Si
SLV 11	1250	-6877	43193	1.12	1376507	31.869	Si
SLV 3	898	-12627	533036	2.05	2314996	4.343	Si
SLV 3	1250	-5735	203230	0.93	1166989	5.742	Si
SLV 8	898	-12015	543467	1.95	2224414	4.093	Si
SLV 8	1250	-6264	79568	1.02	1265026	15.899	Si
SLV 7	898	-12015	543467	1.95	2224414	4.093	Si
SLV 7	1250	-6264	79568	1.02	1265026	15.899	Si
SLV 2	898	-13370	402979	2.17	2422240	6.011	Si
SLV 2	1250	-5894	272851	0.96	1196658	4.386	Si
SLV 6	898	-14493	109945	2.35	2578181	23.45	Si
SLV 6	1250	-6795	311638	1.1	1361704	4.37	Si
SLV 5	898	-14493	109945	2.35	2578181	23.45	Si
SLV 5	1250	-6795	311638	1.1	1361704	4.37	Si
SLV 12	898	-12235	422352	1.98	2257209	5.344	Si
SLV 12	1250	-6877	43193	1.12	1376507	31.869	Si
SLV 4	898	-12627	533036	2.05	2314996	4.343	Si
SLV 4	1250	-5735	203230	0.93	1166989	5.742	Si
SLV 1	898	-13370	402979	2.17	2422240	6.011	Si
SLV 1	1250	-5894	272851	0.96	1196658	4.386	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	898	-20417	1059	444823		3.31	440.5	1	6148			5.8	Si
SLU 79	1250	-10935	1053	304018		1.77	440.5	0.79	4884			4.64	Si
SLU 37	898	-17421	1002	393308		2.82	440.5	0.93	5749			5.74	Si
SLU 37	1250	-9391	999	264961		1.52	440.5	0.76	4678			4.68	Si
SLU 27	898	-15924	965	360320		2.58	440.5	0.9	5549			5.75	Si
SLU 27	1250	-8925	961	263129		1.45	440.5	0.75	4616			4.8	Si
SLU 50	898	-16565	983	345037		2.69	440.5	0.91	5635			5.73	Si
SLU 50	1250	-9151	975	261165		1.48	440.5	0.75	4646			4.77	Si
SLU 29	898	-15562	1026	351205		2.52	440.5	0.89	5501			5.36	Si
SLU 29	1250	-8636	1022	252720		1.4	440.5	0.74	4578			4.48	Si
SLU 8	898	-13569	926	293523		2.2	440.5	0.85	5235			5.65	Si
SLU 8	1250	-7606	921	222109		1.23	440.5	0.72	4440			4.82	Si
SLU 30	898	-15517	532	376797		2.52	440.5	0.89	5495			10.33	Si
SLU 30	1250	-8613	928	287056		1.4	440.5	0.74	4575			4.93	Si
SLU 72	898	-18512	589	428311		3	440.5	0.96	5894			10	Si
SLU 72	1250	-10158	982	326112		1.65	440.5	0.78	4780			4.87	Si
SLU 71	898	-18558	1083	402720		3.01	440.5	0.96	5901			5.45	Si
SLU 71	1250	-10181	1076	291776		1.65	440.5	0.78	4784			4.44	Si
SLU 69	898	-18919	1022	411835		3.07	440.5	0.96	5949			5.82	Si
SLU 69	1250	-10469	1015	302186		1.7	440.5	0.78	4822			4.75	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	898	-12015	8189	543467		1.95	440.5	1.22	7542			0.92	No, Vu<V
SLV 8	1250	-6264	6036	79568		1.02	440.5	1.04	6392			1.06	Si
SLD 12	898	-12893	3638	330718		2.09	440.5	1.25	7718			2.12	Si
SLD 12	1250	-6858	2735	119872		1.11	440.5	1.06	6511			2.38	Si
SLV 11	898	-12235	8196	422352		1.98	440.5	1.23	7586			0.93	No, Vu<V
SLV 11	1250	-6877	6114	43193		1.12	440.5	1.06	6515			1.07	Si
SLV 5	898	-14493	-7541	109945		2.35	440.5	1.3	8038			1.07	Si
SLV 5	1250	-6795	-5478	311638		1.1	440.5	1.05	6498			1.19	Si
SLV 10	898	-14713	-7534	-11170		2.39	440.5	1.31	8082			1.07	Si
SLV 10	1250	-7408	-5400	275263		1.2	440.5	1.07	6621			1.23	Si
SLD 11	898	-12893	3638	330718		2.09	440.5	1.25	7718			2.12	Si
SLD 11	1250	-6858	2735	119872		1.11	440.5	1.06	6511			2.38	Si
SLV 12	898	-12235	8196	422352		1.98	440.5	1.23	7586			0.93	No, Vu<V
SLV 12	1250	-6877	6114	43193		1.12	440.5	1.06	6515			1.07	Si
SLV 7	898	-12015	8189	543467		1.95	440.5	1.22	7542			0.92	No, Vu<V
SLV 7	1250	-6264	6036	79568		1.02	440.5	1.04	6392			1.06	Si
SLV 9	898	-14713	-7534	-11170		2.39	440.5	1.31	8082			1.07	Si
SLV 9	1250	-7408	-5400	275263		1.2	440.5	1.07	6621			1.23	Si
SLV 6	898	-14493	-7541	109945		2.35	440.5	1.3	8038			1.07	Si
SLV 6	1250	-6795	-5478	311638		1.1	440.5	1.05	6498			1.19	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.46	1.28	-7914	28969	49581	1.71	Si
SLV 3	14	0.46	1.28	-7914	28969	49581	1.71	Si
SLV 1	14	0.46	1.34	-8259	28969	51478	1.78	Si
SLV 2	14	0.46	1.34	-8259	28969	51478	1.78	Si
SLV 7	14	0.46	1.48	-9147	28969	56255	1.94	Si
SLV 8	14	0.46	1.48	-9147	28969	56255	1.94	Si
SLV 5	14	0.46	1.67	-10297	28969	62228	2.15	Si
SLV 6	14	0.46	1.67	-10297	28969	62228	2.15	Si



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.46	1.71	-10548	28969	63501	2.19	Si
SLV 11	14	0.46	1.71	-10548	28969	63501	2.19	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 $W_a = 0.03$ $T_a = 0.1478$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-6877	-12235	-86	0.015	10.122	0.921	23.037	1667.536	No
SLV 12	-6877	-12235	-86	0.015	10.122	0.921	23.037	1667.536	No
SLV 6	-6795	-14493	85	0.015	10.039	0.92	23.047	1667.536	No
SLV 5	-6795	-14493	85	0.015	10.039	0.92	23.047	1667.536	No
SLV 7	-6264	-12015	-80	0.015	9.507	0.917	23.62	1667.536	No
SLV 8	-6264	-12015	-80	0.015	9.507	0.917	23.62	1667.536	No
SLV 10	-7408	-14713	79	0.016	10.655	0.924	24.475	1667.536	No
SLV 9	-7408	-14713	79	0.016	10.655	0.924	24.475	1667.536	No
SLV 16	-7779	-13358	-35	0.02	11.028	0.926	31.909	1908.669	No
SLV 15	-7779	-13358	-35	0.02	11.028	0.926	31.909	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.24	SLU 26	Si
V_SLU	4.444	SLU 71	Si
PF_SLV	4.093	SLV 7	Si
V_SLV	0.921	SLV 7	No
PFFP_SLV	1.712	SLV 3	Si
R_SLV	0.014	SLV 11	No

Maschio 179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-741.3	-335.9	-854.8	-335.9	L5	L6	113.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 65	988	-5728	37722	1.8	253133	6.71	Si
SLU 65	1168	-4943	-71119	1.56	226936	3.191	Si
SLU 23	988	-4494	34075	1.41	210766	6.185	Si
SLU 23	1168	-4090	-59851	1.29	195455	3.266	Si
SLU 2	988	-3955	31777	1.24	190142	5.984	Si
SLU 2	1168	-3465	-53812	1.09	170305	3.165	Si
SLU 10	988	-4395	34544	1.38	207091	5.995	Si
SLU 10	1168	-4065	-60715	1.28	194480	3.203	Si
SLU 82	988	-6667	34877	2.1	280921	8.055	Si
SLU 82	1168	-5837	-77239	1.84	256559	3.322	Si
SLU 31	988	-4935	36842	1.55	226672	6.153	Si
SLU 31	1168	-4691	-66754	1.48	217981	3.265	Si
SLU 61	988	-6128	32579	1.93	265437	8.148	Si
SLU 61	1168	-5211	-71200	1.64	236201	3.317	Si
SLU 44	988	-5188	35424	1.63	235427	6.646	Si
SLU 44	1168	-4317	-65080	1.36	204124	3.137	Si
SLU 73	988	-6169	40489	1.94	266654	6.586	Si
SLU 73	1168	-5543	-78022	1.74	247218	3.169	Si
SLU 52	988	-5629	38191	1.77	249991	6.546	Si
SLU 52	1168	-4917	-71982	1.55	226054	3.14	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 8	988	2324	88516	0	0	0	No, Trazione
SLV 8	1168	-629	-26557	0.2	35099	1.322	Si
SLV 16	988	-4822	-234350	1.52	239678	1.023	Si
SLV 16	1168	-1291	138175	0	0	0	No, e>/2
SLV 15	988	-4822	-234350	1.52	239678	1.023	Si
SLV 15	1168	-1291	138175	0	0	0	No, e>/2
SLV 3	988	-1128	265221	0	0	0	No, e>/2
SLV 3	1168	-4285	-191831	1.35	216324	1.128	Si
SLV 7	988	2324	88516	0	0	0	No, Trazione
SLV 7	1168	-629	-26557	0.2	35099	1.322	Si
SLV 4	988	-1128	265221	0	0	0	No, e>/2
SLV 4	1168	-4285	-191831	1.35	216324	1.128	Si
SLV 1	988	-5196	266811	1.63	255403	0.957	No, M>Mu
SLV 1	1168	-6520	-234492	2.05	307895	1.313	Si
SLV 11	988	1216	-61355	0	0	0	No, Trazione
SLV 11	1168	269	72445	0	0	0	No, Trazione
SLV 12	988	1216	-61355	0	0	0	No, Trazione
SLV 12	1168	269	72445	0	0	0	No, Trazione
SLV 2	988	-5196	266811	1.63	255403	0.957	No, M>Mu
SLV 2	1168	-6520	-234492	2.05	307895	1.313	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLU 82	988	-6667	552	34877		2.1	113.5	0.84	2655			4.81	Si
SLU 82	1168	-5837	9	-77239		1.84	113.5	0.8	2544			285.61	Si
SLU 61	988	-6128	503	32579		1.93	113.5	0.81	2583			5.14	Si
SLU 61	1168	-5211	60	-71200		1.64	113.5	0.77	2460			40.68	Si
SLU 52	988	-5629	534	38191		1.77	113.5	0.79	2516			4.71	Si
SLU 52	1168	-4917	102	-71982		1.55	113.5	0.76	2421			23.67	Si
SLU 40	988	-5434	478	31230		1.71	113.5	0.78	2490			5.21	Si
SLU 40	1168	-4985	-13	-65972		1.57	113.5	0.76	2430			185.05	Si
SLU 31	988	-4935	509	36842		1.55	113.5	0.76	2424			4.76	Si
SLU 31	1168	-4691	29	-66754		1.48	113.5	0.75	2391			83.43	Si
SLU 73	988	-6169	583	40489		1.94	113.5	0.81	2588			4.44	Si
SLU 73	1168	-5543	51	-78022		1.74	113.5	0.79	2505			49.4	Si
SLU 10	988	-4395	460	34544		1.38	113.5	0.74	2352			5.12	Si
SLU 10	1168	-4065	80	-60715		1.28	113.5	0.73	2308			28.76	Si
SLU 44	988	-5188	497	35424		1.63	113.5	0.77	2457			4.95	Si
SLU 44	1168	-4317	121	-65080		1.36	113.5	0.74	2341			19.35	Si
SLU 23	988	-4494	471	34075		1.41	113.5	0.74	2365			5.02	Si
SLU 23	1168	-4090	47	-59851		1.29	113.5	0.73	2311			48.78	Si
SLU 65	988	-5728	546	37722		1.8	113.5	0.8	2529			4.63	Si
SLU 65	1168	-4943	69	-71119		1.56	113.5	0.76	2425			34.93	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLV 7	988	2324	1057	88516		0	0	0.83	0			0	No, Vu<V
SLV 7	1168	-629	484	-26557		0.52	43.52	0.94	1141			2.36	Si
SLV 4	988	-1128	4622	265221		0	0	0.83	0			0	No, Vu<V
SLV 4	1168	-4285	1488	-191831		4.26	35.94	1.63	1635			1.1	Si
SLV 15	988	-4822	-4333	-234350		7.04	24.46	1.63	1113			0.26	No, Vu<V
SLV 15	1168	-1291	-1471	138175		0	0	0.83	0			0	No, Vu<V
SLV 3	988	-1128	4622	265221		0	0	0.83	0			0	No, Vu<V
SLV 3	1168	-4285	1488	-191831		4.26	35.94	1.63	1635			1.1	Si
SLV 8	988	2324	1057	88516		0	0	0.83	0			0	No, Vu<V
SLV 8	1168	-629	484	-26557		0.52	43.52	0.94	1141			2.36	Si
SLV 16	988	-4822	-4333	-234350		7.04	24.46	1.63	1113			0.26	No, Vu<V
SLV 16	1168	-1291	-1471	138175		0	0	0.83	0			0	No, Vu<V
SLV 1	988	-5196	4990	266811		11.46	16.19	1.63	737			0.15	No, Vu<V
SLV 1	1168	-6520	1460	-234492		3.73	62.36	1.58	2759			1.89	Si
SLV 12	988	1216	-1629	-61355		0	0	0.83	0			0	No, Vu<V
SLV 12	1168	269	-403	72445		0	0	0.83	0			0	No, Vu<V
SLV 2	988	-5196	4990	266811		11.46	16.19	1.63	737			0.15	No, Vu<V
SLV 2	1168	-6520	1460	-234492		3.73	62.36	1.58	2759			1.89	Si
SLV 11	988	1216	-1629	-61355		0	0	0.83	0			0	No, Vu<V
SLV 11	1168	269	-403	72445		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.46	0	322	13955	0	0	No, Trazione
SLV 11	14	0.46	0	-927	13955	0	0	No, e>t/2
SLV 7	14	0.46	0	322	13955	0	0	No, Trazione
SLV 12	14	0.46	0	-927	13955	0	0	No, e>t/2
SLV 4	14	0.46	0.4	-1262	13955	17097	1.23	Si
SLV 3	14	0.46	0.4	-1262	13955	17097	1.23	Si
SLV 2	14	0.46	1.22	-3869	13955	48765	3.49	Si
SLV 1	14	0.46	1.22	-3869	13955	48765	3.49	Si
SLV 15	14	0.46	1.71	-5425	13955	65338	4.68	Si
SLV 16	14	0.46	1.71	-5425	13955	65338	4.68	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	670	804	-72	0	0	0	0	1908.669	No, Trazione
SLV 12	670	804	-72	0	0	0	0	1908.669	No, Trazione
SLV 8	-131	-585	-125	0	2.08	0.952	0	1908.669	No
SLV 7	-131	-585	-125	0	2.08	0.952	0	1908.669	No
SLV 10	-5747	-9340	120	0.028	7.439	0.94	43.135	1908.669	No
SLV 9	-5747	-9340	120	0.028	7.439	0.94	43.135	1908.669	No
SLV 14	-2567	-4169	115	0.019	4.24	0.908	30.165	1093.542	No
SLV 13	-2567	-4169	115	0.019	4.24	0.908	30.165	1093.542	No
SLV 5	-6548	-10729	67	0.036	8.251	0.945	55.627	1908.669	No
SLV 6	-6548	-10729	67	0.036	8.251	0.945	55.627	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.137	SLU 44	Si
V_SLU	4.438	SLU 73	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 8	No
R_SLV	0	SLV 12	No



Maschio 180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-515.8	104.6	-515.8	581.1	L5	L6	476.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 29	898	-22730	186865	3.41	3150226	16.858	Si
SLU 29	1250	-16336	604885	2.45	2721998	4.5	Si
SLU 8	898	-19796	172803	2.97	2998270	17.351	Si
SLU 8	1250	-14277	526687	2.14	2507783	4.761	Si
SLU 30	898	-22735	166572	3.41	3150413	18.913	Si
SLU 30	1250	-16362	588396	2.45	2724501	4.63	Si
SLU 28	898	-22652	113364	3.4	3147174	27.762	Si
SLU 28	1250	-16127	515449	2.42	2701994	5.242	Si
SLU 38	898	-24375	89030	3.65	3202411	35.97	Si
SLU 38	1250	-16960	542435	2.54	2779577	5.124	Si
SLU 71	898	-25902	127229	3.88	3229627	25.384	Si
SLU 71	1250	-18009	573683	2.7	2868715	5.001	Si
SLU 72	898	-25907	106936	3.88	3229680	30.202	Si
SLU 72	1250	-18036	557193	2.7	2870831	5.152	Si
SLU 37	898	-24370	109323	3.65	3202293	29.292	Si
SLU 37	1250	-16933	558924	2.54	2777213	4.969	Si
SLU 9	898	-19801	152510	2.97	2998581	19.662	Si
SLU 9	1250	-14303	510197	2.14	2510762	4.921	Si
SLU 27	898	-22647	133658	3.39	3146983	23.545	Si
SLU 27	1250	-16101	531939	2.41	2699436	5.075	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 9	898	-11562	-575797	1.73	2363925	4.105	Si
SLV 9	1250	-6797	-26797	1.02	1484392	55.394	Si
SLV 6	898	-10278	-655616	1.54	2139932	3.264	Si
SLV 6	1250	-6649	-17283	1	1454819	84.176	Si
SLD 5	898	-13140	-393019	1.97	2625937	6.681	Si
SLD 5	1250	-7836	-7467	1.17	1687479	225.989	Si
SLV 1	898	-11799	-458340	1.77	2404259	5.246	Si
SLV 1	1250	-7853	5445	1.18	1690661	310.501	Si
SLV 5	898	-10278	-655616	1.54	2139932	3.264	Si
SLV 5	1250	-6649	-17283	1	1454819	84.176	Si
SLD 10	898	-13687	-358861	2.05	2713390	7.561	Si
SLD 10	1250	-7895	-11936	1.18	1698830	142.332	Si
SLV 10	898	-11562	-575797	1.73	2363925	4.105	Si
SLV 10	1250	-6797	-26797	1.02	1484392	55.394	Si
SLD 6	898	-13140	-393019	1.97	2625937	6.681	Si
SLD 6	1250	-7836	-7467	1.17	1687479	225.989	Si
SLD 9	898	-13687	-358861	2.05	2713390	7.561	Si
SLD 9	1250	-7895	-11936	1.18	1698830	142.332	Si
SLV 2	898	-11799	-458340	1.77	2404259	5.246	Si
SLV 2	1250	-7853	5445	1.18	1690661	310.501	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 16	898	-21436	-190	95261		3.21	476.5	0.98	6564			34.53	Si
SLU 16	1250	-14874	660	480726		2.23	476.5	0.85	5689			8.62	Si
SLU 36	898	-24292	-92	35822		3.64	476.5	1.04	6945			75.16	Si
SLU 36	1250	-16725	755	469488		2.51	476.5	0.89	5936			7.86	Si
SLU 37	898	-24370	-73	109323		3.65	476.5	1.04	6955			95.17	Si
SLU 37	1250	-16933	887	558924		2.54	476.5	0.89	5964			6.72	Si
SLU 77	898	-27460	-102	-3521		4.12	476.5	1.08	7227			71.09	Si
SLU 77	1250	-18372	787	454775		2.75	476.5	0.92	6156			7.82	Si
SLU 29	898	-22730	-302	186865		3.41	476.5	1.01	6737			22.31	Si
SLU 29	1250	-16336	761	604885		2.45	476.5	0.88	5884			7.73	Si
SLU 35	898	-24287	-13	56115		3.64	476.5	1.04	6944			514.85	Si
SLU 35	1250	-16698	869	485978		2.5	476.5	0.89	5933			6.83	Si
SLU 41	898	-22138	154	-101669		3.32	476.5	1	6658			43.11	Si
SLU 41	1250	-14017	668	268564		2.1	476.5	0.84	5575			8.35	Si
SLU 27	898	-22647	-242	133658		3.39	476.5	1.01	6726			27.75	Si
SLU 27	1250	-16101	743	531939		2.41	476.5	0.88	5853			7.88	Si
SLU 38	898	-24375	-152	89030		3.65	476.5	1.04	6956			45.76	Si
SLU 38	1250	-16960	774	542435		2.54	476.5	0.89	5967			7.71	Si
SLU 79	898	-27542	-161	49687		4.13	476.5	1.08	7227			44.82	Si
SLU 79	1250	-18607	806	527722		2.79	476.5	0.93	6187			7.68	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	898	-18906	6661	174089		2.83	476.5	1.4	9340			1.4	Si
SLV 7	1250	-10584	5908	15940		1.59	476.5	1.15	7676			1.3	Si
SLV 2	898	-11799	-5000	-458340		1.77	476.5	1.19	7919			1.58	Si

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Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1250	-7853	-3123	5445		1.18	476.5	1.07	7130			2.28	Si
SLV 10	898	-11562	-6783	-575797		1.73	476.5	1.18	7872			1.16	Si
SLV 10	1250	-6797	-5732	-26797		1.02	476.5	1.04	6919			1.21	Si
SLV 6	898	-10278	-8392	-655616		1.54	476.5	1.14	7615			0.91	No, Vu<V
SLV 6	1250	-6649	-6538	-17283		1	476.5	1.03	6889			1.05	Si
SLV 12	898	-20190	8269	253908		3.03	476.5	1.44	9597			1.16	Si
SLV 12	1250	-10733	6715	6426		1.61	476.5	1.16	7706			1.15	Si
SLV 1	898	-11799	-5000	-458340		1.77	476.5	1.19	7919			1.58	Si
SLV 1	1250	-7853	-3123	5445		1.18	476.5	1.07	7130			2.28	Si
SLV 11	898	-20190	8269	253908		3.03	476.5	1.44	9597			1.16	Si
SLV 11	1250	-10733	6715	6426		1.61	476.5	1.16	7706			1.15	Si
SLV 5	898	-10278	-8392	-655616		1.54	476.5	1.14	7615			0.91	No, Vu<V
SLV 5	1250	-6649	-6538	-17283		1	476.5	1.03	6889			1.05	Si
SLV 8	898	-18906	6661	174089		2.83	476.5	1.4	9340			1.4	Si
SLV 8	1250	-10584	5908	15940		1.59	476.5	1.15	7676			1.3	Si
SLV 9	898	-11562	-6783	-575797		1.73	476.5	1.18	7872			1.16	Si
SLV 9	1250	-6797	-5732	-26797		1.02	476.5	1.04	6919			1.21	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.03 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	1.33	-8891	31336	55446	1.77	Si
SLV 9	14	0.46	1.33	-8891	31336	55446	1.77	Si
SLV 6	14	0.46	1.36	-9040	31336	56260	1.8	Si
SLV 5	14	0.46	1.36	-9040	31336	56260	1.8	Si
SLV 13	14	0.46	1.64	-10916	31336	66181	2.11	Si
SLV 14	14	0.46	1.64	-10916	31336	66181	2.11	Si
SLV 2	14	0.46	1.71	-11414	31336	68709	2.19	Si
SLV 1	14	0.46	1.71	-11414	31336	68709	2.19	Si
SLV 16	14	0.46	1.92	-12802	31336	75540	2.41	Si
SLV 15	14	0.46	1.92	-12802	31336	75540	2.41	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-9033	-14388	8	0.023	12.553	0.929	35.863	1908.669	No
SLV 4	-9033	-14388	8	0.023	12.553	0.929	35.863	1908.669	No
SLV 14	-8348	-16080	-9	0.023	11.862	0.925	36.243	1908.669	No
SLV 13	-8348	-16080	-9	0.023	11.862	0.925	36.243	1908.669	No
SLV 16	-9529	-18669	-3	0.023	13.052	0.931	36.27	1908.669	No
SLV 15	-9529	-18669	-3	0.023	13.052	0.931	36.27	1908.669	No
SLV 2	-7853	-11799	3	0.024	11.364	0.923	37.528	1908.669	No
SLV 1	-7853	-11799	3	0.024	11.364	0.923	37.528	1908.669	No
SLV 8	-10584	-18906	11	0.022	14.119	0.935	34.734	1667.536	No
SLV 7	-10584	-18906	11	0.022	14.119	0.935	34.734	1667.536	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.5	SLV 29	Si
V_SLV	6.721	SLV 37	Si
PF_SLV	3.264	SLV 5	Si
V_SLV	0.907	SLV 5	No
PFFP_SLV	1.769	SLV 9	Si
R_SLV	0.019	SLV 3	No

Maschio 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	581.1	-515.8	600.6	L5	L6	19.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 79	1098	-4351	9691	7.97	925	0.095	No, M>Mu
SLU 79	1178	-4468	14485	8.18	0	0	No, Rottura per schiacciamento
SLU 72	1098	-4346	9976	7.96	965	0.097	No, M>Mu
SLU 72	1178	-4429	14173	8.11	179	0.013	No, M>Mu
SLU 70	1098	-4149	9402	7.6	2717	0.289	No, M>Mu
SLU 70	1178	-4236	13613	7.76	1966	0.144	No, M>Mu
SLU 69	1098	-4196	9593	7.69	2311	0.241	No, M>Mu
SLU 69	1178	-4277	13694	7.83	1598	0.117	No, M>Mu
SLU 71	1098	-4394	10167	8.05	519	0.051	No, M>Mu
SLU 71	1178	-4470	14255	8.19	0	0	No, Rottura per schiacciamento
SLU 77	1098	-4153	9116	7.61	2680	0.294	No, M>Mu
SLU 77	1178	-4274	13925	7.83	1623	0.117	No, M>Mu



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 78	1098	-4106	8926	7.52	3077	0.345	No, M>Mu
SLU 78	1178	-4233	13844	7.75	1990	0.144	No, M>Mu
SLU 29	1098	-4167	9765	7.63	2567	0.263	No, M>Mu
SLU 29	1178	-4247	13524	7.78	1869	0.138	No, M>Mu
SLU 80	1098	-4303	9500	7.88	1362	0.143	No, M>Mu
SLU 80	1178	-4426	14404	8.11	206	0.014	No, M>Mu
SLU 37	1098	-4123	9289	7.55	2930	0.315	No, M>Mu
SLU 37	1178	-4244	13755	7.77	1893	0.138	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 2	1098	-871	-258	1.6	7385	28.656	Si
SLV 2	1178	-1068	4952	1.96	8743	1.766	Si
SLD 5	1098	-991	246	1.82	8229	33.492	Si
SLD 5	1178	-1179	5210	2.16	9465	1.817	Si
SLV 11	1098	-2625	8737	4.81	15524	1.777	Si
SLV 11	1178	-2333	4833	4.27	14793	3.061	Si
SLV 1	1098	-871	-258	1.6	7385	28.656	Si
SLV 1	1178	-1068	4952	1.96	8743	1.766	Si
SLV 9	1098	-484	-2386	0.89	4377	1.835	Si
SLV 9	1178	-826	5405	1.51	7054	1.305	Si
SLV 12	1098	-2625	8737	4.81	15524	1.777	Si
SLV 12	1178	-2333	4833	4.27	14793	3.061	Si
SLV 10	1098	-484	-2386	0.89	4377	1.835	Si
SLV 10	1178	-826	5405	1.51	7054	1.305	Si
SLV 5	1098	-317	-3200	0	0	0	No, e>1/2
SLV 5	1178	-694	5288	1.27	6061	1.146	Si
SLV 6	1098	-317	-3200	0	0	0	No, e>1/2
SLV 6	1178	-694	5288	1.27	6061	1.146	Si
SLD 6	1098	-991	246	1.82	8229	33.492	Si
SLD 6	1178	-1179	5210	2.16	9465	1.817	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	1098	-4106	340	8926	7.52	19.5	1.08	591	1.08	591		1.74	Si
SLU 78	1178	-4233	-519	13844	7.78	19.44	1.08	590	1.08	590		1.14	Si
SLU 37	1098	-4123	354	9289	7.55	19.5	1.08	591	1.08	591		1.67	Si
SLU 37	1178	-4244	-514	13755	7.77	19.5	1.08	591	1.08	591		1.15	Si
SLU 38	1098	-4076	347	9098	7.47	19.5	1.08	591	1.08	591		1.7	Si
SLU 38	1178	-4203	-511	13673	7.7	19.49	1.08	591	1.08	591		1.16	Si
SLU 79	1098	-4351	369	9691	7.97	19.5	1.08	591	1.08	591		1.6	Si
SLU 79	1178	-4468	-543	14485	8.18	19.5	1.08	591	1.08	591		1.09	Si
SLU 72	1098	-4346	381	9976	7.96	19.5	1.08	591	1.08	591		1.55	Si
SLU 72	1178	-4429	-530	14173	8.11	19.5	1.08	591	1.08	591		1.12	Si
SLU 71	1098	-4394	388	10167	8.05	19.5	1.08	591	1.08	591		1.52	Si
SLU 71	1178	-4470	-533	14255	8.19	19.5	1.08	591	1.08	591		1.11	Si
SLU 69	1098	-4196	366	9593	7.69	19.5	1.08	591	1.08	591		1.62	Si
SLU 69	1178	-4277	-513	13694	7.83	19.5	1.08	591	1.08	591		1.15	Si
SLU 70	1098	-4149	359	9402	7.6	19.5	1.08	591	1.08	591		1.65	Si
SLU 70	1178	-4236	-510	13613	7.76	19.5	1.08	591	1.08	591		1.16	Si
SLU 77	1098	-4153	347	9116	7.61	19.5	1.08	591	1.08	591		1.7	Si
SLU 77	1178	-4274	-522	13925	7.84	19.48	1.08	591	1.08	591		1.13	Si
SLU 80	1098	-4303	362	9500	7.88	19.5	1.08	591	1.08	591		1.63	Si
SLU 80	1178	-4426	-540	14404	8.11	19.49	1.08	591	1.08	591		1.1	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	1098	-2458	310	7923	4.5	19.5	1.63	887	1.63	887		2.86	Si
SLV 8	1178	-2201	-229	4717	4.03	19.5	1.63	887	1.63	887		3.87	Si
SLV 7	1098	-2458	310	7923	4.5	19.5	1.63	887	1.63	887		2.86	Si
SLV 7	1178	-2201	-229	4717	4.03	19.5	1.63	887	1.63	887		3.87	Si
SLD 5	1098	-991	1	246	1.82	19.5	1.2	653	1.2	653	539.04		Si
SLD 5	1178	-1179	-174	5210	2.63	16	1.36	609	1.36	609		3.5	Si
SLV 5	1098	-317	-138	-3200	0	0	0.83	0	0.83	0		0	No, Vu<V
SLV 5	1178	-694	-146	5288	3.88	6.38	1.61	288	1.61	288		1.97	Si
SLV 12	1098	-2625	345	8737	4.87	19.27	1.63	877	1.63	877		2.54	Si
SLV 12	1178	-2333	-240	4833	4.27	19.5	1.63	887	1.63	887		3.7	Si
SLV 10	1098	-484	-103	-2386	1.2	14.47	1.07	434	1.07	434		4.22	Si
SLV 10	1178	-826	-156	5405	3.07	9.61	1.45	389	1.45	389		2.5	Si
SLV 6	1098	-317	-138	-3200	0	0	0.83	0	0.83	0		0	No, Vu<V
SLV 6	1178	-694	-146	5288	3.88	6.38	1.61	288	1.61	288		1.97	Si
SLD 6	1098	-991	1	246	1.82	19.5	1.2	653	1.2	653	539.04		Si
SLD 6	1178	-1179	-174	5210	2.63	16	1.36	609	1.36	609		3.5	Si
SLV 9	1098	-484	-103	-2386	1.2	14.47	1.07	434	1.07	434		4.22	Si
SLV 9	1178	-826	-156	5405	3.07	9.61	1.45	389	1.45	389		2.5	Si
SLV 11	1098	-2625	345	8737	4.87	19.27	1.63	877	1.63	877		2.54	Si
SLV 11	1178	-2333	-240	4833	4.27	19.5	1.63	887	1.63	887		3.7	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.46	0	-118	2453	0	0	No, e>t/2
SLV 5	14	0.46	0	-118	2453	0	0	No, e>t/2
SLV 10	14	0.46	0.39	-213	2453	2884	1.18	Si
SLV 9	14	0.46	0.39	-213	2453	2884	1.18	Si
SLV 2	14	0.46	0.81	-442	2453	5782	2.36	Si
SLV 1	14	0.46	0.81	-442	2453	5782	2.36	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.46	1.39	-759	2453	9413	3.84	Si
SLV 14	14	0.46	1.39	-759	2453	9413	3.84	Si
SLV 4	14	0.46	1.49	-815	2453	10019	4.08	Si
SLV 3	14	0.46	1.49	-815	2453	10019	4.08	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 $W_a = 0.05$ $T_a = 0.0739$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-387	332	1	0	0	0	0	1908.669	No, Trazione
SLV 2	-518	219	4	0	0	0	0	1093.542	No, Trazione
SLV 6	-387	332	1	0	0	0	0	1908.669	No, Trazione
SLV 1	-518	219	4	0	0	0	0	1093.542	No, Trazione
SLV 11	-978	-1581	-1	0.044	1.269	0.94	68.78	1908.669	No
SLV 12	-978	-1581	-1	0.044	1.269	0.94	68.78	1908.669	No
SLV 8	-928	-1214	1	0.045	1.218	0.938	69.43	1908.669	No
SLV 7	-928	-1214	1	0.045	1.218	0.938	69.43	1908.669	No
SLV 9	-437	-35	-2	0.048	0.724	0.908	77.537	1908.669	No
SLV 10	-437	-35	-2	0.048	0.724	0.908	77.537	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 71	No
V_SLU	1.09	SLU 79	Si
PF_SLV	0	SLV 5	No
V_SLV	0	SLV 5	No
PFFP_SLV	0	SLV 5	No
R_SLV	0	SLV 6	No

Maschio 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	650.6	-515.8	652.1	L5	L6	1.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 53	1098	-419	-1	9.98	0	0	No, Rottura per schiacciamento
SLU 53	1178	-411	2	9.79	0	0	No, Rottura per schiacciamento
SLU 51	1098	-655	-2	15.61	0	0	No, Rottura per schiacciamento
SLU 51	1178	-647	4	15.42	0	0	No, Rottura per schiacciamento
SLU 58	1098	-658	-2	15.66	0	0	No, Rottura per schiacciamento
SLU 58	1178	-650	4	15.47	0	0	No, Rottura per schiacciamento
SLU 48	1098	-629	-2	14.97	0	0	No, Rottura per schiacciamento
SLU 48	1178	-621	3	14.78	0	0	No, Rottura per schiacciamento
SLU 55	1098	-440	-2	10.48	0	0	No, Rottura per schiacciamento
SLU 55	1178	-432	2	10.29	0	0	No, Rottura per schiacciamento
SLU 42	1098	-496	-2	11.82	0	0	No, Rottura per schiacciamento
SLU 42	1178	-490	3	11.67	0	0	No, Rottura per schiacciamento
SLU 50	1098	-664	-2	15.81	0	0	No, Rottura per schiacciamento
SLU 50	1178	-656	3	15.62	0	0	No, Rottura per schiacciamento
SLU 56	1098	-623	-2	14.82	0	0	No, Rottura per schiacciamento
SLU 56	1178	-615	3	14.63	0	0	No, Rottura per schiacciamento
SLU 57	1098	-614	-2	14.62	0	0	No, Rottura per schiacciamento
SLU 57	1178	-606	3	14.43	0	0	No, Rottura per schiacciamento
SLU 54	1098	-411	-1	9.78	0	0	No, Rottura per schiacciamento
SLU 54	1178	-403	2	9.59	0	0	No, Rottura per schiacciamento



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 3	1098	-40	-173	0	0	0	No, e>l/2
SLV 3	1178	-300	42	7.14	93	2.244	Si
SLV 8	1098	-228	-404	0	0	0	No, e>l/2
SLV 8	1178	-499	78	11.87	11	0.135	No, M>Mu
SLV 6	1098	-130	369	0	0	0	No, e>l/2
SLV 6	1178	33	-64	0	0	0	No, Trazione
SLV 5	1098	-130	369	0	0	0	No, e>l/2
SLV 5	1178	33	-64	0	0	0	No, Trazione
SLV 10	1098	-262	403	0	0	0	No, e>l/2
SLV 10	1178	22	-76	0	0	0	No, Trazione
SLV 9	1098	-262	403	0	0	0	No, e>l/2
SLV 9	1178	22	-76	0	0	0	No, Trazione
SLV 7	1098	-228	-404	0	0	0	No, e>l/2
SLV 7	1178	-499	78	11.87	11	0.135	No, M>Mu
SLV 4	1098	-40	-173	0	0	0	No, e>l/2
SLV 4	1178	-300	42	7.14	93	2.244	Si
SLV 2	1098	-11	59	0	0	0	No, e>l/2
SLV 2	1178	-141	-1	3.35	77	78.165	Si
SLV 12	1098	-359	-370	0	0	0	No, e>l/2
SLV 12	1178	-510	66	12.14	3	0.038	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 29	1098	-717	0	-2		17.07	1.5	1.08	46			572.19	Si
SLU 29	1178	-711	0	4		16.92	1.5	1.08	46			572.12	Si
SLU 79	1098	-747	0	-3		17.78	1.5	1.08	46			542.74	Si
SLU 79	1178	-738	0	4		17.58	1.5	1.08	46			542.68	Si
SLU 77	1098	-712	0	-2		16.94	1.5	1.08	46			568.19	Si
SLU 77	1178	-703	0	4		16.75	1.5	1.08	46			568.2	Si
SLU 30	1098	-709	0	-2		16.87	1.5	1.08	46			567.14	Si
SLU 30	1178	-702	0	4		16.72	1.5	1.08	46			567.07	Si
SLU 78	1098	-703	0	-2		16.74	1.5	1.08	46			563.21	Si
SLU 78	1178	-695	0	4		16.55	1.5	1.08	46			563.22	Si
SLU 38	1098	-702	0	-3		16.72	1.5	1.08	46			550.27	Si
SLU 38	1178	-696	0	4		16.57	1.5	1.08	46			550.21	Si
SLU 80	1098	-738	0	-3		17.58	1.5	1.08	46			538.19	Si
SLU 80	1178	-730	0	4		17.38	1.5	1.08	46			538.13	Si
SLU 72	1098	-744	0	-2		17.72	1.5	1.08	46			554.32	Si
SLU 72	1178	-736	0	4		17.53	1.5	1.08	46			554.26	Si
SLU 71	1098	-753	0	-2		17.92	1.5	1.08	46			559.14	Si
SLU 71	1178	-745	0	4		17.73	1.5	1.08	46			559.08	Si
SLU 37	1098	-711	0	-3		16.92	1.5	1.08	46			555.02	Si
SLU 37	1178	-704	0	4		16.77	1.5	1.08	46			554.96	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	1098	-130	8	369		0	0	0.83	0			0	No, Vu<V
SLV 6	1178	33	-7	-64		0	0	0.83	0			0	No, Vu<V
SLV 2	1098	-11	1	59		0	0	0.83	0			0	No, Vu<V
SLV 2	1178	-141	0	-1		3.35	1.5	1.5	63			128.85	Si
SLV 9	1098	-262	8	403		0	0	0.83	0			0	No, Vu<V
SLV 9	1178	22	-8	-76		0	0	0.83	0			0	No, Vu<V
SLV 10	1098	-262	8	403		0	0	0.83	0			0	No, Vu<V
SLV 10	1178	22	-8	-76		0	0	0.83	0			0	No, Vu<V
SLV 1	1098	-11	1	59		0	0	0.83	0			0	No, Vu<V
SLV 1	1178	-141	0	-1		3.35	1.5	1.5	63			128.85	Si
SLV 3	1098	-40	-4	-173		0	0	0.83	0			0	No, Vu<V
SLV 3	1178	-300	4	42		7.14	1.5	1.63	68			18.09	Si
SLV 11	1098	-359	-8	-370		0	0	0.83	0			0	No, Vu<V
SLV 11	1178	-510	7	66		12.14	1.5	1.63	68			10.37	Si
SLV 12	1098	-359	-8	-370		0	0	0.83	0			0	No, Vu<V
SLV 12	1178	-510	7	66		12.14	1.5	1.63	68			10.37	Si
SLV 4	1098	-40	-4	-173		0	0	0.83	0			0	No, Vu<V
SLV 4	1178	-300	4	42		7.14	1.5	1.63	68			18.09	Si
SLV 5	1098	-130	8	369		0	0	0.83	0			0	No, Vu<V
SLV 5	1178	33	-7	-64		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.46	0	-5	189	0	0	No, e>t/2
SLV 6	14	0.46	0	-5	189	0	0	No, e>t/2
SLV 4	14	0.46	0	-7	189	0	0	No, e>t/2
SLV 8	14	0.46	0	-12	189	0	0	No, e>t/2
SLV 5	14	0.46	0	-5	189	0	0	No, e>t/2
SLV 1	14	0.46	0	-5	189	0	0	No, e>t/2
SLV 7	14	0.46	0	-12	189	0	0	No, e>t/2
SLV 3	14	0.46	0	-7	189	0	0	No, e>t/2
SLV 10	14	0.46	0	-6	189	0	0	No, e>t/2
SLV 9	14	0.46	0	-6	189	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-7	25	-1	0	0	0	0	1908.669	No, Trazione



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 4	-16	-132	3	0	0.039	0.89	0	1093.542	No
SLV 1	-11	-83	2	0	0.034	0.89	0	1093.542	No
SLV 2	-11	-83	2	0	0.034	0.89	0	1093.542	No
SLV 6	-7	25	-1	0	0	0	0	1908.669	No, Trazione
SLV 9	-9	69	-2	0	0	0	0	1908.669	No, Trazione
SLV 10	-9	69	-2	0	0	0	0	1908.669	No, Trazione
SLV 13	-17	62	-3	0	0	0	0	1093.542	No, Trazione
SLV 14	-17	62	-3	0	0	0	0	1093.542	No, Trazione
SLV 3	-16	-132	3	0	0.039	0.89	0	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 3	No
V_SLU	538.135	SLU 80	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLD 5	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

Maschio 183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-600.8	-335.9	-651.3	-335.9	L5	L6	50.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 73	1098	-2853	-4939	2.02	54190	10.971	Si
SLU 73	1178	-2474	-14957	1.75	49049	3.279	Si
SLU 31	1098	-2339	-3838	1.65	47072	12.265	Si
SLU 31	1178	-2059	-12700	1.46	42694	3.362	Si
SLU 61	1098	-2791	-4734	1.97	53400	11.28	Si
SLU 61	1178	-2417	-14427	1.71	48227	3.343	Si
SLU 52	1098	-2534	-4351	1.79	49907	11.471	Si
SLU 52	1178	-2148	-13351	1.52	44117	3.304	Si
SLU 65	1098	-2568	-5005	1.82	50388	10.068	Si
SLU 65	1178	-2160	-12821	1.53	44307	3.456	Si
SLU 10	1098	-2021	-3249	1.43	42072	12.947	Si
SLU 10	1178	-1733	-11095	1.23	37169	3.35	Si
SLU 40	1098	-2597	-4221	1.84	50786	12.031	Si
SLU 40	1178	-2328	-13775	1.65	46909	3.405	Si
SLU 19	1098	-2278	-3633	1.61	46145	12.702	Si
SLU 19	1178	-2002	-12170	1.42	41770	3.432	Si
SLU 81	1098	-3313	-5940	2.34	59594	10.033	Si
SLU 81	1178	-2946	-16271	2.08	55360	3.402	Si
SLU 82	1098	-3110	-5323	2.2	57324	10.77	Si
SLU 82	1178	-2743	-16032	1.94	52773	3.292	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 2	1098	-613	37138	0	0	0	No, e>/2
SLV 2	1178	-969	-48452	0	0	0	No, e>/2
SLV 7	1098	-934	16744	0.66	22313	1.333	Si
SLV 7	1178	-2815	-27068	1.99	59500	2.198	Si
SLV 3	1098	-160	41953	0	0	0	No, e>/2
SLV 3	1178	-1612	-51333	0	0	0	No, e>/2
SLV 8	1098	-934	16744	0.66	22313	1.333	Si
SLV 8	1178	-2815	-27068	1.99	59500	2.198	Si
SLD 1	1098	-1541	13276	1.09	35441	2.67	Si
SLD 1	1178	-1531	-26648	1.08	35240	1.322	Si
SLV 4	1098	-160	41953	0	0	0	No, e>/2
SLV 4	1178	-1612	-51333	0	0	0	No, e>/2
SLV 6	1098	-2444	693	1.73	52977	76.427	Si
SLV 6	1178	-674	-17465	0	0	0	No, e>/2
SLV 1	1098	-613	37138	0	0	0	No, e>/2
SLV 1	1178	-969	-48452	0	0	0	No, e>/2
SLD 2	1098	-1541	13276	1.09	35441	2.67	Si
SLD 2	1178	-1531	-26648	1.08	35240	1.322	Si
SLV 5	1098	-2444	693	1.73	52977	76.427	Si
SLV 5	1178	-674	-17465	0	0	0	No, e>/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 27	1098	-2801	-167	-6824		1.98	50.5	0.82	1159			6.94	Si
SLU 27	1178	-2483	93	-10865		1.76	50.5	0.79	1117			12.05	Si
SLU 29	1098	-2723	-173	-6791		1.93	50.5	0.81	1149			6.64	Si
SLU 29	1178	-2410	93	-10224		1.7	50.5	0.78	1107			11.88	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	1098	-3008	-168	-6726		2.13	50.5	0.84	1187			7.08	Si
SLU 37	1178	-2724	122	-12360		1.93	50.5	0.81	1149			9.39	Si
SLU 50	1098	-2918	-173	-7304		2.06	50.5	0.83	1175			6.8	Si
SLU 50	1178	-2499	79	-10875		1.77	50.5	0.79	1119			14.2	Si
SLU 79	1098	-3521	-182	-7827		2.49	50.5	0.89	1255			6.88	Si
SLU 79	1178	-3139	128	-14617		2.22	50.5	0.85	1204			9.42	Si
SLU 71	1098	-3237	-188	-7892		2.29	50.5	0.86	1217			6.48	Si
SLU 71	1178	-2825	99	-12480		2	50.5	0.82	1162			11.78	Si
SLU 48	1098	-2996	-167	-7337		2.12	50.5	0.84	1185			7.11	Si
SLU 48	1178	-2572	78	-11516		1.82	50.5	0.8	1128			14.42	Si
SLU 69	1098	-3314	-182	-7925		2.34	50.5	0.87	1227			6.75	Si
SLU 69	1178	-2898	98	-13122		2.05	50.5	0.83	1172			11.95	Si
SLU 8	1098	-2405	-158	-6203		1.7	50.5	0.78	1106			7	Si
SLU 8	1178	-2084	73	-8618		1.47	50.5	0.75	1063			14.5	Si
SLU 77	1098	-3599	-176	-7860		2.55	50.5	0.89	1265			7.18	Si
SLU 77	1178	-3212	127	-15258		2.27	50.5	0.86	1214			9.54	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1098	-160	1633	41953		0	0	0.83	0			0	No, Vu<V
SLV 4	1178	-1612	351	-51333		0	0	0.83	0			0	No, Vu<V
SLV 3	1098	-160	1633	41953		0	0	0.83	0			0	No, Vu<V
SLV 3	1178	-1612	351	-51333		0	0	0.83	0			0	No, Vu<V
SLV 13	1098	-4335	-1772	-50939		3.82	40.5	1.6	1812			1.02	Si
SLV 13	1178	-2266	-242	30480		2.29	35.4	1.29	1279			5.29	Si
SLV 2	1098	-613	1532	37138		0	0	0.83	0			0	No, Vu<V
SLV 2	1178	-969	141	-48452		0	0	0.83	0			0	No, Vu<V
SLV 16	1098	-3882	-1670	-46123		3.46	40.1	1.52	1712			1.03	Si
SLV 16	1178	-2909	-32	27600		2.2	47.28	1.27	1685			52.86	Si
SLV 1	1098	-613	1532	37138		0	0	0.83	0			0	No, Vu<V
SLV 1	1178	-969	141	-48452		0	0	0.83	0			0	No, Vu<V
SLV 5	1098	-2444	257	693		1.73	50.5	1.18	1667			6.48	Si
SLV 5	1178	-674	-238	-17465		0	0	0.83	0			0	No, Vu<V
SLV 14	1098	-4335	-1772	-50939		3.82	40.5	1.6	1812			1.02	Si
SLV 14	1178	-2266	-242	30480		2.29	35.4	1.29	1279			5.29	Si
SLV 6	1098	-2444	257	693		1.73	50.5	1.18	1667			6.48	Si
SLV 6	1178	-674	-238	-17465		0	0	0.83	0			0	No, Vu<V
SLV 15	1098	-3882	-1670	-46123		3.46	40.1	1.52	1712			1.03	Si
SLV 15	1178	-2909	-32	27600		2.2	47.28	1.27	1685			52.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.46	0.36	-507	6209	6896	1.11	Si
SLV 7	14	0.46	0.36	-507	6209	6896	1.11	Si
SLV 4	14	0.46	0.55	-781	6209	10437	1.68	Si
SLV 3	14	0.46	0.55	-781	6209	10437	1.68	Si
SLV 12	14	0.46	0.63	-893	6209	11851	1.91	Si
SLV 11	14	0.46	0.63	-893	6209	11851	1.91	Si
SLV 2	14	0.46	0.99	-1400	6209	18015	2.9	Si
SLV 1	14	0.46	0.99	-1400	6209	18015	2.9	Si
SLV 15	14	0.46	1.46	-2065	6209	25451	4.1	Si
SLV 16	14	0.46	1.46	-2065	6209	25451	4.1	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-1232	-1100	-10	0.045	1.976	0.911	71.222	1908.669	No
SLV 12	-1232	-1100	-10	0.045	1.976	0.911	71.222	1908.669	No
SLV 7	-813	-1157	-10	0.046	1.563	0.897	74.595	1908.669	No
SLV 8	-813	-1157	-10	0.046	1.563	0.897	74.595	1908.669	No
SLV 9	-994	-1624	6	0.048	1.741	0.903	77.083	1908.669	No
SLV 10	-994	-1624	6	0.048	1.741	0.903	77.083	1908.669	No
SLV 6	-576	-1680	6	0.051	1.336	0.89	84.031	1908.669	No
SLV 5	-576	-1680	6	0.051	1.336	0.89	84.031	1908.669	No
SLV 15	-1637	-1218	-4	0.046	2.381	0.922	73.245	1093.542	No
SLV 16	-1637	-1218	-4	0.046	2.381	0.922	73.245	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.279	SLU 73	Si
V_SLU	6.477	SLU 71	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	1.111	SLV 7	Si
R_SLV	0.037	SLV 11	No

Maschio 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-318.3	-335.9	-550.8	-335.9	L5	L6	232.5	28	352	352	352			

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Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 44	1098	-8640	51924	1.33	840760	16.192	Si
SLU 44	1178	-7299	60896	1.12	731740	12.016	Si
SLU 2	1098	-6784	39728	1.04	687776	17.312	Si
SLU 2	1178	-5760	49578	0.88	596856	12.039	Si
SLU 67	1098	-10796	60389	1.66	999523	16.551	Si
SLU 67	1178	-9385	74145	1.44	897959	12.111	Si
SLU 31	1098	-8928	55948	1.37	863113	15.427	Si
SLU 31	1178	-7868	64941	1.21	778984	11.995	Si
SLU 65	1098	-9766	58017	1.5	926217	15.965	Si
SLU 65	1178	-8401	70458	1.29	821917	11.665	Si
SLU 73	1098	-10783	68144	1.66	998658	14.655	Si
SLU 73	1178	-9408	76259	1.45	899636	11.797	Si
SLU 76	1098	-11187	65247	1.72	1026126	15.727	Si
SLU 76	1178	-9788	77638	1.5	927841	11.951	Si
SLU 26	1098	-8314	42924	1.28	814944	18.986	Si
SLU 26	1178	-7242	60518	1.11	726920	12.012	Si
SLU 68	1098	-10169	55120	1.56	955485	17.335	Si
SLU 68	1178	-8782	71836	1.35	851800	11.858	Si
SLU 23	1098	-7910	45821	1.22	782394	17.075	Si
SLU 23	1178	-6862	59139	1.05	694471	11.743	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 3	1098	-8875	152318	1.36	916616	6.018	Si
SLV 3	1178	-7021	-311100	1.08	744173	2.392	Si
SLV 1	1098	-9997	112123	1.54	1016063	9.062	Si
SLV 1	1178	-8199	-243755	1.26	854923	3.507	Si
SLV 2	1098	-9997	112123	1.54	1016063	9.062	Si
SLV 2	1178	-8199	-243755	1.26	854923	3.507	Si
SLV 15	1098	-6173	-7624	0.95	661960	86.83	Si
SLV 15	1178	-5787	349845	0.89	623785	1.783	Si
SLV 10	1098	-9549	-38733	1.47	976811	25.219	Si
SLV 10	1178	-8772	264429	1.35	907244	3.431	Si
SLV 9	1098	-9549	-38733	1.47	976811	25.219	Si
SLV 9	1178	-8772	264429	1.35	907244	3.431	Si
SLV 14	1098	-7295	-47818	1.12	770264	16.108	Si
SLV 14	1178	-6965	417190	1.07	738785	1.771	Si
SLV 4	1098	-8875	152318	1.36	916616	6.018	Si
SLV 4	1178	-7021	-311100	1.08	744173	2.392	Si
SLV 13	1098	-7295	-47818	1.12	770264	16.108	Si
SLV 13	1178	-6965	417190	1.07	738785	1.771	Si
SLV 16	1098	-6173	-7624	0.95	661960	86.83	Si
SLV 16	1178	-5787	349845	0.89	623785	1.783	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 18	1098	-8926	137	62082		1.37	232.5	0.74	4807			35.19	Si
SLU 18	1178	-7829	176	56944		1.2	232.5	0.72	4660			26.5	Si
SLU 60	1098	-10782	157	74278		1.66	232.5	0.78	5054			32.15	Si
SLU 60	1178	-9368	200	68262		1.44	232.5	0.75	4866			24.34	Si
SLU 26	1098	-8314	-212	42924		1.28	232.5	0.73	4725			22.34	Si
SLU 26	1178	-7242	-114	60518		1.11	232.5	0.7	4582			40.08	Si
SLU 23	1098	-7910	-192	45821		1.22	232.5	0.72	4671			24.33	Si
SLU 23	1178	-6862	-98	59139		1.05	232.5	0.7	4532			46.08	Si
SLU 68	1098	-10169	-191	55120		1.56	232.5	0.76	4973			26.04	Si
SLU 68	1178	-8782	-90	71836		1.35	232.5	0.74	4788			53.01	Si
SLU 62	1098	-11185	138	71381		1.72	232.5	0.78	5108			37.1	Si
SLU 62	1178	-9748	184	69641		1.5	232.5	0.76	4916			26.74	Si
SLU 2	1098	-6784	-164	39728		1.04	232.5	0.69	4521			27.6	Si
SLU 2	1178	-5760	-87	49578		0.88	232.5	0.67	4385			50.3	Si
SLU 65	1098	-9766	-171	58017		1.5	232.5	0.76	4919			28.7	Si
SLU 65	1178	-8401	-74	70458		1.29	232.5	0.73	4737			63.73	Si
SLU 81	1098	-11908	129	80371		1.83	232.5	0.8	5204			40.35	Si
SLU 81	1178	-10470	189	77823		1.61	232.5	0.77	5013			26.56	Si
SLU 5	1098	-7188	-183	36831		1.1	232.5	0.7	4575			24.96	Si
SLU 5	1178	-6140	-103	50956		0.94	232.5	0.68	4435			43	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	1098	-6173	-5818	-7624		0.95	232.5	1.02	6660			1.14	Si
SLV 15	1178	-5787	-4813	349845		1.23	167.39	1.08	5063			1.05	Si
SLV 14	1098	-7295	-6831	-47818		1.12	232.5	1.06	6884			1.01	Si
SLV 14	1178	-6965	-5706	417190		1.47	169.06	1.13	5338			0.94	No, Vu<V
SLV 13	1098	-7295	-6831	-47818		1.12	232.5	1.06	6884			1.01	Si
SLV 13	1178	-6965	-5706	417190		1.47	169.06	1.13	5338			0.94	No, Vu<V
SLV 1	1098	-9997	5915	112123		1.54	232.5	1.14	7424			1.26	Si
SLV 1	1178	-8199	4984	-243755		1.26	232.5	1.09	7065			1.42	Si
SLV 16	1098	-6173	-5818	-7624		0.95	232.5	1.02	6660			1.14	Si
SLV 16	1178	-5787	-4813	349845		1.23	167.39	1.08	5063			1.05	Si
SLV 3	1098	-8875	6928	152318		1.36	232.5	1.11	7200			1.04	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1178	-7021	5877	-311100		1.16	215.82	1.07	6440			1.1	Si
SLV 2	1098	-9997	5915	112123		1.54	232.5	1.14	7424			1.26	Si
SLV 2	1178	-8199	4984	-243755		1.26	232.5	1.09	7065			1.42	Si
SLV 4	1098	-8875	6928	152318		1.36	232.5	1.11	7200			1.04	Si
SLV 4	1178	-7021	5877	-311100		1.16	215.82	1.07	6440			1.1	Si
SLV 7	1098	-6621	3649	143232		1.02	232.5	1.04	6749			1.85	Si
SLV 7	1178	-5215	3177	-158339		0.8	232.5	0.99	6468			2.04	Si
SLV 8	1098	-6621	3649	143232		1.02	232.5	1.04	6749			1.85	Si
SLV 8	1178	-5215	3177	-158339		0.8	232.5	0.99	6468			2.04	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.46	0.88	-5723	28586	74362	2.6	Si
SLV 12	14	0.46	0.88	-5723	28586	74362	2.6	Si
SLV 8	14	0.46	0.9	-5873	28586	76147	2.66	Si
SLV 7	14	0.46	0.9	-5873	28586	76147	2.66	Si
SLV 16	14	0.46	1.08	-7005	28586	89428	3.13	Si
SLV 15	14	0.46	1.08	-7005	28586	89428	3.13	Si
SLV 4	14	0.46	1.15	-7502	28586	95123	3.33	Si
SLV 3	14	0.46	1.15	-7502	28586	95123	3.33	Si
SLV 13	14	0.46	1.27	-8252	28586	103542	3.62	Si
SLV 14	14	0.46	1.27	-8252	28586	103542	3.62	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 15	-4701	-8025	264	0.013	8.135	0.904	20.779	1093.542	No
SLV 16	-4701	-8025	264	0.013	8.135	0.904	20.779	1093.542	No
SLV 11	-4011	-5471	170	0.025	7.458	0.899	40.797	1908.669	No
SLV 12	-4011	-5471	170	0.025	7.458	0.899	40.797	1908.669	No
SLV 5	-6972	-10367	-168	0.03	10.396	0.919	47.89	1908.669	No
SLV 6	-6972	-10367	-168	0.03	10.396	0.919	47.89	1908.669	No
SLV 2	-6282	-7813	-261	0.018	9.706	0.915	29.099	1093.542	No
SLV 1	-6282	-7813	-261	0.018	9.706	0.915	29.099	1093.542	No
SLV 13	-5521	-9660	204	0.024	8.947	0.91	37.825	1093.542	No
SLV 14	-5521	-9660	204	0.024	8.947	0.91	37.825	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	11.665	SLV 65	Si
V_SLV	22.338	SLV 26	Si
PF_SLV	1.771	SLV 13	Si
V_SLV	0.936	SLV 13	No
PFFP_SLV	2.601	SLV 11	Si
R_SLV	0.019	SLV 15	No

Maschio 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	-335.9	-228.3	-335.9	L5	L6	216	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 81	988	-11166	-69239	1.85	932595	13.469	Si
SLU 81	1168	-11174	173062	1.85	933064	5.392	Si
SLU 31	988	-8941	-85208	1.48	790404	9.276	Si
SLU 31	1168	-9292	150532	1.54	814281	5.409	Si
SLU 52	988	-9927	-73848	1.64	856069	11.592	Si
SLU 52	1168	-9644	149026	1.59	837681	5.621	Si
SLU 73	988	-10848	-89237	1.79	913627	10.238	Si
SLU 73	1168	-10906	171618	1.8	917103	5.344	Si
SLU 40	988	-9235	-80593	1.53	810438	10.056	Si
SLU 40	1168	-9665	157101	1.6	839073	5.341	Si
SLU 82	988	-11142	-84622	1.84	931204	11.004	Si
SLU 82	1168	-11279	178186	1.86	939255	5.271	Si
SLU 61	988	-10221	-69234	1.69	874834	12.636	Si
SLU 61	1168	-10017	155595	1.66	861897	5.539	Si
SLU 19	988	-8314	-65204	1.37	746363	11.447	Si
SLU 19	1168	-8404	134509	1.39	752789	5.597	Si
SLU 39	988	-9259	-65210	1.53	812026	12.453	Si
SLU 39	1168	-9560	151976	1.58	832136	5.475	Si
SLU 84	988	-11665	-84459	1.93	961543	11.385	Si
SLU 84	1168	-11818	172899	1.95	970163	5.611	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 11	988	-4367	-89187	0.72	443779	4.976	Si
SLV 11	1168	-5752	177761	0.95	572827	3.222	Si
SLV 16	988	-7132	-243908	1.18	695884	2.853	Si
SLV 16	1168	-9439	358129	1.56	889183	2.483	Si
SLV 4	988	-6427	173079	1.06	633773	3.662	Si
SLV 4	1168	-3989	-143740	0.66	407564	2.835	Si
SLD 15	988	-7552	-126543	1.25	732291	5.787	Si
SLD 15	1168	-8319	215693	1.38	797283	3.696	Si
SLV 3	988	-6427	173079	1.06	633773	3.662	Si
SLV 3	1168	-3989	-143740	0.66	407564	2.835	Si
SLD 16	988	-7552	-126543	1.25	732291	5.787	Si
SLD 16	1168	-8319	215693	1.38	797283	3.696	Si
SLV 14	988	-9290	-251430	1.54	877177	3.489	Si
SLV 14	1168	-10964	362169	1.81	1008449	2.784	Si
SLV 12	988	-4367	-89187	0.72	443779	4.976	Si
SLV 12	1168	-5752	177761	0.95	572827	3.222	Si
SLV 13	988	-9290	-251430	1.54	877177	3.489	Si
SLV 13	1168	-10964	362169	1.81	1008449	2.784	Si
SLV 15	988	-7132	-243908	1.18	695884	2.853	Si
SLV 15	1168	-9439	358129	1.56	889183	2.483	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	988	-12113	-3013	-79002		2	216	0.82	4975			1.65	Si
SLU 78	1168	-12167	-2985	165110		2.01	216	0.82	4982			1.67	Si
SLU 82	988	-11142	-3167	-84622		1.84	216	0.8	4846			1.53	Si
SLU 82	1168	-11279	-3138	178186		1.86	216	0.8	4864			1.55	Si
SLU 76	988	-11371	-3098	-89074		1.88	216	0.81	4876			1.57	Si
SLU 76	1168	-11445	-3049	166331		1.89	216	0.81	4886			1.6	Si
SLU 42	988	-9758	-2819	-80430		1.61	216	0.77	4661			1.65	Si
SLU 42	1168	-10204	-2791	151814		1.69	216	0.78	4721			1.69	Si
SLU 75	988	-11590	-3034	-79165		1.92	216	0.81	4905			1.62	Si
SLU 75	1168	-11628	-3006	170397		1.92	216	0.81	4910			1.63	Si
SLU 81	988	-11166	-2960	-69239		1.85	216	0.8	4849			1.64	Si
SLU 81	1168	-11174	-2961	173062		1.85	216	0.8	4850			1.64	Si
SLU 73	988	-10848	-3120	-89237		1.79	216	0.79	4806			1.54	Si
SLU 73	1168	-10906	-3070	171618		1.8	216	0.8	4814			1.57	Si
SLU 40	988	-9235	-2841	-80593		1.53	216	0.76	4591			1.62	Si
SLU 40	1168	-9665	-2811	157101		1.6	216	0.77	4649			1.65	Si
SLU 31	988	-8941	-2793	-85208		1.48	216	0.75	4552			1.63	Si
SLU 31	1168	-9292	-2743	150532		1.54	216	0.76	4599			1.68	Si
SLU 84	988	-11665	-3146	-84459		1.93	216	0.81	4915			1.56	Si
SLU 84	1168	-11818	-3117	172899		1.95	216	0.82	4936			1.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	988	-9290	-6104	-251430		1.54	216	1.14	6898			1.13	Si
SLV 13	1168	-10964	-5085	362169		1.81	216	1.2	7233			1.42	Si
SLV 15	988	-7132	-6443	-243908		1.18	216	1.07	6466			1	Si
SLV 15	1168	-9439	-5535	358129		1.6	210.17	1.15	6792			1.23	Si
SLV 14	988	-9290	-6104	-251430		1.54	216	1.14	6898			1.13	Si
SLV 14	1168	-10964	-5085	362169		1.81	216	1.2	7233			1.42	Si
SLV 11	988	-4367	-3728	-89187		0.72	216	0.98	5913			1.59	Si
SLV 11	1168	-5752	-3625	177761		0.95	216	1.02	6190			1.71	Si
SLV 16	988	-7132	-6443	-243908		1.18	216	1.07	6466			1	Si
SLV 16	1168	-9439	-5535	358129		1.6	210.17	1.15	6792			1.23	Si
SLV 12	988	-4367	-3728	-89187		0.72	216	0.98	5913			1.59	Si
SLV 12	1168	-5752	-3625	177761		0.95	216	1.02	6190			1.71	Si
SLD 15	988	-7552	-3796	-126543		1.25	216	1.08	6550			1.73	Si
SLD 15	1168	-8319	-3410	215693		1.38	216	1.11	6704			1.97	Si
SLD 13	988	-8467	-3654	-129960		1.4	216	1.11	6733			1.84	Si
SLD 13	1168	-8962	-3221	216966		1.48	216	1.13	6832			2.12	Si
SLD 14	988	-8467	-3654	-129960		1.4	216	1.11	6733			1.84	Si
SLD 14	1168	-8962	-3221	216966		1.48	216	1.13	6832			2.12	Si
SLD 16	988	-7552	-3796	-126543		1.25	216	1.08	6550			1.73	Si
SLD 16	1168	-8319	-3410	215693		1.38	216	1.11	6704			1.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.46	0.73	-4435	26557	58360	2.2	Si
SLV 7	14	0.46	0.73	-4435	26557	58360	2.2	Si
SLV 3	14	0.46	0.85	-5146	26557	67026	2.52	Si
SLV 4	14	0.46	0.85	-5146	26557	67026	2.52	Si
SLV 11	14	0.46	0.92	-5549	26557	71856	2.71	Si
SLV 12	14	0.46	0.92	-5549	26557	71856	2.71	Si
SLV 2	14	0.46	1.14	-6870	26557	87240	3.28	Si
SLV 1	14	0.46	1.14	-6870	26557	87240	3.28	Si
SLV 16	14	0.46	1.47	-8861	26557	109181	4.11	Si
SLV 15	14	0.46	1.47	-8861	26557	109181	4.11	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-7006	-11320	-39	0.044	10.189	0.922	69.326	1908.669	No

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-7006	-11320	-39	0.044	10.189	0.922	69.326	1908.669	No
SLV 9	-7719	-12852	-27	0.045	10.906	0.926	70.493	1908.669	No
SLV 10	-7719	-12852	-27	0.045	10.906	0.926	70.493	1908.669	No
SLV 11	-4255	-5032	38	0.046	7.447	0.903	74.032	1908.669	No
SLV 12	-4255	-5032	38	0.046	7.447	0.903	74.032	1908.669	No
SLV 7	-3543	-3501	26	0.049	6.749	0.898	79.366	1908.669	No
SLV 8	-3543	-3501	26	0.049	6.749	0.898	79.366	1908.669	No
SLV 15	-6298	-9556	29	0.045	9.479	0.918	72.033	1093.542	No
SLV 16	-6298	-9556	29	0.045	9.479	0.918	72.033	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.271	SLU 82	Si
V_SLU	1.53	SLU 82	Si
PF_SLV	2.483	SLV 15	Si
V_SLV	1.004	SLV 15	Si
PFFP_SLV	2.198	SLV 7	Si
R_SLV	0.036	SLV 5	No

Maschio 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-296.3	595.1	-501.8	595.1	L5	L6	205.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 7	988	-4244	-102430	0.74	396586	3.872	Si
SLU 7	1168	-2414	-93638	0.42	235259	2.512	Si
SLU 8	988	-3631	-110650	0.63	344140	3.11	Si
SLU 8	1168	-1800	-98260	0.31	177890	1.81	Si
SLU 38	988	-5160	-105598	0.9	471803	4.468	Si
SLU 38	1168	-3299	-119026	0.57	315120	2.647	Si
SLU 9	988	-3566	-108153	0.62	338517	3.13	Si
SLU 9	1168	-1736	-97576	0.3	171749	1.76	Si
SLU 27	988	-4756	-112514	0.83	439128	3.903	Si
SLU 27	1168	-2896	-109599	0.5	279155	2.547	Si
SLU 6	988	-4309	-104927	0.75	402017	3.831	Si
SLU 6	1168	-2479	-94322	0.43	241208	2.557	Si
SLU 28	988	-4692	-110017	0.82	433824	3.943	Si
SLU 28	1168	-2831	-108915	0.49	273324	2.51	Si
SLU 72	988	-5854	-127331	1.02	526344	4.134	Si
SLU 72	1168	-3454	-123332	0.6	328781	2.666	Si
SLU 29	988	-4078	-118237	0.71	382583	3.236	Si
SLU 29	1168	-2218	-113537	0.39	217077	1.912	Si
SLU 30	988	-4014	-115740	0.7	377087	3.258	Si
SLU 30	1168	-2153	-112853	0.37	211054	1.87	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 1	988	-12037	463896	2.09	1025036	2.21	Si
SLV 1	1168	-10631	-331115	1.85	927177	2.8	Si
SLD 16	988	-4993	-264427	0.87	476593	1.802	Si
SLD 16	1168	-2976	58740	0.52	292832	4.985	Si
SLD 15	988	-4993	-264427	0.87	476593	1.802	Si
SLD 15	1168	-2976	58740	0.52	292832	4.985	Si
SLV 12	988	-5054	-389347	0.88	481994	1.238	Si
SLV 12	1168	-2785	72390	0.48	274785	3.796	Si
SLV 11	988	-5054	-389347	0.88	481994	1.238	Si
SLV 11	1168	-2785	72390	0.48	274785	3.796	Si
SLV 16	988	-2164	-557052	0	0	0	No, e>/2
SLV 16	1168	108	214077	0	0	0	No, Trazione
SLV 13	988	-2537	-432024	0	0	0	No, e>/2
SLV 13	1168	-463	181683	0	0	0	No, e>/2
SLV 15	988	-2164	-557052	0	0	0	No, e>/2
SLV 15	1168	108	214077	0	0	0	No, Trazione
SLV 2	988	-12037	463896	2.09	1025036	2.21	Si
SLV 2	1168	-10631	-331115	1.85	927177	2.8	Si
SLV 14	988	-2537	-432024	0	0	0	No, e>/2
SLV 14	1168	-463	181683	0	0	0	No, e>/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 39	988	-8730	185	-40407		1.52	205.5	0.76	4361			23.59	Si
SLU 39	1168	-6869	185	-76487		1.19	205.5	0.71	4113			22.25	Si
SLU 81	988	-10570	174	-51998		1.84	205.5	0.8	4606			26.45	Si
SLU 81	1168	-8171	174	-86966		1.42	205.5	0.74	4286			24.62	Si



Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 40	988	-8665	195	-37909		1.51	205.5	0.76	4352			22.33	Si
SLU 40	1168	-6805	195	-75802		1.18	205.5	0.71	4104			21.06	Si
SLU 19	988	-8218	152	-30323		1.43	205.5	0.75	4292			28.17	Si
SLU 19	1168	-6388	152	-60525		1.11	205.5	0.7	4048			26.56	Si
SLU 42	988	-7158	146	-69581		1.24	205.5	0.72	4151			28.36	Si
SLU 42	1168	-5298	146	-98737		0.92	205.5	0.68	3903			26.66	Si
SLU 31	988	-8131	163	-40591		1.41	205.5	0.74	4281			26.3	Si
SLU 31	1168	-6270	163	-72700		1.09	205.5	0.7	4033			24.77	Si
SLU 41	988	-7223	136	-72078		1.26	205.5	0.72	4160			30.52	Si
SLU 41	1168	-5362	136	-99421		0.93	205.5	0.68	3912			28.7	Si
SLU 82	988	-10505	184	-49501		1.83	205.5	0.8	4597			24.96	Si
SLU 82	1168	-8106	184	-86282		1.41	205.5	0.74	4277			23.22	Si
SLU 73	988	-9971	152	-52182		1.73	205.5	0.79	4526			29.77	Si
SLU 73	1168	-7572	152	-83180		1.32	205.5	0.73	4206			27.66	Si
SLU 18	988	-8282	142	-32820		1.44	205.5	0.75	4301			30.22	Si
SLU 18	1168	-6452	142	-61210		1.12	205.5	0.71	4057			28.5	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	988	-2164	-4924	-557052		0	0	0.83	0			0	No, Vu<V
SLV 16	1168	108	-4063	214077		0	0	0.83	0			0	No, Vu<V
SLV 15	988	-2164	-4924	-557052		0	0	0.83	0			0	No, Vu<V
SLV 15	1168	108	-4063	214077		0	0	0.83	0			0	No, Vu<V
SLV 4	988	-11664	4005	338867		2.03	205.5	1.24	7128			1.78	Si
SLV 4	1168	-10060	3311	-298721		1.75	205.5	1.18	6807			2.06	Si
SLV 3	988	-11664	4005	338867		2.03	205.5	1.24	7128			1.78	Si
SLV 3	1168	-10060	3311	-298721		1.75	205.5	1.18	6807			2.06	Si
SLV 12	988	-5054	-2990	-389347		2.34	77.15	1.3	2811			0.94	No, Vu<V
SLV 12	1168	-2785	-2478	72390		0.48	205.5	0.93	5352			2.16	Si
SLV 2	988	-12037	5026	463896		2.23	192.63	1.28	6902			1.37	Si
SLV 2	1168	-10631	4164	-331115		1.85	205.5	1.2	6921			1.66	Si
SLV 13	988	-2537	-3904	-432024		0	0	0.83	0			0	No, Vu<V
SLV 13	1168	-463	-3209	181683		0	0	0.83	0			0	No, Vu<V
SLV 14	988	-2537	-3904	-432024		0	0	0.83	0			0	No, Vu<V
SLV 14	1168	-463	-3209	181683		0	0	0.83	0			0	No, Vu<V
SLV 1	988	-12037	5026	463896		2.23	192.63	1.28	6902			1.37	Si
SLV 1	1168	-10631	4164	-331115		1.85	205.5	1.2	6921			1.66	Si
SLV 11	988	-5054	-2990	-389347		2.34	77.15	1.3	2811			0.94	No, Vu<V
SLV 11	1168	-2785	-2478	72390		0.48	205.5	0.93	5352			2.16	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.46	0	-1397	25266	0	0	No, $e > t/2$
SLV 15	14	0.46	0	-1397	25266	0	0	No, $e > t/2$
SLV 13	14	0.46	0.33	-1899	25266	25873	1.02	Si
SLV 14	14	0.46	0.33	-1899	25266	25873	1.02	Si
SLV 12	14	0.46	0.71	-4068	25266	53655	2.12	Si
SLV 11	14	0.46	0.71	-4068	25266	53655	2.12	Si
SLV 9	14	0.46	1	-5742	25266	73818	2.92	Si
SLV 10	14	0.46	1	-5742	25266	73818	2.92	Si
SLV 8	14	0.46	1.19	-6859	25266	86659	3.43	Si
SLV 7	14	0.46	1.19	-6859	25266	86659	3.43	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 15	-1371	1042	-47	0	0	0	0	1093.542	No, Trazione
SLV 13	-1403	144	-19	0	0	0	0	1093.542	No, Trazione
SLV 16	-1371	1042	-47	0	0	0	0	1093.542	No, Trazione
SLV 14	-1403	144	-19	0	0	0	0	1093.542	No, Trazione
SLV 12	-3105	-3543	-61	0.042	6.163	0.896	68.474	1908.669	No
SLV 11	-3105	-3543	-61	0.042	6.163	0.896	68.474	1908.669	No
SLV 5	-4733	-11367	51	0.043	7.762	0.909	68.852	1908.669	No
SLV 6	-4733	-11367	51	0.043	7.762	0.909	68.852	1908.669	No
SLV 8	-4624	-8372	-44	0.044	7.654	0.908	70.795	1908.669	No
SLV 7	-4624	-8372	-44	0.044	7.654	0.908	70.795	1908.669	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.76	SLU 9	Si
V_SLU	21.055	SLU 40	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 13	No
PFFP_SLV	0	SLV 15	No
R_SLV	0	SLV 16	No

Maschio 187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	595.1	-206.3	595.1	L5	L6	194	28	352	352	352			

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Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 40	988	-8148	-13568	1.5	644799	47.525	Si
SLU 40	1168	-8238	70321	1.52	650329	9.248	Si
SLU 61	988	-9185	-6594	1.69	706022	107.069	Si
SLU 61	1168	-8734	77914	1.61	679969	8.727	Si
SLU 81	988	-10114	-11782	1.86	756795	64.233	Si
SLU 81	1168	-9797	80542	1.8	739902	9.187	Si
SLU 10	988	-7028	-6610	1.29	573415	86.751	Si
SLU 10	1168	-6799	60171	1.25	558176	9.277	Si
SLU 60	988	-9378	-6127	1.73	716871	116.993	Si
SLU 60	1168	-8825	76880	1.62	685303	8.914	Si
SLU 73	988	-9537	-10946	1.76	725676	66.299	Si
SLU 73	1168	-9239	75087	1.7	709042	9.443	Si
SLU 82	988	-9921	-12249	1.83	746567	60.951	Si
SLU 82	1168	-9706	81576	1.79	734956	9.01	Si
SLU 18	988	-7605	-7446	1.4	610882	82.036	Si
SLU 18	1168	-7357	65626	1.35	595008	9.067	Si
SLU 19	988	-7412	-7913	1.36	598535	75.639	Si
SLU 19	1168	-7266	66660	1.34	589088	8.837	Si
SLU 52	988	-8801	-5291	1.62	683891	129.258	Si
SLU 52	1168	-8267	71425	1.52	652064	9.129	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	988	-8499	-316911	1.56	718868	2.268	Si
SLV 16	1168	-10681	295030	1.97	869347	2.947	Si
SLV 13	988	-6211	-304831	1.14	546104	1.792	Si
SLV 13	1168	-8997	268334	1.66	754410	2.811	Si
SLV 3	988	-8054	295315	1.48	686410	2.324	Si
SLV 3	1168	-4106	-173272	0.76	373631	2.156	Si
SLV 15	988	-8499	-316911	1.56	718868	2.268	Si
SLV 15	1168	-10681	295030	1.97	869347	2.947	Si
SLV 4	988	-8054	295315	1.48	686410	2.324	Si
SLV 4	1168	-4106	-173272	0.76	373631	2.156	Si
SLV 1	988	-5765	307396	1.06	510664	1.661	Si
SLV 1	1168	-2422	-199969	0.45	226324	1.132	Si
SLV 14	988	-6211	-304831	1.14	546104	1.792	Si
SLV 14	1168	-8997	268334	1.66	754410	2.811	Si
SLV 2	988	-5765	307396	1.06	510664	1.661	Si
SLV 2	1168	-2422	-199969	0.45	226324	1.132	Si
SLV 6	988	-3252	107211	0.6	299972	2.798	Si
SLV 6	1168	-2758	-67209	0.51	256408	3.815	Si
SLV 5	988	-3252	107211	0.6	299972	2.798	Si
SLV 5	1168	-2758	-67209	0.51	256408	3.815	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	988	-10319	-1417	-18988		1.9	194	0.81	4394			3.1	Si
SLU 83	1168	-9948	-1416	55236		1.83	194	0.8	4344			3.07	Si
SLU 73	988	-9537	-1525	-10946		1.76	194	0.79	4289			2.81	Si
SLU 73	1168	-9239	-1518	75087		1.7	194	0.78	4250			2.8	Si
SLU 61	988	-9185	-1416	-6594		1.69	194	0.78	4242			3	Si
SLU 61	1168	-8734	-1412	77914		1.61	194	0.77	4182			2.96	Si
SLU 40	988	-8148	-1451	-13568		1.5	194	0.76	4104			2.83	Si
SLU 40	1168	-8238	-1446	70321		1.52	194	0.76	4116			2.85	Si
SLU 76	988	-9742	-1396	-18151		1.79	194	0.79	4317			3.09	Si
SLU 76	1168	-9390	-1388	49781		1.73	194	0.79	4270			3.08	Si
SLU 82	988	-9921	-1611	-12249		1.83	194	0.8	4341			2.69	Si
SLU 82	1168	-9706	-1607	81576		1.79	194	0.79	4312			2.68	Si
SLU 39	988	-8340	-1386	-13101		1.54	194	0.76	4130			2.98	Si
SLU 39	1168	-8329	-1385	69288		1.53	194	0.76	4128			2.98	Si
SLU 84	988	-10126	-1482	-19455		1.86	194	0.8	4368			2.95	Si
SLU 84	1168	-9857	-1477	56270		1.81	194	0.8	4332			2.93	Si
SLU 81	988	-10114	-1546	-11782		1.86	194	0.8	4366			2.82	Si
SLU 81	1168	-9797	-1545	80542		1.8	194	0.8	4324			2.8	Si
SLU 31	988	-7763	-1364	-12265		1.43	194	0.75	4053			2.97	Si
SLU 31	1168	-7771	-1357	63833		1.43	194	0.75	4054			2.99	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	988	-6211	-5882	-304831		1.54	143.77	1.14	4597			0.78	No, Vu<V
SLV 13	1168	-8997	-5125	268334		1.66	194	1.16	6326			1.23	Si
SLV 1	988	-5765	4354	307396		1.57	131.05	1.15	4211			0.97	No, Vu<V
SLV 1	1168	-2422	3357	-199969		2	43.27	1.23	1494			0.45	No, Vu<V
SLV 3	988	-8054	4082	295315		1.59	180.99	1.15	5834			1.43	Si
SLV 3	1168	-4106	3326	-173272		0.89	164.4	1.01	4657			1.4	Si
SLV 4	988	-8054	4082	295315		1.59	180.99	1.15	5834			1.43	Si
SLV 4	1168	-4106	3326	-173272		0.89	164.4	1.01	4657			1.4	Si
SLV 16	988	-8499	-6155	-316911		1.69	179.14	1.17	5880			0.96	No, Vu<V
SLV 16	1168	-10681	-5156	295030		1.97	194	1.23	6663			1.29	Si
SLD 15	988	-7714	-3145	-138117		1.42	194	1.12	6069			1.93	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 15	1168	-8314	-2719	153211		1.53	194	1.14	6189			2.28	Si
SLV 2	988	-5765	4354	307396		1.57	131.05	1.15	4211			0.97	No, Vu<V
SLV 2	1168	-2422	3357	-199969		2	43.27	1.23	1494			0.45	No, Vu<V
SLV 14	988	-6211	-5882	-304831		1.54	143.77	1.14	4597			0.78	No, Vu<V
SLV 14	1168	-8997	-5125	268334		1.66	194	1.16	6326			1.23	Si
SLV 15	988	-8499	-6155	-316911		1.69	179.14	1.17	5880			0.96	No, Vu<V
SLV 15	1168	-10681	-5156	295030		1.97	194	1.23	6663			1.29	Si
SLD 16	988	-7714	-3145	-138117		1.42	194	1.12	6069			1.93	Si
SLD 16	1168	-8314	-2719	153211		1.53	194	1.14	6189			2.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.46	0.62	-3385	23852	44973	1.89	Si
SLV 6	14	0.46	0.62	-3385	23852	44973	1.89	Si
SLV 2	14	0.46	0.76	-4103	23852	53888	2.26	Si
SLV 1	14	0.46	0.76	-4103	23852	53888	2.26	Si
SLV 9	14	0.46	0.85	-4635	23852	60362	2.53	Si
SLV 10	14	0.46	0.85	-4635	23852	60362	2.53	Si
SLV 4	14	0.46	1.1	-5968	23852	76041	3.19	Si
SLV 3	14	0.46	1.1	-5968	23852	76041	3.19	Si
SLV 13	14	0.46	1.52	-8270	23852	101356	4.25	Si
SLV 14	14	0.46	1.52	-8270	23852	101356	4.25	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-3112	-2530	160	0.021	5.993	0.897	33.642	1908.669	No
SLV 6	-3112	-2530	160	0.021	5.993	0.897	33.642	1908.669	No
SLV 10	-3998	-4178	134	0.028	6.862	0.905	45.378	1908.669	No
SLV 9	-3998	-4178	134	0.028	6.862	0.905	45.378	1908.669	No
SLV 12	-7177	-11743	-159	0.03	10.041	0.928	46.284	1908.669	No
SLV 11	-7177	-11743	-159	0.03	10.041	0.928	46.284	1908.669	No
SLV 8	-6290	-10095	-134	0.032	9.149	0.922	49.876	1908.669	No
SLV 7	-6290	-10095	-134	0.032	9.149	0.922	49.876	1908.669	No
SLV 2	-3190	-3255	88	0.036	6.069	0.898	58.024	1093.542	No
SLV 1	-3190	-3255	88	0.036	6.069	0.898	58.024	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.727	SLU 61	Si
V_SLU	2.684	SLU 82	Si
PF_SLV	1.132	SLV 1	Si
V_SLV	0.445	SLV 1	No
PFFP_SLV	1.885	SLV 5	Si
R_SLV	0.018	SLV 5	No

Maschio 188

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	-335.9	-12.3	595.1	L5	L6	931	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 23	898	-48900	-531340	1.88	17521086	32.975	Si
SLU 23	1250	-23593	49993	0.91	9762202	195.269	Si
SLU 2	898	-43104	-454331	1.65	15991973	35.199	Si
SLU 2	1250	-20521	31167	0.79	8629348	276.878	Si
SLU 68	898	-61226	-567728	2.35	20282971	35.727	Si
SLU 68	1250	-30123	139317	1.16	12033018	86.372	Si
SLU 34	898	-55511	-614475	2.13	19085318	31.06	Si
SLU 34	1250	-27224	96304	1.04	11048159	114.721	Si
SLU 13	898	-49715	-537466	1.91	17724211	32.977	Si
SLU 13	1250	-24153	77477	0.93	9964215	128.608	Si
SLU 10	898	-48182	-495755	1.85	17339673	34.976	Si
SLU 10	1250	-22674	29730	0.87	9427622	317.106	Si
SLU 26	898	-50433	-573050	1.93	17900799	31.238	Si
SLU 26	1250	-25072	97741	0.96	10292837	105.308	Si
SLU 76	898	-66304	-609152	2.54	21227192	34.847	Si
SLU 76	1250	-32276	137880	1.24	12740663	92.404	Si
SLU 5	898	-44637	-496042	1.71	16410636	33.083	Si
SLU 5	1250	-22000	78914	0.84	9179900	116.328	Si
SLU 31	898	-53979	-572764	2.07	18739731	32.718	Si
SLU 31	1250	-25745	48557	0.99	10531482	216.889	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Table with 8 columns: Comb., Quota, N, M, sigma_0, Mu, c.s., Verifica. It lists structural elements (SLV 7, 5, 2, 8, 9, 11, 12, 6, 10, 1) under various load combinations (Quota 898, 1250) and their respective values for normal force (N), moment (M), stress (sigma_0), and shear force (Mu). Verification status is 'Si' for all entries.

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Table with 14 columns: Comb., Quota, N, V par, M, sigma_0, sigma_N, l', fvd, Vt scorr., Vt fess.diag., Vt,lim, c.s., Verifica. It lists structural elements (SLU 81, 43, 64, 39, 74, 62, 18, 83, 53, 60) under various load combinations (Quota 898, 1250) and their respective values for normal force (N), shear force (V par), moment (M), stress (sigma_0), axial stress (sigma_N), length (l'), shear force (fvd), shear capacity (Vt scorr.), shear capacity (Vt fess.diag.), shear capacity (Vt,lim), and shear capacity (c.s.). Verification status is 'Si' for all entries.

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Table with 14 columns: Comb., Quota, N, V par, M, sigma_0, sigma_N, l', fvd, Vt scorr., Vt fess.diag., Vt,lim, c.s., Verifica. It lists structural elements (SLV 6, 8, 9, 7, 5, 12, 8, 11, 10) under various load combinations (Quota 898, 1250) and their respective values for normal force (N), shear force (V par), moment (M), stress (sigma_0), axial stress (sigma_N), length (l'), shear force (fvd), shear capacity (Vt scorr.), shear capacity (Vt fess.diag.), shear capacity (Vt,lim), and shear capacity (c.s.). Verification status is 'Si' for all entries.

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1074 Wa 0.05 denominatore 8 $\gamma_M = 2$

Table with 11 columns: Comb., fd, Sa, sigma_0, N, M, Mc, Coeff.s., Verifica. It lists structural elements (SLV 2, 1, 4, 3, 6, 5, 8, 7, 10, 9) under various load combinations (Quota 14) and their respective values for shear force (fd), shear capacity (Sa), stress (sigma_0), normal force (N), moment (M), moment capacity (Mc), coefficient (Coeff.s.), and verification status (Verifica).

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1074 Wa = 0.05 Ta = 0.0739

Table with 10 columns: Comb., N top, N base, V orto, alpha_0, M*, e*, a0*, aLim, Verifica. It lists structural elements (SLV 12) under various load combinations (Quota -22971) and their respective values for normal force (N top, N base), shear force (V orto), stress (alpha_0), moment (M*), eccentricity (e*), moment capacity (a0*), shear capacity (aLim), and verification status (Verifica).

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-22971	-52032	-75	0.048	36.685	0.911	76.382	1908.669	No
SLV 5	-20711	-39381	86	0.048	34.439	0.908	77.09	1908.669	No
SLV 6	-20711	-39381	86	0.048	34.439	0.908	77.09	1908.669	No
SLV 9	-22446	-49352	-62	0.048	36.162	0.91	77.347	1908.669	No
SLV 10	-22446	-49352	-62	0.048	36.162	0.91	77.347	1908.669	No
SLV 7	-21236	-42061	73	0.048	34.96	0.908	77.473	1908.669	No
SLV 8	-21236	-42061	73	0.048	34.96	0.908	77.473	1908.669	No
SLV 16	-24812	-62726	-243	0.042	38.52	0.914	67.336	1093.542	No
SLV 15	-24812	-62726	-243	0.042	38.52	0.914	67.336	1093.542	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	31.06	SLU 34	Si
V_SLU	27.972	SLU 81	Si
PF_SLV	3.71	SLV 5	Si
V_SLV	1.949	SLV 7	Si
PFFP_SLV	2.786	SLV 1	Si
R_SLV	0.04	SLV 11	No

Maschio 189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-2467.8	-335.9	-2467.8	126.6	L6	L7	462.6	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 33	1250	-11237	-456840	0.87	2322179	5.083	Si
SLU 33	1460	-4594	-317373	0.35	1016292	3.202	Si
SLU 41	1250	-11054	-483114	0.85	2288743	4.737	Si
SLU 41	1460	-4420	-340367	0.34	979458	2.878	Si
SLU 29	1250	-11368	-439650	0.88	2345929	5.336	Si
SLU 29	1460	-4960	-345553	0.38	1093248	3.164	Si
SLU 36	1250	-11895	-569343	0.92	2441023	4.287	Si
SLU 36	1460	-5119	-412725	0.4	1126458	2.729	Si
SLU 38	1250	-11861	-555205	0.92	2434932	4.386	Si
SLU 38	1460	-5147	-406107	0.4	1132418	2.788	Si
SLU 27	1250	-11402	-453788	0.88	2352094	5.183	Si
SLU 27	1460	-4931	-352171	0.38	1087264	3.087	Si
SLU 35	1250	-11643	-562965	0.9	2395644	4.255	Si
SLU 35	1460	-4921	-415288	0.38	1085006	2.613	Si
SLU 37	1250	-11609	-548827	0.9	2389515	4.354	Si
SLU 37	1460	-4949	-408669	0.38	1090992	2.67	Si
SLU 32	1250	-10985	-450462	0.85	2276071	5.053	Si
SLU 32	1460	-4396	-319936	0.34	974385	3.046	Si
SLU 42	1250	-11306	-489492	0.87	2334775	4.77	Si
SLU 42	1460	-4618	-337805	0.36	1021345	3.023	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 1	1250	-10070	-384939	0.78	2180934	5.666	Si
SLV 1	1460	-3704	-267773	0.29	836714	3.125	Si
SLV 7	1250	-8322	351282	0.64	1823532	5.191	Si
SLV 7	1460	-1615	-206672	0.12	369641	1.789	Si
SLV 3	1250	-9265	-72282	0.72	2017366	27.91	Si
SLV 3	1460	-2550	-296953	0.2	580257	1.954	Si
SLV 4	1250	-9265	-72282	0.72	2017366	27.91	Si
SLV 4	1460	-2550	-296953	0.2	580257	1.954	Si
SLV 10	1250	-11005	-640508	0.85	2368283	3.698	Si
SLV 10	1460	-5816	-2842	0.45	1295654	455.905	Si
SLV 8	1250	-8322	351282	0.64	1823532	5.191	Si
SLV 8	1460	-1615	-206672	0.12	369641	1.789	Si
SLV 2	1250	-10070	-384939	0.78	2180934	5.666	Si
SLV 2	1460	-3704	-267773	0.29	836714	3.125	Si
SLV 6	1250	-11007	-690906	0.85	2368783	3.429	Si
SLV 6	1460	-5463	-109405	0.42	1219868	11.15	Si
SLV 5	1250	-11007	-690906	0.85	2368783	3.429	Si
SLV 5	1460	-5463	-109405	0.42	1219868	11.15	Si
SLV 9	1250	-11005	-640508	0.85	2368283	3.698	Si
SLV 9	1460	-5816	-2842	0.45	1295654	455.905	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 70	1250	-14259	1475	-433458		1.1	462.57	0.7	9097			6.17	Si
SLU 70	1460	-6130	1635	-334751		0.47	462.57	0.62	8013			4.9	Si
SLU 57	1250	-13860	1435	-400921		1.07	462.57	0.7	9043			6.3	Si
SLU 57	1460	-5849	1586	-302493		0.45	462.57	0.62	7975			5.03	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	1250	-14466	1499	-528497		1.12	462.57	0.7	9124			6.09	Si
SLU 80	1460	-6147	1662	-391249		0.47	462.57	0.62	8015			4.82	Si
SLU 75	1250	-13841	1475	-430132		1.07	462.57	0.7	9041			6.13	Si
SLU 75	1460	-5594	1614	-302516		0.43	462.57	0.61	7941			4.92	Si
SLU 72	1250	-14225	1441	-419320		1.1	462.57	0.7	9092			6.31	Si
SLU 72	1460	-6158	1604	-328133		0.48	462.57	0.62	8017			5	Si
SLU 77	1250	-14247	1570	-536257		1.1	462.57	0.7	9095			5.79	Si
SLU 77	1460	-5921	1629	-400430		0.46	462.57	0.62	7985			4.9	Si
SLU 84	1250	-13911	1465	-462783		1.07	462.57	0.7	9050			6.18	Si
SLU 84	1460	-5618	1608	-322947		0.43	462.57	0.61	7945			4.94	Si
SLU 78	1250	-14500	1533	-542635		1.12	462.57	0.7	9129			5.95	Si
SLU 78	1460	-6119	1693	-397868		0.47	462.57	0.62	8011			4.73	Si
SLU 79	1250	-14213	1536	-522118		1.1	462.57	0.7	9091			5.92	Si
SLU 79	1460	-5949	1598	-393812		0.46	462.57	0.62	7989			5	Si
SLU 76	1250	-13976	1416	-420246		1.08	462.57	0.7	9059			6.4	Si
SLU 76	1460	-5755	1626	-294189		0.44	462.57	0.61	7963			4.9	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1250	-8322	5547	351282		0.64	462.57	0.96	12458			2.25	Si
SLV 7	1460	-1615	2895	-206672		0.19	309.87	0.87	7553			2.61	Si
SLV 6	1250	-11007	-3058	-690906		0.85	462.57	1	12995			4.25	Si
SLV 6	1460	-5463	-319	-109405		0.42	462.57	0.92	11886			37.27	Si
SLV 3	1250	-9265	3006	-72282		0.72	462.57	0.98	12646			4.21	Si
SLV 3	1460	-2550	2309	-296953		0.26	344.49	0.89	8548			3.7	Si
SLV 4	1250	-9265	3006	-72282		0.72	462.57	0.98	12646			4.21	Si
SLV 4	1460	-2550	2309	-296953		0.26	344.49	0.89	8548			3.7	Si
SLV 9	1250	-11005	-3462	-640508		0.85	462.57	1	12994			3.75	Si
SLV 9	1460	-5816	-780	-2842		0.45	462.57	0.92	11956			15.32	Si
SLV 11	1250	-8319	5143	401680		0.64	462.57	0.96	12457			2.42	Si
SLV 11	1460	-1968	2433	-100109		0.15	462.57	0.86	11187			4.6	Si
SLV 8	1250	-8322	5547	351282		0.64	462.57	0.96	12458			2.25	Si
SLV 8	1460	-1615	2895	-206672		0.19	309.87	0.87	7553			2.61	Si
SLV 10	1250	-11005	-3462	-640508		0.85	462.57	1	12994			3.75	Si
SLV 10	1460	-5816	-780	-2842		0.45	462.57	0.92	11956			15.32	Si
SLV 5	1250	-11007	-3058	-690906		0.85	462.57	1	12995			4.25	Si
SLV 5	1460	-5463	-319	-109405		0.42	462.57	0.92	11886			37.27	Si
SLV 12	1250	-8319	5143	401680		0.64	462.57	0.96	12457			2.42	Si
SLV 12	1460	-1968	2433	-100109		0.15	462.57	0.86	11187			4.6	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.53	0	-3243	52543	0	0	No, $e > t/2$
SLV 8	14	0.53	0	-2916	52543	0	0	No, $e > t/2$
SLV 11	14	0.53	0	-3243	52543	0	0	No, $e > t/2$
SLV 3	14	0.53	0	-3726	52543	0	0	No, $e > t/2$
SLV 7	14	0.53	0	-2916	52543	0	0	No, $e > t/2$
SLV 4	14	0.53	0	-3726	52543	0	0	No, $e > t/2$
SLV 2	14	0.53	0.37	-4748	52543	64482	1.23	Si
SLV 1	14	0.53	0.37	-4748	52543	64482	1.23	Si
SLV 15	14	0.53	0.37	-4817	52543	65387	1.24	Si
SLV 16	14	0.53	0.37	-4817	52543	65387	1.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 3	328	-9265	-647	0	0	0	0	979.113	No, Trazione
SLV 8	503	-8322	-248	0	0	0	0	1930.074	No, Trazione
SLV 10	-964	-11005	418	0	7.847	0.924	0	1930.074	No
SLV 9	-964	-11005	418	0	7.847	0.924	0	1930.074	No
SLV 7	503	-8322	-248	0	0	0	0	1930.074	No, Trazione
SLV 12	280	-8319	169	0	0	0	0	1930.074	No, Trazione
SLV 1	-45	-10070	-573	0	7.511	0.994	0	979.113	No
SLV 11	280	-8319	169	0	0	0	0	1930.074	No, Trazione
SLV 2	-45	-10070	-573	0	7.511	0.994	0	979.113	No
SLV 4	328	-9265	-647	0	0	0	0	979.113	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.613	SLU 35	Si
V_SLU	4.732	SLU 78	Si
PF_SLV	1.789	SLV 7	Si
V_SLV	2.246	SLV 7	Si
PFFP_SLV	0	SLV 3	No
R_SLV	0	SLV 12	No

Maschio 190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	206.6	-2467.8	595.1	L6	L7	388.5	28	316	316	316			

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Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 29	1250	-11295	281000	1.04	1914395	6.813	Si
SLU 29	1460	-5134	199311	0.47	939447	4.713	Si
SLU 7	1250	-10304	193621	0.95	1768757	9.135	Si
SLU 7	1460	-4500	181832	0.41	829733	4.563	Si
SLU 27	1250	-11310	285551	1.04	1916554	6.712	Si
SLU 27	1460	-5110	195205	0.47	935433	4.792	Si
SLU 28	1250	-11280	262146	1.04	1912203	7.294	Si
SLU 28	1460	-5024	205730	0.46	920512	4.474	Si
SLU 8	1250	-10319	212476	0.95	1771015	8.335	Si
SLU 8	1460	-4610	175413	0.42	848920	4.84	Si
SLU 36	1250	-11760	300878	1.08	1981252	6.585	Si
SLU 36	1460	-5235	198945	0.48	956849	4.81	Si
SLU 17	1250	-10769	227802	0.99	1837670	8.067	Si
SLU 17	1460	-4735	179153	0.44	870610	4.86	Si
SLU 38	1250	-11745	296327	1.08	1979123	6.679	Si
SLU 38	1460	-5259	203052	0.48	960850	4.732	Si
SLU 9	1250	-10289	189070	0.95	1766533	9.343	Si
SLU 9	1460	-4523	185939	0.42	833809	4.484	Si
SLU 30	1250	-11265	257595	1.04	1910043	7.415	Si
SLU 30	1460	-5047	209837	0.46	924535	4.406	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 8	1250	-10625	451751	0.98	1898999	4.204	Si
SLV 8	1460	-5194	180027	0.48	969422	16.197	Si
SLV 5	1250	-7735	247567	0.71	1415023	5.716	Si
SLV 5	1460	-2004	141522	0.18	383467	2.71	Si
SLV 12	1250	-9581	427483	0.88	1726884	4.04	Si
SLV 12	1460	-4906	43912	0.45	917780	20.9	Si
SLV 11	1250	-9581	427483	0.88	1726884	4.04	Si
SLV 11	1460	-4906	43912	0.45	917780	20.9	Si
SLV 9	1250	-6690	271835	0.61	1234080	4.54	Si
SLV 9	1460	-1717	157464	0.16	329143	2.09	Si
SLV 6	1250	-7735	247567	0.71	1415023	5.716	Si
SLV 6	1460	-2004	141522	0.18	383467	2.71	Si
SLV 10	1250	-6690	271835	0.61	1234080	4.54	Si
SLV 10	1460	-1717	157464	0.16	329143	2.09	Si
SLV 7	1250	-10625	451751	0.98	1898999	4.204	Si
SLV 7	1460	-5194	180027	0.48	969422	16.197	Si
SLV 13	1250	-6482	55387	0.6	1197810	21.626	Si
SLV 13	1460	-2497	105581	0.23	475959	4.508	Si
SLV 14	1250	-6482	55387	0.6	1197810	21.626	Si
SLV 14	1460	-2497	105581	0.23	475959	4.508	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 57	1250	-12922	-1822	226653		1.19	388.5	0.71	7766			4.26	Si
SLU 57	1460	-5506	-1941	180027		0.51	388.5	0.62	6777			3.49	Si
SLU 76	1250	-12824	-1846	198442		1.18	388.5	0.71	7753			4.2	Si
SLU 76	1460	-5312	-1946	149301		0.49	388.5	0.62	6752			3.47	Si
SLU 59	1250	-12907	-1825	222102		1.19	388.5	0.71	7764			4.25	Si
SLU 59	1460	-5529	-1953	184134		0.51	388.5	0.62	6781			3.47	Si
SLU 68	1250	-12344	-1814	159710		1.13	388.5	0.71	7689			4.24	Si
SLU 68	1460	-5101	-1914	156087		0.47	388.5	0.62	6723			3.51	Si
SLU 51	1250	-12426	-1794	183370		1.14	388.5	0.71	7700			4.29	Si
SLU 51	1460	-5317	-1921	190920		0.49	388.5	0.62	6752			3.52	Si
SLU 38	1250	-11745	-1762	296327		1.08	388.5	0.7	7609			4.32	Si
SLU 38	1460	-5259	-1909	203052		0.48	388.5	0.62	6744			3.53	Si
SLU 70	1250	-13418	-1932	256445		1.23	388.5	0.72	7832			4.05	Si
SLU 70	1460	-5818	-2072	210711		0.53	388.5	0.63	6819			3.29	Si
SLU 78	1250	-13898	-1964	295178		1.28	388.5	0.73	7896			4.02	Si
SLU 78	1460	-6029	-2104	203926		0.55	388.5	0.63	6847			3.25	Si
SLU 80	1250	-13883	-1967	290627		1.28	388.5	0.73	7894			4.01	Si
SLU 80	1460	-6053	-2115	208033		0.56	388.5	0.63	6850			3.24	Si
SLU 72	1250	-13403	-1936	251895		1.23	388.5	0.72	7830			4.05	Si
SLU 72	1460	-5841	-2084	214818		0.54	388.5	0.63	6822			3.27	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1250	-9965	-2531	25507		0.92	388.5	1.02	11058			4.37	Si
SLV 2	1460	-3456	-2225	52442		0.32	388.5	0.9	9756			4.38	Si
SLV 5	1250	-7735	-4433	247567		0.71	388.5	0.98	10612			2.39	Si
SLV 5	1460	-2004	-2839	141522		0.19	370.92	0.87	9056			3.19	Si
SLD 6	1250	-8273	-2397	53341		0.76	388.5	0.99	10720			4.47	Si
SLD 6	1460	-2846	-1738	88887		0.26	388.5	0.89	9634			5.54	Si
SLD 5	1250	-8273	-2397	53341		0.76	388.5	0.99	10720			4.47	Si
SLD 5	1460	-2846	-1738	88887		0.26	388.5	0.89	9634			5.54	Si
SLV 10	1250	-6690	-4054	271835		0.61	388.5	0.96	10403			2.57	Si
SLV 10	1460	-1717	-2362	157464		0.2	307.56	0.87	7520			3.18	Si
SLV 1	1250	-9965	-2531	25507		0.92	388.5	1.02	11058			4.37	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	1460	-3456	-2225	52442		0.32	388.5	0.9	9756			4.38	Si
SLV 11	1250	-9581	2640	427483		0.88	388.5	1.01	10981			4.16	Si
SLV 11	1460	-4906	978	-43912		0.45	388.5	0.92	10046			10.27	Si
SLV 6	1250	-7735	-4433	-247567		0.71	388.5	0.98	10612			2.39	Si
SLV 6	1460	-2004	-2839	141522		0.19	370.92	0.87	9056			3.19	Si
SLV 12	1250	-9581	2640	427483		0.88	388.5	1.01	10981			4.16	Si
SLV 12	1460	-4906	978	-43912		0.45	388.5	0.92	10046			10.27	Si
SLV 9	1250	-6690	-4054	-271835		0.61	388.5	0.96	10403			2.57	Si
SLV 9	1460	-1717	-2362	157464		0.2	307.56	0.87	7520			3.18	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.53	0	-2811	44129	0	0	No, $e > t/2$
SLV 9	14	0.53	0	-2811	44129	0	0	No, $e > t/2$
SLV 6	14	0.53	0.3	-3286	44129	44860	1.02	Si
SLV 5	14	0.53	0.3	-3286	44129	44860	1.02	Si
SLV 14	14	0.53	0.3	-3292	44129	44940	1.02	Si
SLV 13	14	0.53	0.3	-3292	44129	44940	1.02	Si
SLV 16	14	0.53	0.38	-4178	44129	56650	1.28	Si
SLV 15	14	0.53	0.38	-4178	44129	56650	1.28	Si
SLV 2	14	0.53	0.45	-4873	44129	65719	1.49	Si
SLV 1	14	0.53	0.45	-4873	44129	65719	1.49	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 2	817	-9965	-310	0	0	0	0	979.113	No, Trazione
SLV 3	315	-10833	-179	0	0	0	0	979.113	No, Trazione
SLV 1	817	-9965	-310	0	0	0	0	979.113	No, Trazione
SLV 10	497	-6690	31	0	0	0	0	1930.074	No, Trazione
SLV 9	497	-6690	31	0	0	0	0	1930.074	No, Trazione
SLV 11	-1178	-9581	467	0	6.826	0.909	0	1930.074	No
SLV 4	315	-10833	-179	0	0	0	0	979.113	No, Trazione
SLV 5	915	-7735	-197	0	0	0	0	1930.074	No, Trazione
SLV 12	-1178	-9581	467	0	6.826	0.909	0	1930.074	No
SLV 6	915	-7735	-197	0	0	0	0	1930.074	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.406	SLU 30	Si
V_SLU	3.238	SLU 80	Si
PF_SLV	2.09	SLV 9	Si
V_SLV	2.394	SLV 5	Si
PFFP_SLV	0	SLV 9	No
R_SLV	0	SLV 10	No

Maschio 191

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2271.3	595.1	-2467.8	595.1	L6	L7	196.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 34	1340	-2940	175271	0.53	269938	1.54	Si
SLU 34	1520	-2194	-76218	0.4	205038	2.69	Si
SLU 30	1340	-3418	206526	0.62	310214	1.502	Si
SLU 30	1520	-2605	-110494	0.47	241032	2.181	Si
SLU 36	1340	-3598	211844	0.65	325164	1.535	Si
SLU 36	1520	-3016	-111228	0.55	276359	2.485	Si
SLU 41	1340	-2953	182844	0.54	271036	1.482	Si
SLU 41	1520	-2217	-71222	0.4	207023	2.907	Si
SLU 17	1340	-3156	188573	0.57	288251	1.529	Si
SLU 17	1520	-2329	-94500	0.42	216976	2.296	Si
SLU 42	1340	-2909	182897	0.53	267290	1.461	Si
SLU 42	1520	-2211	-73401	0.4	206558	2.814	Si
SLU 38	1340	-3278	224400	0.6	298467	1.33	Si
SLU 38	1520	-2636	-107312	0.48	243796	2.272	Si
SLU 29	1340	-3462	206473	0.63	313863	1.52	Si
SLU 29	1520	-2610	-108315	0.47	241488	2.229	Si
SLU 16	1340	-3200	188521	0.58	291950	1.549	Si
SLU 16	1520	-2335	-92321	0.42	217438	2.355	Si
SLU 37	1340	-3321	224347	0.6	302142	1.347	Si
SLU 37	1520	-2642	-105133	0.48	244251	2.323	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 4	1340	-2470	157143	0.45	233728	1.487	Si
SLD 4	1520	-1465	-59171	0.27	140776	2.379	Si
SLD 3	1340	-2470	157143	0.45	233728	1.487	Si
SLD 3	1520	-1465	-59171	0.27	140776	2.379	Si
SLV 2	1340	-1966	190083	0.36	187499	0.986	No, M>Mu
SLV 2	1520	-1152	-124379	0	0	0	No, e>l/2
SLV 3	1340	-2132	250365	0	0	0	No, e>l/2
SLV 3	1520	-1383	-94316	0.25	133122	1.411	Si
SLV 6	1340	-2241	26962	0.41	212860	7.895	Si
SLV 6	1520	-1061	-106122	0	0	0	No, e>l/2
SLV 8	1340	-2795	227901	0.51	263204	1.155	Si
SLV 8	1520	-1831	-5911	0.33	175026	29.612	Si
SLV 7	1340	-2795	227901	0.51	263204	1.155	Si
SLV 7	1520	-1831	-5911	0.33	175026	29.612	Si
SLV 1	1340	-1966	190083	0.36	187499	0.986	No, M>Mu
SLV 1	1520	-1152	-124379	0	0	0	No, e>l/2
SLV 4	1340	-2132	250365	0	0	0	No, e>l/2
SLV 4	1520	-1383	-94316	0.25	133122	1.411	Si
SLV 5	1340	-2241	26962	0.41	212860	7.895	Si
SLV 5	1520	-1061	-106122	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 42	1340	-2909	2127	182897	0.98	106.16	0.69	2039	0.69	2039		0.96	No, Vu<V
SLU 42	1520	-2211	1981	-73401	0.4	195.18	0.61	3331	0.61	3331		1.68	Si
SLU 35	1340	-3642	2551	211791	1.08	120.31	0.7	2357	0.7	2357		0.92	No, Vu<V
SLU 35	1520	-3021	2344	-109049	0.58	186.46	0.63	3303	0.63	3303		1.41	Si
SLU 29	1340	-3462	2396	206473	1.07	115.83	0.7	2263	0.7	2263		0.94	No, Vu<V
SLU 29	1520	-2610	2177	-108315	0.55	170.24	0.63	2996	0.63	2996		1.38	Si
SLU 38	1340	-3278	2605	224400	1.31	89.35	0.73	1827	0.73	1827		0.7	No, Vu<V
SLU 38	1520	-2636	2386	-107312	0.55	172.64	0.63	3037	0.63	3037		1.27	Si
SLU 36	1340	-3598	2584	211844	1.09	118.14	0.7	2318	0.7	2318		0.9	No, Vu<V
SLU 36	1520	-3016	2378	-111228	0.59	184.1	0.63	3266	0.63	3266		1.37	Si
SLU 79	1340	-4097	2702	233760	1.18	123.59	0.71	2469	0.71	2469		0.91	No, Vu<V
SLU 79	1520	-2964	2482	-109863	0.58	183.56	0.63	3251	0.63	3251		1.31	Si
SLU 80	1340	-4053	2736	233813	1.19	121.7	0.71	2434	0.71	2434		0.89	No, Vu<V
SLU 80	1520	-2959	2515	-112042	0.58	181.15	0.63	3212	0.63	3212		1.28	Si
SLU 37	1340	-3321	2571	224347	1.29	92.11	0.73	1876	0.73	1876		0.73	No, Vu<V
SLU 37	1520	-2642	2353	-105133	0.54	175.36	0.63	3080	0.63	3080		1.31	Si
SLU 41	1340	-2953	2093	182844	0.97	109.01	0.68	2089	0.68	2089		1	No, Vu<V
SLU 41	1520	-2217	1948	-71222	0.4	196.5	0.61	3352	0.61	3352		1.72	Si
SLU 30	1340	-3418	2430	206526	1.08	113.49	0.7	2221	0.7	2221		0.91	No, Vu<V
SLU 30	1520	-2605	2210	-110494	0.56	167.48	0.63	2953	0.63	2953		1.34	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1340	-2132	3054	250365		0	0	0.83	0	0		0	No, Vu<V
SLV 3	1520	-1383	1727	-94316	0.55	90.22	0.94	2382	0.94	2382		1.38	Si
SLV 7	1340	-2795	2006	227901	1.99	50.15	1.23	1729	1.23	1729		0.86	No, Vu<V
SLV 7	1520	-1831	1430	-5911	0.33	196.5	0.9	4951	0.9	4951		3.46	Si
SLV 8	1340	-2795	2006	227901	1.99	50.15	1.23	1729	1.23	1729		0.86	No, Vu<V
SLV 8	1520	-1831	1430	-5911	0.33	196.5	0.9	4951	0.9	4951		3.46	Si
SLV 1	1340	-1966	2822	190083	15.02	4.68	1.63	213	1.63	213		0.08	No, Vu<V
SLV 1	1520	-1152	1589	-124379	0	0	0.83	0	0.83	0		0	No, Vu<V
SLV 6	1340	-2241	1234	26962	0.41	196.5	0.91	5033	0.91	5033		4.08	Si
SLV 6	1520	-1061	970	-106122	0	0	0.83	0	0.83	0		0	No, Vu<V
SLD 3	1340	-2470	1907	157143	0.85	103.86	1	2917	1	2917		1.53	Si
SLD 3	1520	-1465	1309	-59171	0.3	173.56	0.89	4343	0.89	4343		3.32	Si
SLV 2	1340	-1966	2822	190083	15.02	4.68	1.63	213	1.63	213		0.08	No, Vu<V
SLV 2	1520	-1152	1589	-124379	0	0	0.83	0	0.83	0		0	No, Vu<V
SLV 5	1340	-2241	1234	26962	0.41	196.5	0.91	5033	0.91	5033		4.08	Si
SLV 5	1520	-1061	970	-106122	0	0	0.83	0	0.83	0		0	No, Vu<V
SLD 4	1340	-2470	1907	157143	0.85	103.86	1	2917	1	2917		1.53	Si
SLD 4	1520	-1465	1309	-59171	0.3	173.56	0.89	4343	0.89	4343		3.32	Si
SLV 4	1340	-2132	3054	250365	0	0	0.83	0	0.83	0		0	No, Vu<V
SLV 4	1520	-1383	1727	-94316	0.55	90.22	0.94	2382	0.94	2382		1.38	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.53	0.41	-2247	22320	30409	1.36	Si
SLV 2	14	0.53	0.41	-2247	22320	30409	1.36	Si
SLV 5	14	0.53	0.42	-2284	22320	30896	1.38	Si
SLV 6	14	0.53	0.42	-2284	22320	30896	1.38	Si
SLV 4	14	0.53	0.43	-2348	22320	31724	1.42	Si
SLV 3	14	0.53	0.43	-2348	22320	31724	1.42	Si
SLV 9	14	0.53	0.44	-2417	22320	32624	1.46	Si
SLV 10	14	0.53	0.44	-2417	22320	32624	1.46	Si
SLV 7	14	0.53	0.48	-2620	22320	35256	1.58	Si
SLV 8	14	0.53	0.48	-2620	22320	35256	1.58	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	-1362	-2519	-174	0.009	4.072	0.889	14.158	1930.074	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-1362	-2519	-174	0.009	4.072	0.889	14.158	1930.074	No
SLV 9	-1094	-1971	-162	0.01	3.84	0.892	15.669	1930.074	No
SLV 10	-1094	-1971	-162	0.01	3.84	0.892	15.669	1930.074	No
SLV 2	-1885	-3948	-139	0.024	4.548	0.89	39.458	979.113	No
SLV 1	-1885	-3948	-139	0.024	4.548	0.89	39.458	979.113	No
SLV 8	-1962	-4777	-34	0.054	4.62	0.89	88.762	1930.074	No
SLV 7	-1962	-4777	-34	0.054	4.62	0.89	88.762	1930.074	No
SLV 11	-1693	-4230	-22	0.059	4.371	0.889	96.297	1930.074	No
SLV 12	-1693	-4230	-22	0.059	4.371	0.889	96.297	1930.074	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.33	SLU 38	Si
V_SLU	0.701	SLU 38	No
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	1.362	SLV 1	Si
R_SLV	0.007	SLV 5	No

Maschio 192

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1975.8	595.1	-2181.3	595.1	L6	L7	205.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 55	1340	-198	174025	0	0	0	No, e>l/2
SLU 55	1520	2394	322914	0	0	0	No, Trazione
SLU 60	1340	-2165	86653	0.38	212135	2.448	Si
SLU 60	1520	427	158767	0	0	0	No, Trazione
SLU 57	1340	983	244587	0	0	0	No, Trazione
SLU 57	1520	3575	467717	0	0	0	No, Trazione
SLU 54	1340	-983	162274	0	0	0	No, e>l/2
SLU 54	1520	1608	307394	0	0	0	No, Trazione
SLU 59	1340	1758	253951	0	0	0	No, Trazione
SLU 59	1520	4350	481430	0	0	0	No, Trazione
SLU 1	1340	-1529	74427	0.27	151965	2.042	Si
SLU 1	1520	472	138980	0	0	0	No, Trazione
SLU 58	1340	1743	250369	0	0	0	No, Trazione
SLU 58	1520	4334	478721	0	0	0	No, Trazione
SLU 56	1340	968	241006	0	0	0	No, Trazione
SLU 56	1520	3559	465007	0	0	0	No, Trazione
SLU 61	1340	-2149	90234	0.37	210696	2.335	Si
SLU 61	1520	442	161477	0	0	0	No, Trazione
SLU 53	1340	-999	158693	0	0	0	No, e>l/2
SLU 53	1520	1593	304684	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 7	1340	-2173	179870	0.38	216335	1.203	Si
SLV 7	1520	-412	-69374	0	0	0	No, e>l/2
SLV 6	1340	-362	55772	0	0	0	No, e>l/2
SLV 6	1520	1546	299615	0	0	0	No, Trazione
SLV 11	1340	-2228	116187	0.39	221682	1.908	Si
SLV 11	1520	-119	19626	0	0	0	No, e>l/2
SLV 9	1340	-417	-7910	0.07	42617	5.387	Si
SLV 9	1520	1839	388616	0	0	0	No, Trazione
SLV 12	1340	-2228	116187	0.39	221682	1.908	Si
SLV 12	1520	-119	19626	0	0	0	No, e>l/2
SLV 14	1340	-1116	-38773	0.19	112830	2.91	Si
SLV 14	1520	1495	363303	0	0	0	No, Trazione
SLV 13	1340	-1116	-38773	0.19	112830	2.91	Si
SLV 13	1520	1495	363303	0	0	0	No, Trazione
SLV 10	1340	-417	-7910	0.07	42617	5.387	Si
SLV 10	1520	1839	388616	0	0	0	No, Trazione
SLV 8	1340	-2173	179870	0.38	216335	1.203	Si
SLV 8	1520	-412	-69374	0	0	0	No, e>l/2
SLD 1	1340	-1161	122686	0	0	0	No, e>l/2
SLD 1	1520	622	118570	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 58	1340	1743	-1226	250369		0	0	0.56	0	0		0	No, Vu<V
SLU 58	1520	4334	-1226	478721		0	0	0.56	0	0		0	No, Vu<V
SLU 57	1340	983	-1197	244587		0	0	0.56	0	0		0	No, Vu<V
SLU 57	1520	3575	-1197	467717		0	0	0.56	0	0		0	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 53	1340	-999	-768	158693		0	0	0.56	0			0	No, Vu<V
SLU 53	1520	1593	-768	304684		0	0	0.56	0			0	No, Vu<V
SLU 59	1340	1758	-1221	253951		0	0	0.56	0			0	No, Vu<V
SLU 59	1520	4350	-1221	481430		0	0	0.56	0			0	No, Vu<V
SLU 54	1340	-983	-763	162274		0	0	0.56	0			0	No, Vu<V
SLU 54	1520	1608	-763	307394		0	0	0.56	0			0	No, Vu<V
SLU 60	1340	-2165	-358	86653		0.41	188.15	0.61	3215			8.99	Si
SLU 60	1520	427	-358	158767		0	0	0.56	0			0	No, Vu<V
SLU 56	1340	968	-1201	241006		0	0	0.56	0			0	No, Vu<V
SLU 56	1520	3559	-1201	465007		0	0	0.56	0			0	No, Vu<V
SLU 1	1340	-1529	-325	74427		0.34	162.2	0.6	2727			8.38	Si
SLU 1	1520	472	-325	138980		0	0	0.56	0			0	No, Vu<V
SLU 55	1340	-198	-784	174025		0	0	0.56	0			0	No, Vu<V
SLU 55	1520	2394	-784	322914		0	0	0.56	0			0	No, Vu<V
SLU 61	1340	-2149	-353	90234		0.42	182.29	0.61	3122			8.85	Si
SLU 61	1520	442	-353	161477		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	1340	-2228	355	116187		0.52	151.81	0.94	3988			11.22	Si
SLV 12	1520	-119	990	19626		0	0	0.83	0			0	No, Vu<V
SLV 13	1340	-1116	-2550	-38773		0.2	204	0.87	4983			1.95	Si
SLV 13	1520	1495	-2095	363303		0	0	0.83	0			0	No, Vu<V
SLV 14	1340	-1116	-2550	-38773		0.2	204	0.87	4983			1.95	Si
SLV 14	1520	1495	-2095	363303		0	0	0.83	0			0	No, Vu<V
SLV 10	1340	-417	-2183	-7910		0.07	205.5	0.85	4878			2.23	Si
SLV 10	1520	1839	-2463	388616		0	0	0.83	0			0	No, Vu<V
SLV 6	1340	-362	-1107	55772		0	0	0.83	0			0	No, Vu<V
SLV 6	1520	1546	-1742	299615		0	0	0.83	0			0	No, Vu<V
SLV 7	1340	-2173	1431	179870		1.3	59.88	1.09	1832			1.28	Si
SLV 7	1520	-412	1711	-69374		0	0	0.83	0			0	No, Vu<V
SLD 1	1340	-1161	232	122686		0	0	0.83	0			0	No, Vu<V
SLD 1	1520	622	-73	118570		0	0	0.83	0			0	No, Vu<V
SLV 9	1340	-417	-2183	-7910		0.07	205.5	0.85	4878			2.23	Si
SLV 9	1520	1839	-2463	388616		0	0	0.83	0			0	No, Vu<V
SLV 11	1340	-2228	355	116187		0.52	151.81	0.94	3988			11.22	Si
SLV 11	1520	-119	990	19626		0	0	0.83	0			0	No, Vu<V
SLV 8	1340	-2173	1431	179870		1.3	59.88	1.09	1832			1.28	Si
SLV 8	1520	-412	1711	-69374		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14		0.53	-1385	23343	0	0	No, e>t/2
SLV 10	14		0.53	198	23343	0	0	No, Trazione
SLV 5	14		0.53	639	23343	0	0	No, Trazione
SLV 3	14		0.53	-162	23343	0	0	No, e>t/2
SLV 9	14		0.53	198	23343	0	0	No, Trazione
SLV 4	14		0.53	-162	23343	0	0	No, e>t/2
SLV 7	14		0.53	-1385	23343	0	0	No, e>t/2
SLV 1	14		0.53	445	23343	0	0	No, Trazione
SLV 2	14		0.53	445	23343	0	0	No, Trazione
SLV 6	14		0.53	639	23343	0	0	No, Trazione

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 2	282	-383	-114	0	0	0	0	979.113	No, Trazione
SLV 5	2118	-1809	-472	0	0	0	0	1930.074	No, Trazione
SLV 10	2878	-2763	-493	0	0	0	0	1930.074	No, Trazione
SLV 1	282	-383	-114	0	0	0	0	979.113	No, Trazione
SLV 9	2878	-2763	-493	0	0	0	0	1930.074	No, Trazione
SLV 3	-532	-115	172	0	3.55	0.915	0	979.113	No
SLV 8	-595	-915	480	0	3.591	0.911	0	1930.074	No
SLV 6	2118	-1809	-472	0	0	0	0	1930.074	No, Trazione
SLV 7	-595	-915	480	0	3.591	0.911	0	1930.074	No
SLV 4	-532	-115	172	0	3.55	0.915	0	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 16	No

Maschio 193

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2249.3	-335.9	-2467.8	-335.9	L6	L7	218.5	28	316	316	316			

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 40	1340	-2679	165209	0.44	276959	1.676	Si
SLU 40	1520	-1826	-13963	0.3	192202	13.765	Si
SLU 17	1340	-3444	208664	0.56	350212	1.678	Si
SLU 17	1520	-2447	1669	0.4	254247	152.352	Si
SLU 42	1340	-3101	213189	0.51	317687	1.49	Si
SLU 42	1520	-2311	-4398	0.38	240794	54.747	Si
SLU 36	1340	-3885	238752	0.64	391376	1.639	Si
SLU 36	1520	-3152	-6440	0.52	322622	50.1	Si
SLU 31	1340	-2681	166254	0.44	277104	1.667	Si
SLU 31	1520	-1775	-9634	0.29	187002	19.41	Si
SLU 41	1340	-3198	195695	0.52	326987	1.671	Si
SLU 41	1520	-2362	-12228	0.39	245797	20.102	Si
SLU 34	1340	-3102	214235	0.51	317829	1.484	Si
SLU 34	1520	-2260	-69	0.37	235703	1000	Si
SLU 37	1340	-3686	233058	0.6	372951	1.6	Si
SLU 37	1520	-2829	-3553	0.46	291546	82.054	Si
SLU 30	1340	-3744	225779	0.61	378308	1.676	Si
SLU 30	1520	-2738	2198	0.45	282653	128.585	Si
SLU 38	1340	-3589	250552	0.59	363859	1.452	Si
SLU 38	1520	-2779	4276	0.45	286646	67.034	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 11	1340	-2636	-92207	0.43	277827	3.013	Si
SLV 11	1520	-1166	-82157	0.19	125448	1.527	Si
SLV 6	1340	-3064	271169	0.5	321005	1.184	Si
SLV 6	1520	-2020	30097	0.33	214698	7.133	Si
SLV 8	1340	-2548	-37070	0.42	268886	7.253	Si
SLV 8	1520	-1381	-83008	0.23	148122	1.784	Si
SLV 12	1340	-2636	-92207	0.43	277827	3.013	Si
SLV 12	1520	-1166	-82157	0.19	125448	1.527	Si
SLV 9	1340	-3152	216033	0.52	329813	1.527	Si
SLV 9	1520	-1805	30948	0.3	192425	6.218	Si
SLV 5	1340	-3064	271169	0.5	321005	1.184	Si
SLV 5	1520	-2020	30097	0.33	214698	7.133	Si
SLV 7	1340	-2548	-37070	0.42	268886	7.253	Si
SLV 7	1520	-1381	-83008	0.23	148122	1.784	Si
SLV 1	1340	-2781	227612	0.45	292492	1.285	Si
SLV 1	1520	-2047	-10482	0.33	217510	20.751	Si
SLV 10	1340	-3152	216033	0.52	329813	1.527	Si
SLV 10	1520	-1805	30948	0.3	192425	6.218	Si
SLV 2	1340	-2781	227612	0.45	292492	1.285	Si
SLV 2	1520	-2047	-10482	0.33	217510	20.751	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	1340	-4395	2428	257321		1.03	152.1	0.69	2952			1.22	Si
SLU 80	1520	-3111	2272	-4828		0.51	218.5	0.62	3814			1.68	Si
SLU 76	1340	-3908	2222	221004		0.88	158.11	0.67	2981			1.34	Si
SLU 76	1520	-2592	2098	-9174		0.42	218.5	0.61	3745			1.78	Si
SLU 38	1340	-3589	2246	250552		1.08	118.32	0.7	2319			1.03	Si
SLU 38	1520	-2779	2091	4276		0.45	218.5	0.62	3769			1.8	Si
SLU 42	1340	-3101	2083	213189		0.91	121.49	0.68	2303			1.11	Si
SLU 42	1520	-2311	1973	-4398		0.38	218.5	0.61	3707			1.88	Si
SLU 34	1340	-3102	2040	214235		0.92	120.58	0.68	2289			1.12	Si
SLU 34	1520	-2260	1917	-69		0.37	218.5	0.6	3700			1.93	Si
SLU 78	1340	-4691	2466	245521		0.98	170.74	0.69	3281			1.33	Si
SLU 78	1520	-3485	2318	-15544		0.57	218.5	0.63	3864			1.67	Si
SLU 84	1340	-3907	2265	219958		0.88	158.84	0.67	2992			1.32	Si
SLU 84	1520	-2644	2154	-13503		0.43	218.5	0.61	3751			1.74	Si
SLU 37	1340	-3686	2153	233058		0.95	138.09	0.68	2640			1.23	Si
SLU 37	1520	-2829	2018	-3553		0.46	218.5	0.62	3776			1.87	Si
SLU 36	1340	-3885	2284	238752		0.97	143.4	0.68	2749			1.2	Si
SLU 36	1520	-3152	2137	-6440		0.52	218.5	0.62	3819			1.79	Si
SLU 41	1340	-3198	1990	195695		0.79	144.19	0.66	2669			1.34	Si
SLU 41	1520	-2362	1900	-12228		0.39	218.5	0.61	3714			1.95	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	1340	-2781	2705	227612		1.21	82.19	1.08	2474			0.91	No, Vu<V
SLV 1	1520	-2047	1501	-10482		0.33	218.5	0.9	5508			3.67	Si
SLV 5	1340	-3064	2226	271169		1.76	62.23	1.19	2065			0.93	No, Vu<V
SLV 5	1520	-2020	1574	30097		0.33	218.5	0.9	5502			3.5	Si
SLV 4	1340	-2626	2320	135140		0.54	173.36	0.94	4570			1.97	Si
SLV 4	1520	-1855	1294	-44414		0.3	218.5	0.89	5469			4.23	Si
SLV 6	1340	-3064	2226	271169		1.76	62.23	1.19	2065			0.93	No, Vu<V
SLV 6	1520	-2020	1574	30097		0.33	218.5	0.9	5502			3.5	Si
SLD 2	1340	-2820	1835	148300		0.59	169.97	0.95	4530			2.47	Si
SLD 2	1520	-1781	1301	-20045		0.29	218.5	0.89	5455			4.19	Si
SLV 2	1340	-2781	2705	227612		1.21	82.19	1.08	2474			0.91	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1520	-2047	1501	-10482		0.33	218.5	0.9	5508			3.67	Si
SLV 10	1340	-3152	1432	216033		0.92	122.12	1.02	3480			2.43	Si
SLV 10	1520	-1805	1428	30948		0.3	218.5	0.89	5459			3.82	Si
SLV 3	1340	-2626	2320	135140		0.54	173.36	0.94	4570			1.97	Si
SLV 3	1520	-1855	1294	-44414		0.3	218.5	0.89	5469			4.23	Si
SLV 9	1340	-3152	1432	216033		0.92	122.12	1.02	3480			2.43	Si
SLV 9	1520	-1805	1428	30948		0.3	218.5	0.89	5459			3.82	Si
SLD 1	1340	-2820	1835	148300		0.59	169.97	0.95	4530			2.47	Si
SLD 1	1520	-1781	1301	-20045		0.29	218.5	0.89	5455			4.19	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.53	0.37	-2258	24819	30658	1.24	Si
SLV 12	14	0.53	0.37	-2258	24819	30658	1.24	Si
SLV 8	14	0.53	0.37	-2288	24819	31051	1.25	Si
SLV 7	14	0.53	0.37	-2288	24819	31051	1.25	Si
SLV 16	14	0.53	0.4	-2446	24819	33121	1.33	Si
SLV 15	14	0.53	0.4	-2446	24819	33121	1.33	Si
SLV 4	14	0.53	0.42	-2545	24819	34421	1.39	Si
SLV 3	14	0.53	0.42	-2545	24819	34421	1.39	Si
SLV 13	14	0.53	0.43	-2637	24819	35610	1.43	Si
SLV 14	14	0.53	0.43	-2637	24819	35610	1.43	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 2	-1243	-5465	291	0	4.293	0.892	0	979.113	No
SLV 4	-1449	-4578	368	0	4.471	0.89	0	979.113	No
SLV 13	-740	-3259	-217	0	3.894	0.905	0	979.113	No
SLV 1	-1243	-5465	291	0	4.293	0.892	0	979.113	No
SLV 8	-1514	-2771	279	0	4.527	0.889	0	1930.074	No
SLV 3	-1449	-4578	368	0	4.471	0.89	0	979.113	No
SLV 14	-740	-3259	-217	0	3.894	0.905	0	979.113	No
SLV 7	-1514	-2771	279	0	4.527	0.889	0	1930.074	No
SLV 10	-676	-5066	-128	0.023	3.848	0.908	36.841	1930.074	No
SLV 9	-676	-5066	-128	0.023	3.848	0.908	36.841	1930.074	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.452	SLU 38	Si
V_SLU	1.033	SLU 38	Si
PF_SLV	1.184	SLV 5	Si
V_SLV	0.915	SLV 1	No
PFFP_SLV	1.235	SLV 11	Si
R_SLV	0	SLV 1	No

Maschio 194

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1936.8	-335.9	-2159.3	-335.9	L6	L7	222.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 31	1450	-1835	-4871	0.29	196787	40.397	Si
SLU 31	1530	-1004	-28053	0.16	109509	3.904	Si
SLU 40	1450	-1923	-5630	0.31	205823	36.559	Si
SLU 40	1530	-1079	-27181	0.17	117454	4.321	Si
SLU 23	1450	-1871	494	0.3	200508	405.991	Si
SLU 23	1530	-1014	-25298	0.16	110581	4.371	Si
SLU 19	1450	-1772	-7968	0.28	190231	23.876	Si
SLU 19	1530	-905	-22065	0.15	98901	4.482	Si
SLU 52	1450	-2226	-7408	0.36	236749	31.959	Si
SLU 52	1530	-1082	-25699	0.17	117854	4.586	Si
SLU 2	1450	-1720	-1844	0.28	184882	100.272	Si
SLU 2	1530	-841	-20182	0.13	91978	4.557	Si
SLU 13	1450	-1839	9011	0.3	197215	21.886	Si
SLU 13	1530	-1029	-25103	0.17	112175	4.469	Si
SLU 10	1450	-1684	-7209	0.27	181137	25.127	Si
SLU 10	1530	-831	-22937	0.13	90899	3.963	Si
SLU 34	1450	-1991	11349	0.32	212762	18.748	Si
SLU 34	1530	-1203	-30218	0.19	130634	4.323	Si
SLU 73	1450	-2377	-5070	0.38	252040	49.709	Si
SLU 73	1530	-1256	-30814	0.2	136273	4.422	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 9	1450	-1896	55858	0.3	205689	3.682	Si
SLV 9	1530	-1140	-71729	0.18	124882	1.741	Si
SLD 5	1450	-1890	38991	0.3	205061	5.259	Si
SLD 5	1530	-1073	-42362	0.17	117649	2.777	Si
SLV 2	1450	-1696	79795	0.27	184497	2.312	Si
SLV 2	1530	-970	-46630	0.16	106560	2.285	Si
SLV 6	1450	-1742	90117	0.28	189342	2.101	Si
SLV 6	1530	-1068	-78886	0.17	117109	1.485	Si
SLV 5	1450	-1742	90117	0.28	189342	2.101	Si
SLV 5	1530	-1068	-78886	0.17	117109	1.485	Si
SLV 1	1450	-1696	79795	0.27	184497	2.312	Si
SLV 1	1530	-970	-46630	0.16	106560	2.285	Si
SLV 11	1450	-2280	-87831	0.37	246071	2.802	Si
SLV 11	1530	-1101	44287	0.18	120723	2.726	Si
SLV 10	1450	-1896	55858	0.3	205689	3.682	Si
SLV 10	1530	-1140	-71729	0.18	124882	1.741	Si
SLD 6	1450	-1890	38991	0.3	205061	5.259	Si
SLD 6	1530	-1073	-42362	0.17	117649	2.777	Si
SLV 12	1450	-2280	-87831	0.37	246071	2.802	Si
SLV 12	1530	-1101	44287	0.18	120723	2.726	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	1450	-2945	908	31222		0.47	222.5	0.62	3854			4.24	Si
SLU 79	1530	-1850	373	-30014		0.3	222.5	0.6	3708			9.93	Si
SLU 29	1450	-2440	919	36786		0.39	222.5	0.61	3786			4.12	Si
SLU 29	1530	-1608	354	-24498		0.26	222.5	0.59	3676			10.38	Si
SLU 28	1450	-2764	890	32366		0.44	222.5	0.61	3830			4.3	Si
SLU 28	1530	-1916	345	-28398		0.31	222.5	0.6	3717			10.79	Si
SLU 30	1450	-2285	985	34475		0.37	222.5	0.6	3766			3.82	Si
SLU 30	1530	-1490	377	-27577		0.24	222.5	0.59	3660			9.71	Si
SLU 71	1450	-2981	907	36587		0.48	222.5	0.62	3859			4.26	Si
SLU 71	1530	-1860	362	-27259		0.3	222.5	0.6	3709			10.23	Si
SLU 38	1450	-2249	986	29109		0.36	222.5	0.6	3761			3.81	Si
SLU 38	1530	-1480	388	-30331		0.24	222.5	0.59	3658			9.43	Si
SLU 72	1450	-2827	972	34276		0.45	222.5	0.62	3838			3.95	Si
SLU 72	1530	-1742	385	-30338		0.28	222.5	0.59	3693			9.58	Si
SLU 80	1450	-2791	974	28910		0.45	222.5	0.62	3833			3.94	Si
SLU 80	1530	-1732	396	-33093		0.28	222.5	0.59	3692			9.32	Si
SLU 36	1450	-2728	891	27001		0.44	222.5	0.61	3825			4.29	Si
SLU 36	1530	-1906	356	-31153		0.31	222.5	0.6	3715			10.45	Si
SLU 37	1450	-2404	921	31421		0.39	222.5	0.61	3782			4.11	Si
SLU 37	1530	-1598	365	-27253		0.26	222.5	0.59	3674			10.07	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	1450	-1742	2773	90117		0.35	178.54	0.9	4514			1.63	Si
SLV 5	1530	-1068	2181	-78886		0.34	112.08	0.9	2829			1.3	Si
SLV 12	1450	-2280	-2421	-87831		0.37	218.19	0.91	5547			2.29	Si
SLV 12	1530	-1101	-1916	44287		0.18	213.09	0.87	5192			2.71	Si
SLV 1	1450	-1696	2436	79795		0.31	192.62	0.9	4834			1.98	Si
SLV 1	1530	-970	1600	-46630		0.18	189.56	0.87	4617			2.89	Si
SLV 2	1450	-1696	2436	79795		0.31	192.62	0.9	4834			1.98	Si
SLV 2	1530	-970	1600	-46630		0.18	189.56	0.87	4617			2.89	Si
SLV 6	1450	-1742	2773	90117		0.35	178.54	0.9	4514			1.63	Si
SLV 6	1530	-1068	2181	-78886		0.34	112.08	0.9	2829			1.3	Si
SLV 16	1450	-2326	-2085	-77509		0.37	222.5	0.91	5657			2.71	Si
SLV 16	1530	-1199	-1335	12031		0.19	222.5	0.87	5431			4.07	Si
SLV 15	1450	-2326	-2085	-77509		0.37	222.5	0.91	5657			2.71	Si
SLV 15	1530	-1199	-1335	12031		0.19	222.5	0.87	5431			4.07	Si
SLV 10	1450	-1896	1796	55858		0.3	222.5	0.89	5571			3.1	Si
SLV 10	1530	-1140	1618	-71729		0.28	144.92	0.89	3609			2.23	Si
SLV 9	1450	-1896	1796	55858		0.3	222.5	0.89	5571			3.1	Si
SLV 9	1530	-1140	1618	-71729		0.28	144.92	0.89	3609			2.23	Si
SLV 11	1450	-2280	-2421	-87831		0.37	218.19	0.91	5547			2.29	Si
SLV 11	1530	-1101	-1916	44287		0.18	213.09	0.87	5192			2.71	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.53	0.3	-1899	25274	25923	1.03	Si
SLV 12	14	0.53	0.3	-1899	25274	25923	1.03	Si
SLV 8	14	0.53	0.33	-2040	25274	27794	1.1	Si
SLV 7	14	0.53	0.33	-2040	25274	27794	1.1	Si
SLV 15	14	0.53	0.34	-2094	25274	28505	1.13	Si
SLV 16	14	0.53	0.34	-2094	25274	28505	1.13	Si
SLV 14	14	0.53	0.39	-2401	25274	32560	1.29	Si
SLV 13	14	0.53	0.39	-2401	25274	32560	1.29	Si
SLV 3	14	0.53	0.41	-2563	25274	34680	1.37	Si
SLV 4	14	0.53	0.41	-2563	25274	34680	1.37	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	-327	-4436	-279	0	3.702	0.938	0	1930.074	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-835	-1732	334	0	4.025	0.902	0	1930.074	No
SLV 7	-857	-1917	330	0	4.042	0.901	0	1930.074	No
SLV 5	-348	-4620	-283	0	3.712	0.936	0	1930.074	No
SLV 8	-857	-1917	330	0	4.042	0.901	0	1930.074	No
SLV 12	-835	-1732	334	0	4.025	0.902	0	1930.074	No
SLV 6	-348	-4620	-283	0	3.712	0.936	0	1930.074	No
SLV 9	-327	-4436	-279	0	3.702	0.938	0	1930.074	No
SLV 16	-632	-2462	123	0.026	3.88	0.912	40.853	979.113	No
SLV 15	-632	-2462	123	0.026	3.88	0.912	40.853	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.904	SLU 31	Si
V_SLU	3.812	SLU 38	Si
PF_SLV	1.485	SLV 5	Si
V_SLV	1.297	SLV 5	Si
PFFP_SLV	1.026	SLV 11	Si
R_SLV	0	SLV 5	No

Maschio 195

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1826.3	-335.9	-1886.8	-335.9	L6	L7	60.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 54	1450	-435	5471	0.26	12745	2.33	Si
SLU 54	1530	473	2475	0	0	0	No, Trazione
SLU 56	1450	-363	4602	0.21	10678	2.32	Si
SLU 56	1530	890	4286	0	0	0	No, Trazione
SLU 57	1450	-231	4218	0.14	6870	1.629	Si
SLU 57	1530	1027	4711	0	0	0	No, Trazione
SLU 59	1450	-20	3452	0	0	0	No, e>l/2
SLU 59	1530	1292	4774	0	0	0	No, Trazione
SLU 60	1450	-556	6527	0.33	16154	2.475	Si
SLU 60	1530	47	-361	0	0	0	No, Trazione
SLU 53	1450	-567	5855	0.33	16435	2.807	Si
SLU 53	1530	336	2049	0	0	0	No, Trazione
SLU 55	1450	-136	4448	0	0	0	No, e>l/2
SLU 55	1530	829	2821	0	0	0	No, Trazione
SLU 1	1450	-423	4746	0.25	12399	2.613	Si
SLU 1	1530	92	425	0	0	0	No, Trazione
SLU 58	1450	-151	3836	0.09	4529	1.181	Si
SLU 58	1530	1155	4349	0	0	0	No, Trazione
SLU 61	1450	-425	6143	0.25	12458	2.028	Si
SLU 61	1530	184	64	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 5	1450	-2773	36691	1.64	72647	1.98	Si
SLV 5	1530	-1225	-38077	0	0	0	No, e>l/2
SLV 12	1450	1959	-26521	0	0	0	No, Trazione
SLV 12	1530	1534	38821	0	0	0	No, Trazione
SLV 7	1450	1536	-22121	0	0	0	No, Trazione
SLV 7	1530	1211	26335	0	0	0	No, Trazione
SLV 6	1450	-2773	36691	1.64	72647	1.98	Si
SLV 6	1530	-1225	-38077	0	0	0	No, e>l/2
SLV 11	1450	1959	-26521	0	0	0	No, Trazione
SLV 11	1530	1534	38821	0	0	0	No, Trazione
SLV 14	1450	-349	6574	0.21	10368	1.577	Si
SLV 14	1530	327	11521	0	0	0	No, Trazione
SLV 13	1450	-349	6574	0.21	10368	1.577	Si
SLV 13	1530	327	11521	0	0	0	No, Trazione
SLD 1	1450	-969	11840	0.57	27940	2.36	Si
SLD 1	1530	-223	-12465	0	0	0	No, e>l/2
SLV 4	1450	-465	3596	0.27	13755	3.825	Si
SLV 4	1530	-18	-10776	0	0	0	No, e>l/2
SLV 8	1450	1536	-22121	0	0	0	No, Trazione
SLV 8	1530	1211	26335	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 54	1450	-435	232	5471		0.29	53.02	0.59	883			3.81	Si
SLU 54	1530	473	-275	2475		0	0	0.56	0			0	No, Vu<V
SLU 53	1450	-567	243	5855		0.34	59.75	0.6	1005			4.13	Si
SLU 53	1530	336	-251	2049		0	0	0.56	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 61	1450	-425	202	6143		0.32	47.38	0.6	794			3.94	Si
SLU 61	1530	184	-196	64		0	0	0.56	0			0	No, Vu<V
SLU 57	1450	-231	257	4218		0.23	35.97	0.59	590			2.3	Si
SLU 57	1530	1027	-363	4711		0	0	0.56	0			0	No, Vu<V
SLU 58	1450	-151	257	3836		0.37	14.72	0.6	249			0.97	No, Vu<V
SLU 58	1530	1155	-337	4349		0	0	0.56	0			0	No, Vu<V
SLU 1	1450	-423	156	4746		0.26	57.08	0.59	944			6.06	Si
SLU 1	1530	92	-122	425		0	0	0.56	0			0	No, Vu<V
SLU 55	1450	-136	211	4448		0	0	0.56	0			0	No, Vu<V
SLU 55	1530	829	-291	2821		0	0	0.56	0			0	No, Vu<V
SLU 60	1450	-556	214	6527		0.36	55.56	0.6	938			4.39	Si
SLU 60	1530	47	-171	-361		0	0	0.56	0			0	No, Vu<V
SLU 56	1450	-363	269	4602		0.25	52.66	0.59	868			3.22	Si
SLU 56	1530	890	-338	4286		0	0	0.56	0			0	No, Vu<V
SLU 59	1450	-20	245	3452		0	0	0.56	0			0	No, Vu<V
SLU 59	1530	1292	-362	4774		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1450	-349	-26	6574		0.36	34.18	0.91	867			33	Si
SLV 13	1530	327	-157	11521		0	0	0.83	0			0	No, Vu<V
SLV 14	1450	-349	-26	6574		0.36	34.18	0.91	867			33	Si
SLV 14	1530	327	-157	11521		0	0	0.83	0			0	No, Vu<V
SLV 12	1450	1959	-1004	-26521		0	0	0.83	0			0	No, Vu<V
SLV 12	1530	1534	-824	38821		0	0	0.83	0			0	No, Vu<V
SLV 7	1450	1536	-698	-22121		0	0	0.83	0			0	No, Vu<V
SLV 7	1530	1211	-702	26335		0	0	0.83	0			0	No, Vu<V
SLD 1	1450	-969	518	11840		0.64	54.09	0.96	1456			2.81	Si
SLD 1	1530	-223	19	-12465		0	0	0.83	0			0	No, Vu<V
SLV 5	1450	-2773	1352	36691		1.94	51.06	1.22	1746			1.29	Si
SLV 5	1530	-1225	542	-38077		0	0	0.83	0			0	No, Vu<V
SLV 8	1450	1536	-698	-22121		0	0	0.83	0			0	No, Vu<V
SLV 8	1530	1211	-702	26335		0	0	0.83	0			0	No, Vu<V
SLV 6	1450	-2773	1352	36691		1.94	51.06	1.22	1746			1.29	Si
SLV 6	1530	-1225	542	-38077		0	0	0.83	0			0	No, Vu<V
SLV 4	1450	-465	375	3596		0.27	60.5	0.89	1505			4.01	Si
SLV 4	1530	-18	-126	-10776		0	0	0.83	0			0	No, Vu<V
SLV 11	1450	1959	-1004	-26521		0	0	0.83	0			0	No, Vu<V
SLV 11	1530	1534	-824	38821		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore $8 \gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.53	0	558	6872	0	0	No, Trazione
SLV 12	14	0.53	0	558	6872	0	0	No, Trazione
SLV 4	14	0.53	0	1	6872	0	0	No, Trazione
SLV 15	14	0.53	0	-105	6872	0	0	No, e>t/2
SLV 8	14	0.53	0	589	6872	0	0	No, Trazione
SLV 7	14	0.53	0	589	6872	0	0	No, Trazione
SLV 16	14	0.53	0	-105	6872	0	0	No, e>t/2
SLV 3	14	0.53	0	1	6872	0	0	No, Trazione
SLV 2	14	0.53	0.32	-535	6872	7298	1.06	Si
SLV 1	14	0.53	0.32	-535	6872	7298	1.06	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 14	200	-484	-47	0	0	0	0	979.113	No, Trazione
SLV 4	671	-750	-37	0	0	0	0	979.113	No, Trazione
SLV 8	2338	-648	-68	0	0	0	0	1930.074	No, Trazione
SLV 11	2559	-567	-76	0	0	0	0	1930.074	No, Trazione
SLV 16	1408	-478	-65	0	0	0	0	979.113	No, Trazione
SLV 3	671	-750	-37	0	0	0	0	979.113	No, Trazione
SLV 13	200	-484	-47	0	0	0	0	979.113	No, Trazione
SLV 12	2559	-567	-76	0	0	0	0	1930.074	No, Trazione
SLV 7	2338	-648	-68	0	0	0	0	1930.074	No, Trazione
SLV 15	1408	-478	-65	0	0	0	0	979.113	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 16	No

Maschio 196

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1720.3	-335.9	-1736.3	-335.9	L6	L7	16	28	316	316	316			

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Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC₂ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 29	1340	-881	4170	1.97	5346	1.282	Si
SLU 29	1520	-232	-801	0.52	1737	2.168	Si
SLU 6	1340	-818	3729	1.83	5075	1.361	Si
SLU 6	1520	-264	-276	0.59	1960	7.099	Si
SLU 69	1340	-980	4168	2.19	5734	1.376	Si
SLU 69	1520	-340	-265	0.76	2468	9.321	Si
SLU 50	1340	-883	3972	1.97	5354	1.348	Si
SLU 50	1520	-256	-445	0.57	1906	4.283	Si
SLU 8	1340	-801	3852	1.79	5000	1.298	Si
SLU 8	1520	-206	-629	0.46	1555	2.473	Si
SLU 71	1340	-963	4291	2.15	5671	1.322	Si
SLU 71	1520	-282	-617	0.63	2082	3.372	Si
SLU 37	1340	-874	3893	1.95	5316	1.366	Si
SLU 37	1520	-238	-923	0.53	1779	1.928	Si
SLU 79	1340	-956	4013	2.13	5644	1.406	Si
SLU 79	1520	-288	-739	0.64	2123	2.872	Si
SLU 16	1340	-793	3574	1.77	4967	1.39	Si
SLU 16	1520	-212	-751	0.47	1598	2.129	Si
SLU 27	1340	-898	4048	2	5416	1.338	Si
SLU 27	1520	-290	-448	0.65	2135	4.761	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 6	1340	-1478	10345	3.3	8631	0.834	No, M>Mu
SLV 6	1520	191	2638	0	0	0	No, Trazione
SLD 1	1340	-926	5413	2.07	6156	1.137	Si
SLD 1	1520	57	-203	0	0	0	No, Trazione
SLV 10	1340	-849	4978	1.9	5740	1.153	Si
SLV 10	1520	-142	3869	0	0	0	No, e>/2
SLV 9	1340	-849	4978	1.9	5740	1.153	Si
SLV 9	1520	-142	3869	0	0	0	No, e>/2
SLV 7	1340	77	-3424	0	0	0	No, Trazione
SLV 7	1520	-270	-3207	0	0	0	No, e>/2
SLV 12	1340	706	-8791	0	0	0	No, Trazione
SLV 12	1520	-603	-1975	1.35	4294	2.174	Si
SLV 11	1340	706	-8791	0	0	0	No, Trazione
SLV 11	1520	-603	-1975	1.35	4294	2.174	Si
SLV 8	1340	77	-3424	0	0	0	No, Trazione
SLV 8	1520	-270	-3207	0	0	0	No, e>/2
SLV 13	1340	428	-6103	0	0	0	No, Trazione
SLV 13	1520	-693	3261	1.55	4840	1.484	Si
SLV 14	1340	428	-6103	0	0	0	No, Trazione
SLV 14	1520	-693	3261	1.55	4840	1.484	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 16	1340	-793	175	3574		2.7	10.49	0.92	269			1.54	Si
SLU 16	1520	-212	33	-751		0.57	13.38	0.63	236			7.18	Si
SLU 37	1340	-874	190	3893		2.93	10.63	0.95	282			1.49	Si
SLU 37	1520	-238	41	-923		0.69	12.36	0.65	224			5.51	Si
SLU 71	1340	-963	210	4291		3.23	10.63	0.99	294			1.4	Si
SLU 71	1520	-282	27	-617		0.63	16	0.64	286			10.59	Si
SLU 6	1340	-818	183	3729		2.83	10.32	0.93	269			1.48	Si
SLU 6	1520	-264	12	-276		0.59	16	0.63	284			23.11	Si
SLU 50	1340	-883	195	3972		3	10.5	0.96	281			1.44	Si
SLU 50	1520	-256	19	-445		0.57	16	0.63	283			14.6	Si
SLU 27	1340	-898	198	4048		3.06	10.48	0.96	283			1.43	Si
SLU 27	1520	-290	20	-448		0.65	16	0.64	288			14.4	Si
SLU 8	1340	-801	189	3852		2.99	9.57	0.95	256			1.35	Si
SLU 8	1520	-206	27	-629		0.5	14.84	0.62	258			9.55	Si
SLU 69	1340	-980	203	4168		3.11	11.24	0.97	305			1.5	Si
SLU 69	1520	-340	12	-265		0.76	16	0.66	294			23.92	Si
SLU 48	1340	-900	188	3850		2.88	11.16	0.94	294			1.56	Si
SLU 48	1520	-314	5	-92		0.7	16	0.65	291			62.94	Si
SLU 29	1340	-881	204	4170		3.21	9.8	0.98	270			1.32	Si
SLU 29	1520	-232	35	-801		0.61	13.63	0.64	243			6.99	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 1	1340	-926	188	5413		5.11	6.47	1.63	294			1.57	Si
SLD 1	1520	57	6	-203		0	0	0.83	0			0	No, Vu<V
SLV 14	1340	428	-548	-6103		0	0	0.83	0			0	No, Vu<V
SLV 14	1520	-693	-159	3261		2.5	9.88	1.33	369			2.32	Si
SLV 7	1340	77	572	-3424		0	0	0.83	0			0	No, Vu<V
SLV 7	1520	-270	194	-3207		0	0	0.83	0			0	No, Vu<V
SLV 12	1340	706	293	-8791		0	0	0.83	0			0	No, Vu<V
SLV 12	1520	-603	138	-1975		1.52	14.18	1.14	452			3.26	Si
SLV 9	1340	-849	-500	4978		4.73	6.42	1.63	292			0.58	No, Vu<V
SLV 9	1520	-142	-220	3869		0	0	0.83	0			0	No, Vu<V
SLV 6	1340	-1478	-221	10345		17.6	3	1.63	136			0.62	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	1520	191	-164	2638		0	0	0.83	0			0	No, Vu<V
SLV 8	1340	77	572	-3424		0	0	0.83	0			0	No, Vu<V
SLV 8	1520	-270	194	-3207		0	0	0.83	0			0	No, Vu<V
SLV 13	1340	428	-548	-6103		0	0	0.83	0			0	No, Vu<V
SLV 13	1520	-693	-159	3261		2.5	9.88	1.33	369			2.32	Si
SLV 11	1340	706	293	-8791		0	0	0.83	0			0	No, Vu<V
SLV 11	1520	-603	138	-1975		1.52	14.18	1.14	452			3.26	Si
SLV 10	1340	-849	-500	4978		4.73	6.42	1.63	292			0.58	No, Vu<V
SLV 10	1520	-142	-220	3869		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.53	0	3	1817	0	0	No, Trazione
SLV 12	14	0.53	0	336	1817	0	0	No, Trazione
SLV 15	14	0.53	0	3	1817	0	0	No, Trazione
SLV 11	14	0.53	0	336	1817	0	0	No, Trazione
SLV 8	14	0.53	0	262	1817	0	0	No, Trazione
SLV 7	14	0.53	0	262	1817	0	0	No, Trazione
SLV 3	14	0.53	0.54	-243	1817	3249	1.79	Si
SLV 4	14	0.53	0.54	-243	1817	3249	1.79	Si
SLV 13	14	0.53	0.8	-356	1817	4665	2.57	Si
SLV 14	14	0.53	0.8	-356	1817	4665	2.57	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-123	-712	36	0	0.342	0.889	0	1930.074	No
SLV 1	-23	-545	-15	0	0.266	0.939	0	979.113	No
SLV 3	18	-258	-53	0	0	0	0	979.113	No, Trazione
SLV 10	-167	-568	43	0	0.383	0.891	0	1930.074	No
SLV 9	-167	-568	43	0	0.383	0.891	0	1930.074	No
SLV 2	-23	-545	-15	0	0.266	0.939	0	979.113	No
SLV 7	14	245	-90	0	0	0	0	1930.074	No, Trazione
SLV 4	18	-258	-53	0	0	0	0	979.113	No, Trazione
SLV 8	14	245	-90	0	0	0	0	1930.074	No, Trazione
SLV 5	-123	-712	36	0	0.342	0.889	0	1930.074	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.282	SLU 29	Si
V_SLU	1.32	SLU 29	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 16	No

Maschio 197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1961.8	104.6	-1961.8	581.1	L6	L7	476.5	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 72	1250	-16835	613874	2.52	2768434	4.51	Si
SLU 72	1566	-5125	898218	0.77	1105961	1.231	Si
SLU 17	1250	-13858	530617	2.08	2459815	4.636	Si
SLU 17	1566	-4307	760353	0.65	944921	1.243	Si
SLU 9	1250	-13441	534800	2.01	2410288	4.507	Si
SLU 9	1566	-4329	763844	0.65	949280	1.243	Si
SLU 71	1250	-16794	628505	2.52	2764731	4.399	Si
SLU 71	1566	-5105	894667	0.77	1101992	1.232	Si
SLU 38	1250	-15665	635991	2.35	2656397	4.177	Si
SLU 38	1566	-4971	879151	0.75	1075947	1.224	Si
SLU 79	1250	-17212	624322	2.58	2801976	4.488	Si
SLU 79	1566	-5083	891176	0.76	1097781	1.232	Si
SLU 37	1250	-15624	650621	2.34	2652276	4.077	Si
SLU 37	1566	-4950	875600	0.74	1071950	1.224	Si
SLU 80	1250	-17252	609692	2.59	2805530	4.602	Si
SLU 80	1566	-5104	894727	0.77	1101754	1.231	Si
SLU 29	1250	-15206	654804	2.28	2609216	3.985	Si
SLU 29	1566	-4972	879091	0.75	1076186	1.224	Si
SLU 30	1250	-15247	640174	2.29	2613486	4.082	Si
SLU 30	1566	-4992	882642	0.75	1080179	1.224	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 5	1250	-7157	-86132	1.07	1555418	18.059	Si
SLV 5	1566	-1924	549104	0	0	0	No, $e > l/2$
SLV 9	1250	-6993	-137646	1.05	1523141	11.066	Si
SLV 9	1566	-2123	630419	0	0	0	No, $e > l/2$
SLV 7	1250	-8991	260996	1.35	1905965	7.303	Si
SLV 7	1566	-645	-189152	0	0	0	No, $e > l/2$
SLD 10	1250	-7578	-20080	1.14	1637668	81.558	Si
SLD 10	1566	-1681	388740	0.25	392183	1.009	Si
SLV 13	1250	-7444	-76252	1.12	1611548	21.135	Si
SLV 13	1566	-1909	466896	0	0	0	No, $e > l/2$
SLV 14	1250	-7444	-76252	1.12	1611548	21.135	Si
SLV 14	1566	-1909	466896	0	0	0	No, $e > l/2$
SLV 6	1250	-7157	-86132	1.07	1555418	18.059	Si
SLV 6	1566	-1924	549104	0	0	0	No, $e > l/2$
SLV 10	1250	-6993	-137646	1.05	1523141	11.066	Si
SLV 10	1566	-2123	630419	0	0	0	No, $e > l/2$
SLD 9	1250	-7578	-20080	1.14	1637668	81.558	Si
SLD 9	1566	-1681	388740	0.25	392183	1.009	Si
SLV 8	1250	-8991	260996	1.35	1905965	7.303	Si
SLV 8	1566	-645	-189152	0	0	0	No, $e > l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 50	1250	-14987	-104	523131		2.25	476.52	0.86	5705			54.8	Si
SLU 50	1566	-4442	-351	775868		1.66	190.72	0.78	2076			5.91	Si
SLU 68	1250	-13840	-128	345787		2.07	476.52	0.83	5552			43.43	Si
SLU 68	1566	-3585	-329	614283		1.28	200.75	0.73	2039			6.2	Si
SLU 70	1250	-16591	-33	549030		2.49	476.52	0.89	5918			179.05	Si
SLU 70	1566	-4904	-350	845089		1.77	197.76	0.79	2192			6.26	Si
SLU 51	1250	-15028	-203	508501		2.25	476.52	0.86	5710			28.13	Si
SLU 51	1566	-4462	-403	779419		1.67	190.75	0.78	2079			5.16	Si
SLU 47	1250	-12034	-261	240414		1.8	476.52	0.8	5311			20.31	Si
SLU 47	1566	-2922	-356	495485		1.01	206.07	0.69	1992			5.6	Si
SLU 72	1250	-16835	-69	613874		2.52	476.52	0.89	5951			85.78	Si
SLU 72	1566	-5125	-376	898218		1.94	189.01	0.81	2153			5.73	Si
SLU 49	1250	-14785	-167	443657		2.22	476.52	0.85	5678			34.06	Si
SLU 49	1566	-4241	-377	726291		1.51	200.95	0.76	2128			5.65	Si
SLU 7	1250	-13197	-111	469956		1.98	476.52	0.82	5466			49.3	Si
SLU 7	1566	-4108	-326	710716		1.5	195.69	0.76	2070			6.34	Si
SLU 9	1250	-13441	-147	534800		2.01	476.52	0.82	5498			37.35	Si
SLU 9	1566	-4329	-352	763844		1.67	185.45	0.78	2020			5.73	Si
SLU 5	1250	-10446	-206	266713		1.57	476.52	0.76	5099			24.79	Si
SLU 5	1566	-2789	-305	479909		1	198.57	0.69	1916			6.28	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 9	1250	-7578	-2594	-20080		1.14	476.52	1.06	7075			2.73	Si
SLD 9	1566	-1681	-1299	388740		5.75	20.88	1.63	475			0.37	No, $V_u < V$
SLV 7	1250	-8991	6342	260996		1.35	476.52	1.1	7358			1.16	Si
SLV 7	1566	-645	2760	-189152		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1250	-6993	-6226	-137646		1.05	476.52	1.04	6958			1.12	Si
SLV 10	1566	-2123	-2974	630419		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1250	-7157	-5136	-86132		1.07	476.52	1.05	6991			1.36	Si
SLV 6	1566	-1924	-2287	549104		0	0	0.83	0			0	No, $V_u < V$
SLD 10	1250	-7578	-2594	-20080		1.14	476.52	1.06	7075			2.73	Si
SLD 10	1566	-1681	-1299	388740		5.75	20.88	1.63	475			0.37	No, $V_u < V$
SLV 13	1250	-7444	-3480	-76252		1.12	476.52	1.06	7048			2.03	Si
SLV 13	1566	-1909	-2008	466896		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1250	-6993	-6226	-137646		1.05	476.52	1.04	6958			1.12	Si
SLV 9	1566	-2123	-2974	630419		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1250	-8991	6342	260996		1.35	476.52	1.1	7358			1.16	Si
SLV 8	1566	-645	2760	-189152		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1250	-7444	-3480	-76252		1.12	476.52	1.06	7048			2.03	Si
SLV 14	1566	-1909	-2008	466896		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1250	-7157	-5136	-86132		1.07	476.52	1.05	6991			1.36	Si
SLV 5	1566	-1924	-2287	549104		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.53	0	-4080	28952	0	0	No, $e > t/2$
SLV 12	14	0.53	0	-4080	28952	0	0	No, $e > t/2$
SLV 1	14	0.53	0	-3990	28952	0	0	No, $e > t/2$
SLV 3	14	0.53	0	-3623	28952	0	0	No, $e > t/2$
SLV 2	14	0.53	0	-3990	28952	0	0	No, $e > t/2$
SLV 4	14	0.53	0	-3623	28952	0	0	No, $e > t/2$
SLV 8	14	0.53	0	-3672	28952	0	0	No, $e > t/2$
SLV 7	14	0.53	0	-3672	28952	0	0	No, $e > t/2$
SLV 5	14	0.53	0.73	-4895	28952	32209	1.11	Si
SLV 6	14	0.53	0.73	-4895	28952	32209	1.11	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-2123	-6993	13	0.029	5.364	0.889	47.863	2129.563	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 10	-2123	-6993	13	0.029	5.364	0.889	47.863	2129.563	No
SLV 5	-1924	-7157	14	0.03	5.181	0.889	48.244	2129.563	No
SLV 6	-1924	-7157	14	0.03	5.181	0.889	48.244	2129.563	No
SLV 13	-1909	-7444	5	0.032	5.168	0.889	52.234	2071.149	No
SLV 14	-1909	-7444	5	0.032	5.168	0.889	52.234	2071.149	No
SLV 12	-845	-8827	-9	0.034	4.274	0.904	54.803	2129.563	No
SLV 11	-845	-8827	-9	0.034	4.274	0.904	54.803	2129.563	No
SLV 1	-1243	-7990	7	0.033	4.587	0.893	54.372	2071.149	No
SLV 2	-1243	-7990	7	0.033	4.587	0.893	54.372	2071.149	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.224	SLU 30	Si
V_SLU	5.163	SLU 51	Si
PF_SLV	0	SLV 5	No
V_SLV	0	SLV 5	No
PFFP_SLV	0	SLV 1	No
R_SLV	0.022	SLV 9	No

Maschio 198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1961.8	581.1	-1961.8	652.1	L6	L7	71	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 80	1250	-10394	-2185	5.23	132156	60.486	Si
SLU 80	1566	-11502	67669	5.79	118305	1.748	Si
SLU 71	1250	-10340	-1751	5.2	132693	75.762	Si
SLU 71	1566	-11320	60883	5.69	120945	1.987	Si
SLU 36	1250	-9537	-1958	4.8	139177	71.066	Si
SLU 36	1566	-10821	63017	5.44	127452	2.023	Si
SLU 37	1250	-10033	-1593	5.05	135507	85.073	Si
SLU 37	1566	-11346	61156	5.71	120580	1.972	Si
SLU 77	1250	-10011	-2137	5.04	135687	63.492	Si
SLU 77	1566	-11030	62989	5.55	124864	1.982	Si
SLU 30	1250	-9865	-1573	4.96	136867	87.021	Si
SLU 30	1566	-11112	60911	5.59	123799	2.032	Si
SLU 72	1250	-10283	-1958	5.17	133244	68.046	Si
SLU 72	1566	-11294	64153	5.68	121316	1.891	Si
SLU 38	1250	-9976	-1800	5.02	135982	75.564	Si
SLU 38	1566	-11320	64426	5.69	120954	1.877	Si
SLU 79	1250	-10451	-1978	5.26	131577	66.514	Si
SLU 79	1566	-11528	64399	5.8	117910	1.831	Si
SLU 78	1250	-9955	-2344	5.01	136157	58.093	Si
SLU 78	1566	-11004	66259	5.53	125201	1.89	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 14	1250	-2175	-4683	1.09	70294	15.01	Si
SLV 14	1566	-872	-17927	0.44	29844	1.665	Si
SLV 1	1250	-3689	-901	1.86	111072	123.257	Si
SLV 1	1566	-4852	56703	2.44	137836	2.431	Si
SLV 2	1250	-3689	-901	1.86	111072	123.257	Si
SLV 2	1566	-4852	56703	2.44	137836	2.431	Si
SLD 4	1250	-3823	-165	1.92	114351	692.26	Si
SLD 4	1566	-3918	42793	1.97	116644	2.726	Si
SLV 4	1250	-4506	1653	2.27	130292	78.822	Si
SLV 4	1566	-5167	67083	2.6	144410	2.153	Si
SLV 13	1250	-2175	-4683	1.09	70294	15.01	Si
SLV 13	1566	-872	-17927	0.44	29844	1.665	Si
SLD 3	1250	-3823	-165	1.92	114351	692.26	Si
SLD 3	1566	-3918	42793	1.97	116644	2.726	Si
SLV 8	1250	-4929	3309	2.48	139482	42.15	Si
SLV 8	1566	-4142	53073	2.08	121963	2.298	Si
SLV 3	1250	-4506	1653	2.27	130292	78.822	Si
SLV 3	1566	-5167	67083	2.6	144410	2.153	Si
SLV 7	1250	-4929	3309	2.48	139482	42.15	Si
SLV 7	1566	-4142	53073	2.08	121963	2.298	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 38	1250	-9976	-475	-1800		5.02	71	1.08	2154			4.53	Si
SLU 38	1566	-11320	101	64426		5.69	71	1.08	2154			21.32	Si
SLU 71	1250	-10340	-464	-1751		5.2	71	1.08	2154			4.64	Si
SLU 71	1566	-11320	53	60883		5.69	71	1.08	2154			40.88	Si



Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	1250	-10283	-467	-1958		5.17	71	1.08	2154			4.61	Si
SLU 72	1566	-11294	-1	64153		5.68	71	1.08	2154			1000	Si
SLU 35	1250	-9593	-461	-1752		4.83	71	1.08	2154			4.67	Si
SLU 35	1566	-10848	168	59747		5.46	71	1.08	2154			12.79	Si
SLU 78	1250	-9955	-483	-2344		5.01	71	1.08	2154			4.46	Si
SLU 78	1566	-11004	92	66259		5.53	71	1.08	2154			23.31	Si
SLU 79	1250	-10451	-491	-1978		5.26	71	1.08	2154			4.39	Si
SLU 79	1566	-11528	132	64399		5.8	71	1.08	2154			16.26	Si
SLU 77	1250	-10011	-480	-2137		5.04	71	1.08	2154			4.49	Si
SLU 77	1566	-11030	146	62989		5.55	71	1.08	2154			14.74	Si
SLU 80	1250	-10394	-494	-2185		5.23	71	1.08	2154			4.36	Si
SLU 80	1566	-11502	79	67669		5.79	71	1.08	2154			27.35	Si
SLU 37	1250	-10033	-472	-1593		5.05	71	1.08	2154			4.56	Si
SLU 37	1566	-11346	155	61156		5.71	71	1.08	2154			13.92	Si
SLU 36	1250	-9537	-464	-1958		4.8	71	1.08	2154			4.64	Si
SLU 36	1566	-10821	115	63017		5.44	71	1.08	2154			18.79	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	αN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	1250	-2992	70	-2129		1.5	71	1.13	2255			32.35	Si
SLV 15	1566	-1187	-1402	-7546		0.6	71	0.95	1894			1.35	Si
SLV 7	1250	-4929	238	3309		2.48	71	1.33	2643			11.11	Si
SLV 7	1566	-4142	2364	53073		2.17	68.06	1.27	2416			1.02	Si
SLV 3	1250	-4506	-142	1653		2.27	71	1.29	2558			18.05	Si
SLV 3	1566	-5167	2521	67083		2.73	67.55	1.38	2610			1.04	Si
SLV 13	1250	-2175	-192	-4683		1.09	71	1.05	2092			10.88	Si
SLV 13	1566	-872	-2444	-17927		0.69	44.82	0.97	1220			0.5	No, Vu<V
SLV 8	1250	-4929	238	3309		2.48	71	1.33	2643			11.11	Si
SLV 8	1566	-4142	2364	53073		2.17	68.06	1.27	2416			1.02	Si
SLV 10	1250	-1752	-572	-6339		0.88	71	1.01	2007			3.51	Si
SLV 10	1566	-1897	-2287	-3916		0.95	71	1.02	2036			0.89	No, Vu<V
SLV 14	1250	-2175	-192	-4683		1.09	71	1.05	2092			10.88	Si
SLV 14	1566	-872	-2444	-17927		0.69	44.82	0.97	1220			0.5	No, Vu<V
SLV 16	1250	-2992	70	-2129		1.5	71	1.13	2255			32.35	Si
SLV 16	1566	-1187	-1402	-7546		0.6	71	0.95	1894			1.35	Si
SLV 9	1250	-1752	-572	-6339		0.88	71	1.01	2007			3.51	Si
SLV 9	1566	-1897	-2287	-3916		0.95	71	1.02	2036			0.89	No, Vu<V
SLV 4	1250	-4506	-142	1653		2.27	71	1.29	2558			18.05	Si
SLV 4	1566	-5167	2521	67083		2.73	67.55	1.38	2610			1.04	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.53	0.83	-1653	8252	21570	2.61	Si
SLV 9	14	0.53	0.83	-1653	8252	21570	2.61	Si
SLV 14	14	0.53	0.98	-1958	8252	25204	3.05	Si
SLV 13	14	0.53	0.98	-1958	8252	25204	3.05	Si
SLV 5	14	0.53	1.14	-2269	8252	28794	3.49	Si
SLV 6	14	0.53	1.14	-2269	8252	28794	3.49	Si
SLV 15	14	0.53	1.43	-2835	8252	35055	4.25	Si
SLV 16	14	0.53	1.43	-2835	8252	35055	4.25	Si
SLV 2	14	0.53	2.02	-4009	8252	46865	5.68	Si
SLV 1	14	0.53	2.02	-4009	8252	46865	5.68	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 16	-1187	-2992	181	0	2.13	0.901	0	979.113	No
SLV 14	-872	-2175	159	0	1.824	0.893	0	979.113	No
SLV 13	-872	-2175	159	0	1.824	0.893	0	979.113	No
SLV 15	-1187	-2992	181	0	2.13	0.901	0	979.113	No
SLV 5	-3091	-2206	-90	0.027	4.04	0.939	41.243	1930.074	No
SLV 6	-3091	-2206	-90	0.027	4.04	0.939	41.243	1930.074	No
SLV 11	-2948	-4475	87	0.027	3.895	0.937	41.491	1930.074	No
SLV 12	-2948	-4475	87	0.027	3.895	0.937	41.491	1930.074	No
SLV 2	-4852	-3689	-184	0.015	5.826	0.955	22.813	979.113	No
SLV 1	-4852	-3689	-184	0.015	5.826	0.955	22.813	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.748	SLU 80	Si
V_SLU	4.36	SLU 80	Si
PF_SLV	1.665	SLV 13	Si
V_SLV	0.499	SLV 13	No
PFFP_SLV	2.614	SLV 9	Si
R_SLV	0	SLV 13	No

Maschio 199

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1844.8	-335.9	-1844.8	104.6	L6	L7	440.6	14	316	316	316			

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Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 29	1250	-7061	310579	1.14	1336806	4.304	Si
SLU 29	1566	-1998	-398715	0.32	422545	1.06	Si
SLU 38	1250	-7505	345914	1.22	1406356	4.066	Si
SLU 38	1566	-2059	-416371	0.33	434891	1.044	Si
SLU 17	1250	-6811	312144	1.1	1296904	4.155	Si
SLU 17	1566	-1801	-357791	0.29	382607	1.069	Si
SLU 30	1250	-7036	335876	1.14	1332804	3.968	Si
SLU 30	1566	-2072	-415782	0.34	437658	1.053	Si
SLU 8	1250	-6366	276809	1.03	1224644	4.424	Si
SLU 8	1566	-1740	-340136	0.28	370122	1.088	Si
SLU 37	1250	-7531	320616	1.22	1410253	4.399	Si
SLU 37	1566	-1984	-399304	0.32	419769	1.051	Si
SLU 9	1250	-6341	302106	1.03	1220489	4.04	Si
SLU 9	1566	-1815	-357203	0.29	385404	1.079	Si
SLU 80	1250	-8896	386444	1.44	1612639	4.173	Si
SLU 80	1566	-2129	-414306	0.35	449190	1.084	Si
SLU 36	1250	-7764	349811	1.26	1445960	4.134	Si
SLU 36	1566	-1999	-388580	0.32	422753	1.088	Si
SLU 16	1250	-6836	286846	1.11	1300955	4.535	Si
SLU 16	1566	-1727	-340725	0.28	367316	1.078	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 6	1250	-5932	88012	0.96	1203803	13.678	Si
SLV 6	1566	89	242534	0	0	0	No, Trazione
SLD 11	1250	-5700	225741	0.92	1160573	5.141	Si
SLD 11	1566	-883	-207005	0	0	0	No, e>l/2
SLV 5	1250	-5932	88012	0.96	1203803	13.678	Si
SLV 5	1566	89	242534	0	0	0	No, Trazione
SLV 10	1250	-5790	155267	0.94	1177391	7.583	Si
SLV 10	1566	-92	239959	0	0	0	No, e>l/2
SLV 8	1250	-5733	217160	0.93	1166755	5.373	Si
SLV 8	1566	-1107	-393901	0	0	0	No, e>l/2
SLV 4	1250	-5968	93493	0.97	1210539	12.948	Si
SLV 4	1566	-478	-168144	0	0	0	No, e>l/2
SLD 12	1250	-5700	225741	0.92	1160573	5.141	Si
SLD 12	1566	-883	-207005	0	0	0	No, e>l/2
SLV 3	1250	-5968	93493	0.97	1210539	12.948	Si
SLV 3	1566	-478	-168144	0	0	0	No, e>l/2
SLV 7	1250	-5733	217160	0.93	1166755	5.373	Si
SLV 7	1566	-1107	-393901	0	0	0	No, e>l/2
SLV 9	1250	-5790	155267	0.94	1177391	7.583	Si
SLV 9	1566	-92	239959	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 17	1250	-6811	1076	312144		1.1	440.57	0.7	4335			4.03	Si
SLU 17	1566	-1801	2051	-357791		1.98	65.02	0.82	746			0.36	No, Vu<V
SLU 72	1250	-8426	1280	376407		1.37	440.57	0.74	4550			3.55	Si
SLU 72	1566	-2143	2390	-413717		1.87	81.71	0.81	921			0.39	No, Vu<V
SLU 37	1250	-7531	1209	320616		1.22	440.57	0.72	4431			3.66	Si
SLU 37	1566	-1984	2127	-399304		2.48	57.04	0.89	708			0.33	No, Vu<V
SLU 36	1250	-7764	1149	349811		1.26	440.57	0.72	4462			3.88	Si
SLU 36	1566	-1999	2208	-388580		1.84	77.58	0.8	870			0.39	No, Vu<V
SLU 80	1250	-8896	1272	386444		1.44	440.57	0.75	4613			3.63	Si
SLU 80	1566	-2129	2384	-414306		1.97	77.16	0.82	884			0.37	No, Vu<V
SLU 9	1250	-6341	1084	302106		1.03	440.57	0.69	4272			3.94	Si
SLU 9	1566	-1815	2057	-357203		1.84	70.49	0.8	790			0.38	No, Vu<V
SLU 30	1250	-7036	1225	335876		1.14	440.57	0.71	4365			3.56	Si
SLU 30	1566	-2072	2334	-415782		2.51	58.93	0.89	735			0.31	No, Vu<V
SLU 28	1250	-7294	1157	339774		1.18	440.57	0.71	4399			3.8	Si
SLU 28	1566	-2012	2215	-387992		1.74	82.43	0.79	909			0.41	No, Vu<V
SLU 29	1250	-7061	1217	310579		1.14	440.57	0.71	4368			3.59	Si
SLU 29	1566	-1998	2133	-398715		2.3	62.06	0.86	749			0.35	No, Vu<V
SLU 38	1250	-7505	1217	345914		1.22	440.57	0.72	4427			3.64	Si
SLU 38	1566	-2059	2328	-416371		2.72	54.07	0.92	695			0.3	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 12	1250	-5700	2568	225741		0.92	440.57	1.02	6280			2.45	Si
SLD 12	1566	-883	1920	-207005		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	-5790	4317	155267		0.94	440.57	1.02	6298			1.46	Si
SLV 9	1566	-92	2553	239959		0	0	0.83	0			0	No, Vu<V
SLV 4	1250	-5968	894	93493		0.97	440.57	1.03	6334			7.08	Si
SLV 4	1566	-478	1285	-168144		0	0	0.83	0			0	No, Vu<V
SLV 3	1250	-5968	894	93493		0.97	440.57	1.03	6334			7.08	Si
SLV 3	1566	-478	1285	-168144		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	-5790	4317	155267		0.94	440.57	1.02	6298			1.46	Si
SLV 10	1566	-92	2553	239959		0	0	0.83	0			0	No, Vu<V
SLV 7	1250	-5733	5083	217160		0.93	440.57	1.02	6287			1.24	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1566	-1107	3716	-393901		0	0	0.83	0			0	No, Vu<V
SLV 8	1250	-5733	5083	217160		0.93	440.57	1.02	6287			1.24	Si
SLV 8	1566	-1107	3716	-393901		0	0	0.83	0			0	No, Vu<V
SLV 5	1250	-5932	-4910	88012		0.96	440.57	1.03	6326			1.29	Si
SLV 5	1566	89	-2709	242534		0	0	0.83	0			0	No, Vu<V
SLD 11	1250	-5700	2568	225741		0.92	440.57	1.02	6280			2.45	Si
SLD 11	1566	-883	1920	-207005		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	-5932	-4910	88012		0.96	440.57	1.03	6326			1.29	Si
SLV 6	1566	89	-2709	242534		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.53	0	-2654	26768	0	0	No, e>t/2
SLV 10	14	0.53	0	-2654	26768	0	0	No, e>t/2
SLV 8	14	0.53	0	-3406	26768	0	0	No, e>t/2
SLV 6	14	0.53	0	-2541	26768	0	0	No, e>t/2
SLV 7	14	0.53	0	-3406	26768	0	0	No, e>t/2
SLV 1	14	0.53	0	-2712	26768	0	0	No, e>t/2
SLV 2	14	0.53	0	-2712	26768	0	0	No, e>t/2
SLV 5	14	0.53	0	-2541	26768	0	0	No, e>t/2
SLV 4	14	0.53	0	-2971	26768	0	0	No, e>t/2
SLV 3	14	0.53	0	-2971	26768	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	89	-5932	7	0	0	0	0	2129.563	No, Trazione
SLV 6	89	-5932	7	0	0	0	0	2129.563	No, Trazione
SLV 15	-1080	-5495	-27	0.026	4.184	0.895	42.969	2071.149	No
SLV 16	-1080	-5495	-27	0.026	4.184	0.895	42.969	2071.149	No
SLV 2	-119	-6028	27	0.029	3.591	0.971	42.97	2071.149	No
SLV 1	-119	-6028	27	0.029	3.591	0.971	42.97	2071.149	No
SLV 13	-721	-5554	-27	0.027	3.908	0.906	43.181	2071.149	No
SLV 14	-721	-5554	-27	0.027	3.908	0.906	43.181	2071.149	No
SLV 4	-478	-5968	27	0.028	3.748	0.922	43.336	2071.149	No
SLV 3	-478	-5968	27	0.028	3.748	0.922	43.336	2071.149	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.044	SLU 38	Si
V_SLU	0.299	SLU 38	No
PF_SLV	0	SLV 6	No
V_SLV	0	SLD 7	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 6	No

Maschio 200

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.8	220.1	-1505.8	666.1	L6	L7	446	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fV0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 72	1250	-7555	30226	1.21	1434460	47.459	Si
SLU 72	1566	-2175	398197	0.35	464262	1.166	Si
SLU 8	1250	-5500	36289	0.88	1093787	30.141	Si
SLU 8	1566	-1812	335309	0.29	389745	1.162	Si
SLU 71	1250	-7554	30758	1.21	1434354	46.634	Si
SLU 71	1566	-2175	398242	0.35	464310	1.166	Si
SLU 38	1250	-6824	25817	1.09	1317545	51.034	Si
SLU 38	1566	-2158	396151	0.35	460759	1.163	Si
SLU 9	1250	-5500	35757	0.88	1093904	30.593	Si
SLU 9	1566	-1812	335265	0.29	389696	1.162	Si
SLU 17	1250	-6113	25147	0.98	1199438	47.697	Si
SLU 17	1566	-1841	339762	0.29	395732	1.165	Si
SLU 16	1250	-6113	25679	0.98	1199324	46.704	Si
SLU 16	1566	-1841	339807	0.29	395780	1.165	Si
SLU 29	1250	-6210	36959	0.99	1215718	32.894	Si
SLU 29	1566	-2129	391698	0.34	454853	1.161	Si
SLU 30	1250	-6210	36427	0.99	1215831	33.378	Si
SLU 30	1566	-2129	391653	0.34	454805	1.161	Si
SLU 37	1250	-6823	26350	1.09	1317435	49.998	Si
SLU 37	1566	-2158	396195	0.35	460807	1.163	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 1	1250	-6445	-53848	1.03	1315754	24.434	Si
SLV 1	1566	-710	133816	0.11	156874	1.172	Si
SLD 9	1250	-5245	12515	0.84	1089144	87.03	Si
SLD 9	1566	-432	78105	0.07	95730	1.226	Si
SLV 9	1250	-4660	61972	0.75	975756	15.745	Si
SLV 9	1566	-186	37924	0.03	41301	1.089	Si
SLV 2	1250	-6445	-53848	1.03	1315754	24.434	Si
SLV 2	1566	-710	133816	0.11	156874	1.172	Si
SLD 5	1250	-5496	-756	0.88	1137377	1000	Si
SLD 5	1566	-483	90074	0.08	107051	1.188	Si
SLV 6	1250	-5253	30860	0.84	1090801	35.346	Si
SLV 6	1566	-309	65382	0.05	68615	1.049	Si
SLD 6	1250	-5496	-756	0.88	1137377	1000	Si
SLD 6	1566	-483	90074	0.08	107051	1.188	Si
SLV 5	1250	-5253	30860	0.84	1090801	35.346	Si
SLV 5	1566	-309	65382	0.05	68615	1.049	Si
SLV 10	1250	-4660	61972	0.75	975756	15.745	Si
SLV 10	1566	-186	37924	0.03	41301	1.089	Si
SLD 10	1250	-5245	12515	0.84	1089144	87.03	Si
SLD 10	1566	-432	78105	0.07	95730	1.226	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	1250	-6823	753	26350		1.09	446	0.7	4379			5.82	Si
SLU 37	1566	-2158	-1332	396195		1.3	118.21	0.73	1207			0.91	No, Vu<V
SLU 59	1250	-7458	612	18946		1.19	446	0.71	4463			7.29	Si
SLU 59	1566	-1888	-1192	346306		1.14	118.6	0.71	1174			0.99	No, Vu<V
SLU 29	1250	-6210	816	36959		0.99	446	0.69	4297			5.27	Si
SLU 29	1566	-2129	-1274	391698		1.3	117	0.73	1194			0.94	No, Vu<V
SLU 72	1250	-7555	781	30226		1.21	446	0.72	4476			5.73	Si
SLU 72	1566	-2175	-1325	398197		1.3	119.73	0.73	1221			0.92	No, Vu<V
SLU 71	1250	-7554	782	30758		1.21	446	0.72	4476			5.73	Si
SLU 71	1566	-2175	-1324	398242		1.3	119.73	0.73	1221			0.92	No, Vu<V
SLU 79	1250	-8167	718	20148		1.31	446	0.73	4558			6.34	Si
SLU 79	1566	-2204	-1382	402739		1.3	120.88	0.73	1234			0.89	No, Vu<V
SLU 38	1250	-6824	751	25817		1.09	446	0.7	4379			5.83	Si
SLU 38	1566	-2158	-1333	396151		1.3	118.21	0.73	1207			0.91	No, Vu<V
SLU 80	1250	-8168	717	19616		1.31	446	0.73	4558			6.36	Si
SLU 80	1566	-2204	-1383	402694		1.3	120.88	0.73	1234			0.89	No, Vu<V
SLU 58	1250	-7457	613	19478		1.19	446	0.71	4463			7.28	Si
SLU 58	1566	-1888	-1191	346350		1.14	118.6	0.71	1174			0.99	No, Vu<V
SLU 30	1250	-6210	815	36427		0.99	446	0.69	4297			5.28	Si
SLU 30	1566	-2129	-1275	391653		1.3	117	0.73	1194			0.94	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1250	-6681	2315	-107460		1.07	446	1.05	6539			2.83	Si
SLV 7	1566	-1044	-1130	169382		0.41	182.32	0.92	2336			2.07	Si
SLD 1	1250	-6000	-501	-36275		0.96	446	1.03	6403			12.79	Si
SLD 1	1566	-653	-687	117733		0.36	128.35	0.91	1628			2.37	Si
SLV 8	1250	-6681	2315	-107460		1.07	446	1.05	6539			2.83	Si
SLV 8	1566	-1044	-1130	169382		0.41	182.32	0.92	2336			2.07	Si
SLV 2	1250	-6445	-1207	-53848		1.03	446	1.04	6492			5.38	Si
SLV 2	1566	-710	-1018	133816		0.49	103.64	0.93	1351			1.33	Si
SLV 4	1250	-6873	259	-95344		1.1	446	1.05	6578			25.38	Si
SLV 4	1566	-931	-1297	165016		0.49	137.05	0.93	1785			1.38	Si
SLV 1	1250	-6445	-1207	-53848		1.03	446	1.04	6492			5.38	Si
SLV 1	1566	-710	-1018	133816		0.49	103.64	0.93	1351			1.33	Si
SLD 2	1250	-6000	-501	-36275		0.96	446	1.03	6403			12.79	Si
SLD 2	1566	-653	-687	117733		0.36	128.35	0.91	1628			2.37	Si
SLV 5	1250	-5253	-2572	30860		0.84	446	1	6254			2.43	Si
SLV 5	1566	-309	-201	65382		0.65	34.1	0.96	460			2.29	Si
SLV 6	1250	-5253	-2572	30860		0.84	446	1	6254			2.43	Si
SLV 6	1566	-309	-201	65382		0.65	34.1	0.96	460			2.29	Si
SLV 3	1250	-6873	259	-95344		1.1	446	1.05	6578			25.38	Si
SLV 3	1566	-931	-1297	165016		0.49	137.05	0.93	1785			1.38	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.53	0	-3344	27098	0	0	No, e>t/2
SLV 7	14	0.53	0	-3136	27098	0	0	No, e>t/2
SLV 9	14	0.53	0	-2408	27098	0	0	No, e>t/2
SLV 3	14	0.53	0	-3450	27098	0	0	No, e>t/2
SLV 6	14	0.53	0	-2783	27098	0	0	No, e>t/2
SLV 5	14	0.53	0	-2783	27098	0	0	No, e>t/2
SLV 4	14	0.53	0	-3450	27098	0	0	No, e>t/2
SLV 1	14	0.53	0	-3344	27098	0	0	No, e>t/2
SLV 8	14	0.53	0	-3136	27098	0	0	No, e>t/2
SLV 10	14	0.53	0	-2408	27098	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 16	-520	-4896	-54	0.016	3.816	0.919	24.618	2071.149	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 15	-520	-4896	-54	0.016	3.816	0.919	24.618	2071.149	No
SLV 13	-299	-4468	-52	0.016	3.697	0.942	24.8	2071.149	No
SLV 14	-299	-4468	-52	0.016	3.697	0.942	24.8	2071.149	No
SLV 2	-710	-6445	55	0.016	3.942	0.907	25.514	2071.149	No
SLV 1	-710	-6445	55	0.016	3.942	0.907	25.514	2071.149	No
SLV 3	-931	-6873	52	0.017	4.106	0.899	28.067	2071.149	No
SLV 4	-931	-6873	52	0.017	4.106	0.899	28.067	2071.149	No
SLV 11	-921	-6088	-20	0.029	4.098	0.899	47.427	2129.563	No
SLV 12	-921	-6088	-20	0.029	4.098	0.899	47.427	2129.563	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.161	SLU 29	Si
V_SLU	0.892	SLU 80	No
PF_SLV	1.049	SLV 5	Si
V_SLV	1.327	SLV 1	Si
PFFP_SLV	0	SLV 1	No
R_SLV	0.012	SLV 15	No

Maschio 201

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-35.4	-1375.3	-22.8	L6	L7	12.6	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	μ	ϕ	fv,lim	E	G	FC	
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 56	1250	-216	310	0.61	1258	4.058	Si
SLU 56	1460	-26	-371	0	0	0	No, e>l/2
SLU 1	1250	-204	-161	0.58	1191	7.418	Si
SLU 1	1460	-28	-489	0	0	0	No, e>l/2
SLU 61	1250	-193	366	0.55	1132	3.095	Si
SLU 61	1460	-29	-612	0	0	0	No, e>l/2
SLU 54	1250	-214	237	0.61	1242	5.23	Si
SLU 54	1460	-29	-518	0	0	0	No, e>l/2
SLU 57	1250	-215	298	0.61	1249	4.19	Si
SLU 57	1460	-26	-387	0	0	0	No, e>l/2
SLU 58	1250	-218	315	0.62	1267	4.029	Si
SLU 58	1460	-25	-353	0	0	0	No, e>l/2
SLU 55	1250	-214	234	0.61	1246	5.32	Si
SLU 55	1460	-29	-510	0	0	0	No, e>l/2
SLU 60	1250	-195	378	0.55	1141	3.021	Si
SLU 60	1460	-28	-596	0	0	0	No, e>l/2
SLU 53	1250	-215	249	0.61	1251	5.017	Si
SLU 53	1460	-28	-502	0	0	0	No, e>l/2
SLU 59	1250	-217	303	0.62	1258	4.158	Si
SLU 59	1460	-26	-369	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 58	1250	-218	1	315	0.62	12.57	0.64	225	0	0	352.65	0	Si
SLU 58	1460	-25	-9	-353	0	0	0.56	0	0	0	0	0	No, Vu<V
SLU 53	1250	-215	1	249	0.61	12.57	0.64	224	0	0	151.61	0	Si
SLU 53	1460	-28	5	-502	0	0	0.56	0	0	0	0	0	No, Vu<V
SLU 1	1250	-204	0	-161	0.58	12.57	0.63	223	0	0	453.74	0	Si
SLU 1	1460	-28	-2	-489	0	0	0.56	0	0	0	0	0	No, Vu<V
SLU 60	1250	-195	3	378	0.55	12.57	0.63	221	0	0	73.62	0	Si
SLU 60	1460	-28	22	-596	0	0	0.56	0	0	0	0	0	No, Vu<V
SLU 61	1250	-193	3	366	0.55	12.57	0.63	221	0	0	70.07	0	Si
SLU 61	1460	-29	23	-612	0	0	0.56	0	0	0	0	0	No, Vu<V
SLU 59	1250	-217	1	303	0.62	12.57	0.64	224	0	0	285.3	0	Si
SLU 59	1460	-26	-8	-369	0	0	0.56	0	0	0	0	0	No, Vu<V
SLU 54	1250	-214	2	237	0.61	12.57	0.64	224	0	0	137.55	0	Si
SLU 54	1460	-29	6	-518	0	0	0.56	0	0	0	0	0	No, Vu<V
SLU 57	1250	-215	1	298	0.61	12.57	0.64	224	0	0	287.78	0	Si
SLU 57	1460	-26	-6	-387	0	0	0.56	0	0	0	0	0	No, Vu<V
SLU 55	1250	-214	2	234	0.61	12.57	0.64	224	0	0	129.1	0	Si
SLU 55	1460	-29	4	-510	0	0	0.56	0	0	0	0	0	No, Vu<V
SLU 56	1250	-216	1	310	0.61	12.57	0.64	224	0	0	356.54	0	Si
SLU 56	1460	-26	-7	-371	0	0	0.56	0	0	0	0	0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.53	0	-65	1461	0	0	No, e>t/2
SLV 12	14	0.53	0	124	1461	0	0	No, Trazione

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Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.53	0	126	1461	0	0	No, Trazione
SLV 11	14	0.53	0	124	1461	0	0	No, Trazione
SLV 3	14	0.53	0	-65	1461	0	0	No, e>t/2
SLV 15	14	0.53	0	-73	1461	0	0	No, e>t/2
SLV 7	14	0.53	0	126	1461	0	0	No, Trazione
SLV 16	14	0.53	0	-73	1461	0	0	No, e>t/2
SLV 1	14	0.53	0.66	-232	1461	3068	2.1	Si
SLV 2	14	0.53	0.66	-232	1461	3068	2.1	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 13	57	-196	-2	0	0	0	0	979.113	No, Trazione
SLV 9	174	-263	-1	0	0	0	0	1930.074	No, Trazione
SLV 5	187	-273	0	0	0	0	0	1930.074	No, Trazione
SLV 3	12	-185	2	0	0	0	0	979.113	No, Trazione
SLV 4	12	-185	2	0	0	0	0	979.113	No, Trazione
SLV 14	57	-196	-2	0	0	0	0	979.113	No, Trazione
SLV 1	100	-232	2	0	0	0	0	979.113	No, Trazione
SLV 6	187	-273	0	0	0	0	0	1930.074	No, Trazione
SLV 2	100	-232	2	0	0	0	0	979.113	No, Trazione
SLV 10	174	-263	-1	0	0	0	0	1930.074	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 14	No

Maschio 202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	67.2	-1375.3	104.6	L6	L7	37.4	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 37	1250	-1589	4718	1.52	24204	5.13	Si
SLU 37	1460	-1065	2866	1.02	17446	6.088	Si
SLU 36	1250	-1636	4982	1.56	24751	4.968	Si
SLU 36	1460	-1112	3129	1.06	18102	5.786	Si
SLU 7	1250	-1440	4028	1.37	22402	5.561	Si
SLU 7	1460	-973	3035	0.93	16141	5.318	Si
SLU 6	1250	-1431	4181	1.37	22289	5.331	Si
SLU 6	1460	-963	3158	0.92	15983	5.061	Si
SLU 69	1250	-1884	5262	1.8	27475	5.222	Si
SLU 69	1460	-1258	3746	1.2	20076	5.359	Si
SLU 28	1250	-1525	5122	1.46	23445	4.578	Si
SLU 28	1460	-1023	3693	0.98	16858	4.565	Si
SLU 27	1250	-1516	5274	1.45	23335	4.425	Si
SLU 27	1460	-1013	3816	0.97	16703	4.378	Si
SLU 30	1250	-1487	4706	1.42	22986	4.885	Si
SLU 30	1460	-987	3307	0.94	16341	4.942	Si
SLU 35	1250	-1627	5134	1.55	24646	4.8	Si
SLU 35	1460	-1101	3252	1.05	17951	5.521	Si
SLU 29	1250	-1478	4858	1.41	22875	4.709	Si
SLU 29	1460	-976	3430	0.93	16184	4.719	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	αN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 59	1250	-1880	0	3460		1.79	37.43	0.79	833			1000	Si
SLU 59	1460	-1271	0	2016		1.21	37.43	0.72	752			1000	Si
SLU 54	1250	-1883	0	2598		1.8	37.43	0.8	833			1000	Si
SLU 54	1460	-1282	0	1276		1.22	37.43	0.72	753			1000	Si
SLU 60	1250	-1848	0	996		1.76	37.43	0.79	829			1000	Si
SLU 60	1460	-1248	0	-354		1.19	37.43	0.71	749			1000	Si
SLU 61	1250	-1858	0	844		1.77	37.43	0.79	830			1000	Si
SLU 61	1460	-1259	0	-477		1.2	37.43	0.72	750			1000	Si
SLU 53	1250	-1874	0	2751		1.79	37.43	0.79	832			1000	Si
SLU 53	1460	-1271	0	1399		1.21	37.43	0.72	752			1000	Si
SLU 1	1250	-1323	0	1208		1.26	37.43	0.72	759			1000	Si
SLU 1	1460	-876	0	521		0.84	37.43	0.67	699			1000	Si
SLU 58	1250	-1871	0	3613		1.79	37.43	0.79	832			1000	Si
SLU 58	1460	-1261	0	2139		1.2	37.43	0.72	750			1000	Si
SLU 56	1250	-1909	0	4029		1.82	37.43	0.8	837			1000	Si

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Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 56	1460	-1297	0	2525		1.24	37.43	0.72	755			1000	Si
SLU 57	1250	-1918	0	3876		1.83	37.43	0.8	838			1000	Si
SLU 57	1460	-1308	0	2402		1.25	37.43	0.72	757			1000	Si
SLU 55	1250	-1851	0	2080		1.77	37.43	0.79	829			1000	Si
SLU 55	1460	-1253	0	809		1.2	37.43	0.71	749			1000	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0	124	4351	0	0	No, Trazione
SLV 10	14	0.53	0	373	4351	0	0	No, Trazione
SLV 9	14	0.53	0	373	4351	0	0	No, Trazione
SLV 5	14	0.53	0	124	4351	0	0	No, Trazione
SLV 13	14	0.53	0	-208	4351	0	0	No, e>t/2
SLV 14	14	0.53	0	-208	4351	0	0	No, e>t/2
SLV 15	14	0.53	0.91	-956	4351	12388	2.85	Si
SLV 16	14	0.53	0.91	-956	4351	12388	2.85	Si
SLV 2	14	0.53	0.99	-1041	4351	13385	3.08	Si
SLV 1	14	0.53	0.99	-1041	4351	13385	3.08	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	-547	-2621	3	0.056	1.046	0.898	90.588	1930.074	No
SLV 7	-547	-2621	3	0.056	1.046	0.898	90.588	1930.074	No
SLV 12	-478	-2349	2	0.059	0.979	0.894	96.361	1930.074	No
SLV 11	-478	-2349	2	0.059	0.979	0.894	96.361	1930.074	No
SLV 9	-108	-136	-3	0.069	0.654	0.911	109.484	1930.074	No
SLV 10	-108	-136	-3	0.069	0.654	0.911	109.484	1930.074	No
SLV 6	-176	-408	-2	0.069	0.705	0.895	111.814	1930.074	No
SLV 5	-176	-408	-2	0.069	0.705	0.895	111.814	1930.074	No
SLV 4	-498	-2164	4	0.056	0.998	0.895	91.231	979.113	No
SLV 3	-498	-2164	4	0.056	0.998	0.895	91.231	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.378	SLU 27	Si
V_SLU	1000	SLU 1	Si
PFFP_SLV	0	SLV 10	No
R_SLV	0.047	SLV 7	No

Maschio 203

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1239.3	333.1	-1239.3	104.6	L6	L7	228.5	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 21	1250	-3437	88333	1.07	340879	3.859	Si
SLU 21	1566	-318	31441	0.1	35870	1.141	Si
SLU 41	1250	-3841	105066	1.2	374149	3.561	Si
SLU 41	1566	-381	37915	0.12	42905	1.132	Si
SLU 40	1250	-3589	88685	1.12	353584	3.987	Si
SLU 40	1566	-314	31088	0.1	35425	1.139	Si
SLU 34	1250	-3738	101452	1.17	365800	3.606	Si
SLU 34	1566	-376	36765	0.12	42314	1.151	Si
SLU 37	1250	-4001	118446	1.25	386922	3.267	Si
SLU 37	1566	-443	43514	0.14	49698	1.142	Si
SLU 84	1250	-4582	118780	1.43	431439	3.632	Si
SLU 84	1566	-428	41741	0.13	48091	1.152	Si
SLU 39	1250	-3606	89604	1.13	354970	3.962	Si
SLU 39	1566	-313	30971	0.1	35335	1.141	Si
SLU 38	1250	-3984	117527	1.25	385594	3.281	Si
SLU 38	1566	-443	43632	0.14	49788	1.141	Si
SLU 42	1250	-3824	104147	1.2	372797	3.58	Si
SLU 42	1566	-382	38032	0.12	42995	1.13	Si
SLU 20	1250	-3454	89252	1.08	342287	3.835	Si
SLU 20	1566	-317	31324	0.1	35780	1.142	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	1250	-3503	44778	1.09	364342	8.137	Si
SLV 10	1566	549	-76947	0	0	0	No, Trazione
SLD 16	1250	-2815	57758	0.88	298444	5.167	Si
SLD 16	1566	-134	16028	0	0	0	No, e>l/2



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	1250	-2719	28019	0.85	289002	10.314	Si
SLV 13	1566	416	-45171	0	0	0	No, Trazione
SLV 12	1250	-2411	76773	0.75	258428	3.366	Si
SLV 12	1566	-767	97270	0	0	0	No, e>1/2
SLV 8	1250	-2755	100735	0.86	292590	2.905	Si
SLV 8	1566	-1048	122299	0	0	0	No, e>1/2
SLV 9	1250	-3503	44778	1.09	364342	8.137	Si
SLV 9	1566	549	-76947	0	0	0	No, Trazione
SLV 6	1250	-3847	68741	1.2	396303	5.765	Si
SLV 6	1566	268	-51918	0	0	0	No, Trazione
SLV 14	1250	-2719	28019	0.85	289002	10.314	Si
SLV 14	1566	416	-45171	0	0	0	No, Trazione
SLV 7	1250	-2755	100735	0.86	292590	2.905	Si
SLV 7	1566	-1048	122299	0	0	0	No, e>1/2
SLV 11	1250	-2411	76773	0.75	258428	3.366	Si
SLV 11	1566	-767	97270	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 17	1250	-3597	5	101713		1.12	228.5	0.71	2257			459.22	Si
SLU 17	1566	-379	-96	37040		0.54	49.74	0.63	437			4.57	Si
SLU 41	1250	-3841	-4	105066		1.2	228.5	0.72	2289			622.16	Si
SLU 41	1566	-381	-86	37915		0.61	44.29	0.64	395			4.61	Si
SLU 30	1250	-3809	10	112669		1.19	228.5	0.71	2285			224.2	Si
SLU 30	1566	-428	-109	40493		0.52	58.74	0.62	514			4.69	Si
SLU 16	1250	-3614	8	102632		1.13	228.5	0.71	2259			290.4	Si
SLU 16	1566	-378	-92	36923		0.54	50.04	0.63	440			4.75	Si
SLU 80	1250	-4742	8	132160		1.48	228.5	0.75	2409			285.56	Si
SLU 80	1566	-489	-113	47341		0.67	52.53	0.64	474			4.18	Si
SLU 79	1250	-4759	11	133079		1.49	228.5	0.75	2412			213.38	Si
SLU 79	1566	-489	-110	47223		0.66	52.76	0.64	476			4.32	Si
SLU 42	1250	-3824	-7	104147		1.2	228.5	0.71	2287			349.48	Si
SLU 42	1566	-382	-89	38032		0.62	44.01	0.64	393			4.41	Si
SLU 38	1250	-3984	-5	117527		1.25	228.5	0.72	2308			432.75	Si
SLU 38	1566	-443	-123	43632		0.67	47.49	0.64	428			3.48	Si
SLU 29	1250	-3826	13	113588		1.2	228.5	0.72	2287			175.18	Si
SLU 29	1566	-427	-106	40376		0.52	59.02	0.62	516			4.86	Si
SLU 37	1250	-4001	-2	118446		1.25	228.5	0.72	2311			935.62	Si
SLU 37	1566	-443	-120	43514		0.66	47.74	0.64	430			3.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1250	-2755	-2412	100735		0.86	228.5	1.01	3217			1.33	Si
SLV 7	1566	-1048	-1118	122299		0	0	0.83	0			0	No, Vu<V
SLD 16	1250	-2815	285	57758		0.88	228.5	1.01	3229			11.33	Si
SLD 16	1566	-134	-312	16028		0	0	0.83	0			0	No, Vu<V
SLV 13	1250	-2719	1878	28019		0.85	228.5	1	3210			1.71	Si
SLV 13	1566	416	8	-45171		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	-3503	2466	44778		1.09	228.5	1.05	3366			1.37	Si
SLV 10	1566	549	1097	-76947		0	0	0.83	0			0	No, Vu<V
SLV 11	1250	-2411	-1674	76773		0.75	228.5	0.98	3148			1.88	Si
SLV 11	1566	-767	-1325	97270		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	-3847	1728	68741		1.2	228.5	1.07	3435			1.99	Si
SLV 6	1566	268	1305	-51918		0	0	0.83	0			0	No, Vu<V
SLV 14	1250	-2719	1878	28019		0.85	228.5	1	3210			1.71	Si
SLV 14	1566	416	8	-45171		0	0	0.83	0			0	No, Vu<V
SLV 12	1250	-2411	-1674	76773		0.75	228.5	0.98	3148			1.88	Si
SLV 12	1566	-767	-1325	97270		0	0	0.83	0			0	No, Vu<V
SLV 8	1250	-2755	-2412	100735		0.86	228.5	1.01	3217			1.33	Si
SLV 8	1566	-1048	-1118	122299		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	-3503	2466	44778		1.09	228.5	1.05	3366			1.37	Si
SLV 9	1566	549	1097	-76947		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.53	0	-888	12676	0	0	No, e>t/2
SLV 9	14	0.53	0	-1489	12676	0	0	No, e>t/2
SLV 15	14	0.53	0	-1061	12676	0	0	No, e>t/2
SLV 10	14	0.53	0	-1489	12676	0	0	No, e>t/2
SLV 16	14	0.53	0	-1061	12676	0	0	No, e>t/2
SLV 13	14	0.53	0	-888	12676	0	0	No, e>t/2
SLV 11	14	0.53	0.65	-2064	12676	13684	1.08	Si
SLV 12	14	0.53	0.65	-2064	12676	13684	1.08	Si
SLV 6	14	0.53	0.68	-2176	12676	14385	1.13	Si
SLV 5	14	0.53	0.68	-2176	12676	14385	1.13	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 14	416	-2719	32	0	0	0	0	2071.149	No, Trazione
SLV 10	549	-3503	24	0	0	0	0	2129.563	No, Trazione
SLV 9	549	-3503	24	0	0	0	0	2129.563	No, Trazione
SLV 15	21	-2391	23	0	0	0	0	2071.149	No, Trazione
SLV 13	416	-2719	32	0	0	0	0	2071.149	No, Trazione
SLV 5	268	-3847	7	0	0	0	0	2129.563	No, Trazione
SLV 6	268	-3847	7	0	0	0	0	2129.563	No, Trazione

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 16	21	-2391	23	0	0	0	0	2071.149	No, Trazione
SLV 3	-915	-3539	-33	0.015	2.477	0.889	24.861	2071.149	No
SLV 4	-915	-3539	-33	0.015	2.477	0.889	24.861	2071.149	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.13	SLU 42	Si
V_SLU	3.475	SLU 38	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 5	No
PFFP_SLV	0	SLV 9	No
R_SLV	0	SLV 16	No

Maschio 204

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1505.8	333.1	-1074.8	333.1	L6	L7	431	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 80	1250	-2265	-3034	0.38	465704	153.483	Si
SLU 80	1440	-1318	-284305	0	0	0	No, e>l/2
SLU 42	1250	-1148	-4931	0.19	241599	48.997	Si
SLU 42	1440	-755	-274061	0	0	0	No, e>l/2
SLU 38	1250	-1286	-4642	0.21	269896	58.14	Si
SLU 38	1440	-816	-261429	0	0	0	No, e>l/2
SLU 37	1250	-1280	-4938	0.21	268637	54.4	Si
SLU 37	1440	-814	-261311	0	0	0	No, e>l/2
SLU 39	1250	-1291	-5382	0.21	270991	50.356	Si
SLU 39	1440	-835	-262407	0	0	0	No, e>l/2
SLU 79	1250	-2259	-3330	0.37	464498	139.48	Si
SLU 79	1440	-1316	-284187	0	0	0	No, e>l/2
SLU 34	1250	-1440	-4600	0.24	301199	65.485	Si
SLU 34	1440	-899	-249971	0	0	0	No, e>l/2
SLU 41	1250	-1142	-5227	0.19	240333	45.98	Si
SLU 41	1440	-753	-273943	0	0	0	No, e>l/2
SLU 40	1250	-1298	-5086	0.22	272250	53.534	Si
SLU 40	1440	-837	-262525	0	0	0	No, e>l/2
SLU 83	1250	-2121	-3619	0.35	437380	120.859	Si
SLU 83	1440	-1255	-296819	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLD 4	1250	-2213	7040	0.37	462614	65.713	Si
SLD 4	1440	-799	-277169	0	0	0	No, e>l/2
SLD 7	1250	-2010	24270	0.33	421339	17.36	Si
SLD 7	1440	-706	-310495	0	0	0	No, e>l/2
SLV 11	1250	-1588	56676	0.26	334843	5.908	Si
SLV 11	1440	-399	-401268	0	0	0	No, e>l/2
SLV 12	1250	-1588	56676	0.26	334843	5.908	Si
SLV 12	1440	-399	-401268	0	0	0	No, e>l/2
SLV 7	1250	-1480	57961	0.25	312509	5.392	Si
SLV 7	1440	141	-509856	0	0	0	No, Trazione
SLD 11	1250	-2055	23694	0.34	430426	18.166	Si
SLD 11	1440	-936	-264283	0	0	0	No, e>l/2
SLD 12	1250	-2055	23694	0.34	430426	18.166	Si
SLD 12	1440	-936	-264283	0	0	0	No, e>l/2
SLV 8	1250	-1480	57961	0.25	312509	5.392	Si
SLV 8	1440	141	-509856	0	0	0	No, Trazione
SLD 8	1250	-2010	24270	0.33	421339	17.36	Si
SLD 8	1440	-706	-310495	0	0	0	No, e>l/2
SLD 3	1250	-2213	7040	0.37	462614	65.713	Si
SLD 3	1440	-799	-277169	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 42	1250	-1148	-157	-4931	0.19	431	0.58	3505				22.33	Si
SLU 42	1440	-755	-158	-274061	0	0	0.56	0				0	No, Vu<V
SLU 37	1250	-1280	-149	-4938	0.21	431	0.58	3523				23.64	Si
SLU 37	1440	-814	-150	-261311	0	0	0.56	0				0	No, Vu<V
SLU 39	1250	-1291	-151	-5382	0.21	431	0.58	3524				23.27	Si
SLU 39	1440	-835	-152	-262407	0	0	0.56	0				0	No, Vu<V
SLU 38	1250	-1286	-149	-4642	0.21	431	0.58	3524				23.63	Si
SLU 38	1440	-816	-151	-261429	0	0	0.56	0				0	No, Vu<V
SLU 40	1250	-1298	-151	-5086	0.22	431	0.58	3525				23.27	Si
SLU 40	1440	-837	-152	-262525	0	0	0.56	0				0	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 34	1250	-1440	-144	-4600		0.24	431	0.59	3544			24.67	Si
SLU 34	1440	-899	-145	-249971		0	0	0.56	0			0	No, Vu<V
SLU 79	1250	-2259	-164	-3330		0.37	431	0.61	3653			22.32	Si
SLU 79	1440	-1316	-165	-284187		0	0	0.56	0			0	No, Vu<V
SLU 83	1250	-2121	-172	-3619		0.35	431	0.6	3635			21.19	Si
SLU 83	1440	-1255	-172	-296819		0	0	0.56	0			0	No, Vu<V
SLU 41	1250	-1142	-157	-5227		0.19	431	0.58	3504			22.34	Si
SLU 41	1440	-753	-158	-273943		0	0	0.56	0			0	No, Vu<V
SLU 80	1250	-2265	-164	-3034		0.38	431	0.61	3654			22.31	Si
SLU 80	1440	-1318	-165	-284305		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 8	1250	-2010	-323	24270		0.33	431	0.9	5430			16.81	Si
SLD 8	1440	-706	-313	-310495		0	0	0.83	0			0	No, Vu<V
SLD 7	1250	-2010	-323	24270		0.33	431	0.9	5430			16.81	Si
SLD 7	1440	-706	-313	-310495		0	0	0.83	0			0	No, Vu<V
SLV 12	1250	-1588	-757	56676		0.26	431	0.89	5346			7.06	Si
SLV 12	1440	-399	-347	-401268		0	0	0.83	0			0	No, Vu<V
SLV 11	1250	-1588	-757	56676		0.26	431	0.89	5346			7.06	Si
SLV 11	1440	-399	-347	-401268		0	0	0.83	0			0	No, Vu<V
SLD 3	1250	-2213	-113	7040		0.37	431	0.91	5471			48.59	Si
SLD 3	1440	-799	-350	-277169		0	0	0.83	0			0	No, Vu<V
SLV 4	1250	-1958	-160	18224		0.32	431	0.9	5420			33.93	Si
SLV 4	1440	-74	-710	-431581		0	0	0.83	0			0	No, Vu<V
SLV 3	1250	-1958	-160	18224		0.32	431	0.9	5420			33.93	Si
SLV 3	1440	-74	-710	-431581		0	0	0.83	0			0	No, Vu<V
SLD 4	1250	-2213	-113	7040		0.37	431	0.91	5471			48.59	Si
SLD 4	1440	-799	-350	-277169		0	0	0.83	0			0	No, Vu<V
SLD 11	1250	-2055	-357	23694		0.34	431	0.9	5439			15.22	Si
SLD 11	1440	-936	-189	-264283		0	0	0.83	0			0	No, Vu<V
SLV 2	1250	-2476	214	-17123		0.41	431	0.92	5523			25.76	Si
SLV 2	1440	-798	-471	-255900		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.53	0	210	23909	0	0	No, Trazione
SLV 3	14	0.53	0	50	23909	0	0	No, Trazione
SLV 5	14	0.53	0	-2162	23909	0	0	No, e>t/2
SLV 6	14	0.53	0	-2162	23909	0	0	No, e>t/2
SLV 4	14	0.53	0	50	23909	0	0	No, Trazione
SLV 9	14	0.53	0	-2737	23909	0	0	No, e>t/2
SLV 10	14	0.53	0	-2737	23909	0	0	No, e>t/2
SLV 1	14	0.53	0	-662	23909	0	0	No, e>t/2
SLV 2	14	0.53	0	-662	23909	0	0	No, e>t/2
SLV 7	14	0.53	0	210	23909	0	0	No, Trazione

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-936	-1480	75	0.008	3.997	0.898	13.225	2129.563	No
SLV 8	-936	-1480	75	0.008	3.997	0.898	13.225	2129.563	No
SLV 10	-947	-3314	-75	0.008	4.005	0.897	13.511	2129.563	No
SLV 9	-947	-3314	-75	0.008	4.005	0.897	13.511	2129.563	No
SLV 12	-933	-1588	72	0.009	3.994	0.898	14.831	2129.563	No
SLV 11	-933	-1588	72	0.009	3.994	0.898	14.831	2129.563	No
SLV 5	-951	-3206	-72	0.009	4.008	0.897	15.172	2129.563	No
SLV 6	-951	-3206	-72	0.009	4.008	0.897	15.172	2129.563	No
SLV 4	-946	-1958	27	0.026	4.004	0.897	42.761	2071.149	No
SLV 3	-946	-1958	27	0.026	4.004	0.897	42.761	2071.149	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 20	No
V_SLU	0	SLU 16	No
PF_SLV	0	SLV 8	No
V_SLV	0	SLD 3	No
PFFP_SLV	0	SLV 8	No
R_SLV	0.006	SLV 7	No

Maschio 205

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-994.8	333.1	-972.8	333.1	L6	L7	22	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	f_v0	μ	ϕ	f_v,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 58	1250	408	5450	0	0	0	No, Trazione
SLU 58	1440	-831	-5310	2.7	6113	1.151	Si
SLU 57	1250	417	5710	0	0	0	No, Trazione
SLU 57	1440	-894	-5631	2.9	6330	1.124	Si
SLU 59	1250	408	5454	0	0	0	No, Trazione
SLU 59	1440	-832	-5314	2.7	6116	1.151	Si
SLU 54	1250	380	5499	0	0	0	No, Trazione
SLU 54	1440	-871	-5456	2.83	6255	1.146	Si
SLU 61	1250	406	5585	0	0	0	No, Trazione
SLU 61	1440	-848	-5469	2.75	6176	1.129	Si
SLU 1	1250	169	3170	0	0	0	No, Trazione
SLU 1	1440	-527	-3181	1.71	4576	1.439	Si
SLU 60	1250	406	5582	0	0	0	No, Trazione
SLU 60	1440	-847	-5465	2.75	6173	1.13	Si
SLU 56	1250	417	5707	0	0	0	No, Trazione
SLU 56	1440	-893	-5627	2.9	6327	1.124	Si
SLU 55	1250	372	5245	0	0	0	No, Trazione
SLU 55	1440	-809	-5142	2.63	6031	1.173	Si
SLU 53	1250	380	5496	0	0	0	No, Trazione
SLU 53	1440	-870	-5452	2.83	6252	1.147	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 8	1250	919	8626	0	0	0	No, Trazione
SLV 8	1440	-1414	-10874	4.59	9711	0.893	No, M>Mu
SLV 6	1250	-574	-3669	1.86	5349	1.458	Si
SLV 6	1440	105	892	0	0	0	No, Trazione
SLV 13	1250	315	6618	0	0	0	No, Trazione
SLV 13	1440	-212	1896	0.69	2204	1.162	Si
SLD 1	1250	42	1122	0	0	0	No, Trazione
SLD 1	1440	-578	-4729	1.88	5384	1.138	Si
SLV 12	1250	1088	11388	0	0	0	No, Trazione
SLV 12	1440	-1315	-8510	4.27	9412	1.106	Si
SLV 7	1250	919	8626	0	0	0	No, Trazione
SLV 7	1440	-1414	-10874	4.59	9711	0.893	No, M>Mu
SLV 14	1250	315	6618	0	0	0	No, Trazione
SLV 14	1440	-212	1896	0.69	2204	1.162	Si
SLV 11	1250	1088	11388	0	0	0	No, Trazione
SLV 11	1440	-1315	-8510	4.27	9412	1.106	Si
SLV 9	1250	-405	-907	1.31	3973	4.38	Si
SLV 9	1440	204	3256	0	0	0	No, Trazione
SLV 10	1250	-405	-907	1.31	3973	4.38	Si
SLV 10	1440	204	3256	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 1	1250	169	80	3170	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 1	1440	-527	80	-3181	2.53	14.88	0.89	186	0	0	0	2.32	Si
SLU 59	1250	408	137	5454	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 59	1440	-832	137	-5314	4.29	13.83	1.08	210	0	0	0	1.53	Si
SLU 56	1250	417	144	5707	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 56	1440	-893	144	-5627	4.52	14.1	1.08	214	0	0	0	1.48	Si
SLU 54	1250	380	138	5499	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 54	1440	-871	139	-5456	4.38	14.21	1.08	215	0	0	0	1.55	Si
SLU 58	1250	408	137	5450	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 58	1440	-831	137	-5310	4.29	13.83	1.08	210	0	0	0	1.53	Si
SLU 53	1250	380	138	5496	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 53	1440	-870	139	-5452	4.38	14.2	1.08	215	0	0	0	1.55	Si
SLU 60	1250	406	139	5582	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 60	1440	-847	139	-5465	4.43	13.65	1.08	207	0	0	0	1.49	Si
SLU 61	1250	406	139	5585	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 61	1440	-848	139	-5469	4.44	13.66	1.08	207	0	0	0	1.49	Si
SLU 55	1250	372	131	5245	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 55	1440	-809	132	-5142	4.15	13.94	1.08	211	0	0	0	1.6	Si
SLU 57	1250	417	144	5710	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 57	1440	-894	145	-5631	4.53	14.1	1.08	214	0	0	0	1.48	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1250	919	287	8626	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 7	1440	-1414	250	-10874	10.17	9.93	1.63	226	0	0	0	0.9	No, Vu<V
SLV 9	1250	-405	-94	-907	1.31	22	1.1	338	0	0	0	3.6	Si
SLV 9	1440	204	-56	3256	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 14	1250	315	133	6618	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 14	1440	-212	19	1896	2.44	6.21	1.32	115	0	0	0	6.2	Si
SLV 8	1250	919	287	8626	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 8	1440	-1414	250	-10874	10.17	9.93	1.63	226	0	0	0	0.9	No, Vu<V
SLV 10	1250	-405	-94	-907	1.31	22	1.1	338	0	0	0	3.6	Si
SLV 10	1440	204	-56	3256	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 6	1250	-574	-155	-3669	2.97	13.82	1.43	276	0	0	0	1.78	Si
SLV 6	1440	105	-35	892	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 11	1250	1088	349	11388	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 11	1440	-1315	229	-8510	6.91	13.59	1.63	309	0	0	0	1.35	Si
SLV 13	1250	315	133	6618	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 13	1440	-212	19	1896	2.44	6.21	1.32	115	0	0	0	6.2	Si
SLV 12	1250	1088	349	11388	0	0	0	0.83	0	0	0	0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	1440	-1315	229	-8510		6.91	13.59	1.63	309			1.35	Si
SLD 1	1250	42	26	1122		0	0	0.83	0			0	No, Vu<V
SLD 1	1440	-578	93	-4729		4.88	8.47	1.63	193			2.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.03 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0	32	1220	0	0	No, Trazione
SLV 9	14	0.53	0	232	1220	0	0	No, Trazione
SLV 13	14	0.53	0	-65	1220	0	0	No, e>t/2
SLV 10	14	0.53	0	232	1220	0	0	No, Trazione
SLV 5	14	0.53	0	32	1220	0	0	No, Trazione
SLV 14	14	0.53	0	-65	1220	0	0	No, e>t/2
SLV 16	14	0.53	1.69	-520	1220	3137	2.57	Si
SLV 15	14	0.53	1.69	-520	1220	3137	2.57	Si
SLV 2	14	0.53	2.38	-733	1220	4130	3.38	Si
SLV 1	14	0.53	2.38	-733	1220	4130	3.38	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 13	-22	315	0	0	0	0	0	2071.149	No, Trazione
SLV 8	-18	919	1	0	0	0	0	2129.563	No, Trazione
SLV 14	-22	315	0	0	0	0	0	2071.149	No, Trazione
SLV 11	-18	1088	2	0	0	0	0	2129.563	No, Trazione
SLV 12	-18	1088	2	0	0	0	0	2129.563	No, Trazione
SLV 15	-20	763	1	0	0	0	0	2071.149	No, Trazione
SLV 4	-20	200	0	0	0	0	0	2071.149	No, Trazione
SLV 7	-18	919	1	0	0	0	0	2129.563	No, Trazione
SLV 3	-20	200	0	0	0	0	0	2071.149	No, Trazione
SLV 16	-20	763	1	0	0	0	0	2071.149	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 16	No

Maschio 206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1975.8	666.1	-1771.8	666.1	L6	L7	204	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 57	1340	-26	162782	0	0	0	No, e>l/2
SLU 57	1520	2550	558024	0	0	0	No, Trazione
SLU 61	1340	-2492	36265	0.44	240527	6.632	Si
SLU 61	1520	84	174763	0	0	0	No, Trazione
SLU 1	1340	-1869	43612	0.33	182990	4.196	Si
SLU 1	1520	120	153122	0	0	0	No, Trazione
SLU 59	1340	754	168368	0	0	0	No, Trazione
SLU 59	1520	3329	579385	0	0	0	No, Trazione
SLU 55	1340	-869	104421	0	0	0	No, e>l/2
SLU 55	1520	1707	377928	0	0	0	No, Trazione
SLU 53	1340	-1696	98686	0.3	166662	1.689	Si
SLU 53	1520	880	352764	0	0	0	No, Trazione
SLU 56	1340	-54	162693	0	0	0	No, e>l/2
SLU 56	1520	2522	555742	0	0	0	No, Trazione
SLU 60	1340	-2520	36176	0.44	243091	6.72	Si
SLU 60	1520	56	172482	0	0	0	No, Trazione
SLU 58	1340	725	168279	0	0	0	No, Trazione
SLU 58	1520	3301	577103	0	0	0	No, Trazione
SLU 54	1340	-1668	98775	0.29	163996	1.66	Si
SLU 54	1520	908	355045	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 2	1340	-374	69696	0	0	0	No, e>l/2
SLV 2	1520	1709	370015	0	0	0	No, Trazione
SLD 1	1340	-1112	55888	0.19	111615	1.997	Si
SLD 1	1520	918	260768	0	0	0	No, Trazione



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 14	1340	-2284	156087	0.4	225385	1.444	Si
SLV 14	1520	27	93572	0	0	0	No, Trazione
SLV 10	1340	-840	280467	0	0	0	No, e>I/2
SLV 10	1520	1860	311490	0	0	0	No, Trazione
SLV 5	1340	-267	254550	0	0	0	No, e>I/2
SLV 5	1520	2365	394423	0	0	0	No, Trazione
SLV 9	1340	-840	280467	0	0	0	No, e>I/2
SLV 9	1520	1860	311490	0	0	0	No, Trazione
SLV 3	1340	-1040	-62833	0.18	104474	1.663	Si
SLV 3	1520	642	266160	0	0	0	No, Trazione
SLV 4	1340	-1040	-62833	0.18	104474	1.663	Si
SLV 4	1520	642	266160	0	0	0	No, Trazione
SLV 13	1340	-2284	156087	0.4	225385	1.444	Si
SLV 13	1520	27	93572	0	0	0	No, Trazione
SLV 6	1340	-267	254550	0	0	0	No, e>I/2
SLV 6	1520	2365	394423	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 1	1340	-1869	-633	43612		0.33	204	0.6	3423			5.41	Si
SLU 1	1520	120	-633	153122		0	0	0.56	0			0	No, Vu<V
SLU 53	1340	-1696	-1444	98686		0.46	131.41	0.62	2270			1.57	Si
SLU 53	1520	880	-1444	352764		0	0	0.56	0			0	No, Vu<V
SLU 60	1340	-2520	-789	36176		0.44	204	0.61	3509			4.45	Si
SLU 60	1520	56	-789	172482		0	0	0.56	0			0	No, Vu<V
SLU 59	1340	754	-2315	168368		0	0	0.56	0			0	No, Vu<V
SLU 59	1520	3329	-2315	579385		0	0	0.56	0			0	No, Vu<V
SLU 61	1340	-2492	-801	36265		0.44	204	0.61	3506			4.37	Si
SLU 61	1520	84	-801	174763		0	0	0.56	0			0	No, Vu<V
SLU 56	1340	-54	-2216	162693		0	0	0.56	0			0	No, Vu<V
SLU 56	1520	2522	-2216	555742		0	0	0.56	0			0	No, Vu<V
SLU 57	1340	-26	-2228	162782		0	0	0.56	0			0	No, Vu<V
SLU 57	1520	2550	-2228	558024		0	0	0.56	0			0	No, Vu<V
SLU 54	1340	-1668	-1456	98775		0.46	128.3	0.62	2218			1.52	Si
SLU 54	1520	908	-1456	355045		0	0	0.56	0			0	No, Vu<V
SLU 58	1340	725	-2303	168279		0	0	0.56	0			0	No, Vu<V
SLU 58	1520	3301	-2303	577103		0	0	0.56	0			0	No, Vu<V
SLU 55	1340	-869	-1551	104421		0	0	0.56	0			0	No, Vu<V
SLU 55	1520	1707	-1551	377928		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1340	-1040	-2413	-62833		0.3	124.71	0.89	3118			1.29	Si
SLV 3	1520	642	-1497	266160		0	0	0.83	0			0	No, Vu<V
SLV 14	1340	-2284	884	156087		0.81	101.02	0.99	2814			3.18	Si
SLV 14	1520	27	-33	93572		0	0	0.83	0			0	No, Vu<V
SLV 9	1340	-840	-34	280467		0	0	0.83	0			0	No, Vu<V
SLV 9	1520	1860	-155	311490		0	0	0.83	0			0	No, Vu<V
SLV 13	1340	-2284	884	156087		0.81	101.02	0.99	2814			3.18	Si
SLV 13	1520	27	-33	93572		0	0	0.83	0			0	No, Vu<V
SLV 2	1340	-374	-2257	69696		0	0	0.83	0			0	No, Vu<V
SLV 2	1520	1709	-1240	370015		0	0	0.83	0			0	No, Vu<V
SLV 5	1340	-267	-976	254550		0	0	0.83	0			0	No, Vu<V
SLV 5	1520	2365	-517	394423		0	0	0.83	0			0	No, Vu<V
SLD 1	1340	-1112	-1403	55888		0.26	155.22	0.88	3844			2.74	Si
SLD 1	1520	918	-968	260768		0	0	0.83	0			0	No, Vu<V
SLV 10	1340	-840	-34	280467		0	0	0.83	0			0	No, Vu<V
SLV 10	1520	1860	-155	311490		0	0	0.83	0			0	No, Vu<V
SLV 4	1340	-1040	-2413	-62833		0.3	124.71	0.89	3118			1.29	Si
SLV 4	1520	642	-1497	266160		0	0	0.83	0			0	No, Vu<V
SLV 6	1340	-267	-976	254550		0	0	0.83	0			0	No, Vu<V
SLV 6	1520	2365	-517	394423		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.53	0	-1282	23172	0	0	No, e>t/2
SLV 2	14	0.53	0	592	23172	0	0	No, Trazione
SLV 14	14	0.53	0	-1282	23172	0	0	No, e>t/2
SLV 1	14	0.53	0	592	23172	0	0	No, Trazione
SLV 4	14	0.53	0	-345	23172	0	0	No, e>t/2
SLV 5	14	0.53	0	1029	23172	0	0	No, Trazione
SLV 9	14	0.53	0	467	23172	0	0	No, Trazione
SLV 6	14	0.53	0	1029	23172	0	0	No, Trazione
SLV 10	14	0.53	0	467	23172	0	0	No, Trazione
SLV 3	14	0.53	0	-345	23172	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 5	2147	-970	247	0	0	0	0	1930.074	No, Trazione
SLV 10	1581	-454	299	0	0	0	0	1930.074	No, Trazione
SLV 3	1596	-3842	-163	0	0	0	0	979.113	No, Trazione
SLV 9	1581	-454	299	0	0	0	0	1930.074	No, Trazione
SLV 1	2155	-2794	-2	0	0	0	0	979.113	No, Trazione
SLV 8	283	-4462	-291	0	0	0	0	1930.074	No, Trazione
SLV 4	1596	-3842	-163	0	0	0	0	979.113	No, Trazione

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 2	2155	-2794	-2	0	0	0	0	979.113	No, Trazione
SLV 6	2147	-970	247	0	0	0	0	1930.074	No, Trazione
SLV 7	283	-4462	-291	0	0	0	0	1930.074	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 14	No

Maschio 207

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1681.8	666.1	-1283.8	666.1	L6	L7	398	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 79	1340	-9166	187903	0.82	1639899	8.727	Si
SLU 79	1520	-3447	-4862	0.31	659871	135.718	Si
SLU 38	1340	-7566	184187	0.68	1380116	7.493	Si
SLU 38	1520	-2931	224	0.26	564401	1000	Si
SLU 41	1340	-6734	154676	0.6	1240623	8.021	Si
SLU 41	1520	-2547	-5360	0.23	492665	91.913	Si
SLU 34	1340	-6806	144033	0.61	1252927	8.699	Si
SLU 34	1520	-2571	-6054	0.23	497085	82.102	Si
SLU 17	1340	-7144	150416	0.64	1309775	8.708	Si
SLU 17	1520	-2665	-87	0.24	514792	1000	Si
SLU 16	1340	-7146	151013	0.64	1310161	8.676	Si
SLU 16	1520	-2668	-331	0.24	515258	1000	Si
SLU 29	1340	-7747	162274	0.7	1410032	8.689	Si
SLU 29	1520	-2998	-2590	0.27	576876	222.692	Si
SLU 30	1340	-7744	161676	0.69	1409652	8.719	Si
SLU 30	1520	-2995	-2346	0.27	576414	245.675	Si
SLU 42	1340	-6731	154079	0.6	1240232	8.049	Si
SLU 42	1520	-2545	-5116	0.23	492198	96.209	Si
SLU 37	1340	-7568	184784	0.68	1380498	7.471	Si
SLU 37	1520	-2933	-21	0.26	564864	1000	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 13	1340	-6269	555198	0.56	1190170	2.144	Si
SLV 13	1520	-2958	-339594	0.27	575838	1.696	Si
SLV 1	1340	-5755	-331863	0.52	1096808	3.305	Si
SLV 1	1520	-1906	262101	0.17	373953	1.427	Si
SLV 8	1340	-5357	-223303	0.48	1024068	4.586	Si
SLV 8	1520	-718	154581	0	0	0	No, e>l/2
SLV 4	1340	-5488	-425052	0.49	1048095	2.466	Si
SLV 4	1520	-1188	309673	0	0	0	No, e>l/2
SLV 14	1340	-6269	555198	0.56	1190170	2.144	Si
SLV 14	1520	-2958	-339594	0.27	575838	1.696	Si
SLV 3	1340	-5488	-425052	0.49	1048095	2.466	Si
SLV 3	1520	-1188	309673	0	0	0	No, e>l/2
SLV 16	1340	-6003	462009	0.54	1141857	2.472	Si
SLV 16	1520	-2240	-292021	0.2	438377	1.501	Si
SLV 2	1340	-5755	-331863	0.52	1096808	3.305	Si
SLV 2	1520	-1906	262101	0.17	373953	1.427	Si
SLV 7	1340	-5357	-223303	0.48	1024068	4.586	Si
SLV 7	1520	-718	154581	0	0	0	No, e>l/2
SLV 15	1340	-6003	462009	0.54	1141857	2.472	Si
SLV 15	1520	-2240	-292021	0.2	438377	1.501	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	1340	-9166	1177	187903		0.82	398	0.67	7413			6.3	Si
SLU 79	1520	-3447	1181	-4862		0.31	398	0.6	6651			5.63	Si
SLU 69	1340	-9981	1098	146754		0.9	398	0.67	7522			6.85	Si
SLU 69	1520	-4275	1102	-32086		0.38	398	0.61	6761			6.13	Si
SLU 37	1340	-7568	1134	184784		0.68	398	0.65	7200			6.35	Si
SLU 37	1520	-2933	1139	-21		0.26	398	0.59	6582			5.78	Si
SLU 35	1340	-8204	1152	166146		0.74	398	0.65	7285			6.33	Si
SLU 35	1520	-3697	1156	-24674		0.33	398	0.6	6684			5.78	Si
SLU 78	1340	-9800	1190	168668		0.88	398	0.67	7498			6.3	Si
SLU 78	1520	-4208	1194	-29271		0.38	398	0.61	6752			5.66	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	1340	-9802	1194	169265		0.88	398	0.67	7498			6.28	Si
SLU 77	1520	-4210	1198	-29516		0.38	398	0.61	6753			5.64	Si
SLU 38	1340	-7566	1130	184187		0.68	398	0.65	7200			6.37	Si
SLU 38	1520	-2931	1134	224		0.26	398	0.59	6582			5.8	Si
SLU 36	1340	-8202	1147	165548		0.74	398	0.65	7285			6.35	Si
SLU 36	1520	-3694	1151	-24430		0.33	398	0.6	6684			5.81	Si
SLU 71	1340	-9345	1081	165393		0.84	398	0.67	7437			6.88	Si
SLU 71	1520	-3511	1085	-7432		0.32	398	0.6	6659			6.14	Si
SLU 80	1340	-9164	1172	187306		0.82	398	0.67	7413			6.32	Si
SLU 80	1520	-3444	1177	-4618		0.31	398	0.6	6650			5.65	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1340	-5488	-4870	-425052		0.54	364.65	0.94	9606			1.97	Si
SLV 4	1520	-1188	-2664	309673		0	0	0.83	0			0	No, Vu<V
SLV 14	1340	-6269	5776	555198		0.68	331.33	0.97	8985			1.56	Si
SLV 14	1520	-2958	3572	-339594		0.42	252.57	0.92	6485			1.82	Si
SLV 13	1340	-6269	5776	555198		0.68	331.33	0.97	8985			1.56	Si
SLV 13	1520	-2958	3572	-339594		0.42	252.57	0.92	6485			1.82	Si
SLV 7	1340	-5357	-1716	-223303		0.48	398	0.93	10358			6.04	Si
SLV 7	1520	-718	-1582	154581		0	0	0.83	0			0	No, Vu<V
SLV 3	1340	-5488	-4870	-425052		0.54	364.65	0.94	9606			1.97	Si
SLV 3	1520	-1188	-2664	309673		0	0	0.83	0			0	No, Vu<V
SLV 16	1340	-6003	5399	462009		0.59	366.1	0.95	9743			1.8	Si
SLV 16	1520	-2240	2846	-292021		0.39	205.86	0.91	5251			1.85	Si
SLV 2	1340	-5755	-4493	-331863		0.52	398	0.94	10438			2.32	Si
SLV 2	1520	-1906	-1938	262101		0.37	184.42	0.91	4684			2.42	Si
SLV 1	1340	-5755	-4493	-331863		0.52	398	0.94	10438			2.32	Si
SLV 1	1520	-1906	-1938	262101		0.37	184.42	0.91	4684			2.42	Si
SLV 8	1340	-5357	-1716	-223303		0.48	398	0.93	10358			6.04	Si
SLV 8	1520	-718	-1582	154581		0	0	0.83	0			0	No, Vu<V
SLV 15	1340	-6003	5399	462009		0.59	366.1	0.95	9743			1.8	Si
SLV 15	1520	-2240	2846	-292021		0.39	205.86	0.91	5251			1.85	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.53	0.32	-3619	45209	49324	1.09	Si
SLV 7	14	0.53	0.32	-3619	45209	49324	1.09	Si
SLV 12	14	0.53	0.33	-3680	45209	50132	1.11	Si
SLV 11	14	0.53	0.33	-3680	45209	50132	1.11	Si
SLV 4	14	0.53	0.37	-4145	45209	56259	1.24	Si
SLV 3	14	0.53	0.37	-4145	45209	56259	1.24	Si
SLV 16	14	0.53	0.39	-4348	45209	58926	1.3	Si
SLV 15	14	0.53	0.39	-4348	45209	58926	1.3	Si
SLV 1	14	0.53	0.42	-4656	45209	62954	1.39	Si
SLV 2	14	0.53	0.42	-4656	45209	62954	1.39	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	497	-7572	97	0	0	0	0	1930.074	No, Trazione
SLV 4	221	-8003	386	0	0	0	0	979.113	No, Trazione
SLV 10	-1911	-6546	832	0	7.527	0.895	0	1930.074	No
SLV 6	-1538	-7068	853	0	7.233	0.901	0	1930.074	No
SLV 7	497	-7572	97	0	0	0	0	1930.074	No, Trazione
SLV 5	-1538	-7068	853	0	7.233	0.901	0	1930.074	No
SLV 2	-390	-7852	613	0	6.54	0.953	0	979.113	No
SLV 3	221	-8003	386	0	0	0	0	979.113	No, Trazione
SLV 9	-1911	-6546	832	0	7.527	0.895	0	1930.074	No
SLV 1	-390	-7852	613	0	6.54	0.953	0	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.471	SLU 37	Si
V_SLU	5.63	SLU 79	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	1.091	SLV 7	Si
R_SLV	0	SLV 12	No

Maschio 208

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1193.8	666.1	-795.8	666.1	L6	L7	398	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 31	1340	-6145	-62887	0.55	1140070	18.129	Si
SLU 31	1520	-2257	10143	0.2	438043	43.187	Si
SLU 82	1340	-7709	-77831	0.69	1403754	18.036	Si
SLU 82	1520	-2735	18119	0.25	527777	29.128	Si
SLU 19	1340	-5665	-61039	0.51	1056937	17.316	Si
SLU 19	1520	-1926	17009	0.17	375080	22.052	Si
SLU 43	1340	-7521	-33898	0.67	1372623	40.493	Si
SLU 43	1520	-2507	27088	0.22	485021	17.905	Si
SLU 38	1340	-7820	-45548	0.7	1422148	31.223	Si
SLU 38	1520	-3215	-33987	0.29	617051	18.156	Si
SLU 18	1340	-5673	-61876	0.51	1058353	17.105	Si
SLU 18	1520	-1933	17505	0.17	376413	21.503	Si
SLU 60	1340	-7298	-66485	0.65	1335536	20.088	Si
SLU 60	1520	-2429	25597	0.22	470353	18.375	Si
SLU 39	1340	-6092	-74058	0.55	1130899	15.271	Si
SLU 39	1520	-2246	10523	0.2	435825	41.418	Si
SLU 40	1340	-6084	-73221	0.55	1129498	15.426	Si
SLU 40	1520	-2239	10026	0.2	434502	43.336	Si
SLU 81	1340	-7717	-78667	0.69	1405097	17.861	Si
SLU 81	1520	-2742	18615	0.25	529085	28.422	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 1	1340	-6254	-501049	0.56	1187340	2.37	Si
SLV 1	1520	-2953	322048	0.27	574938	1.785	Si
SLV 12	1340	-5362	196874	0.48	1025052	5.207	Si
SLV 12	1520	-791	-118481	0.07	156398	1.32	Si
SLV 16	1340	-5688	422477	0.51	1084570	2.567	Si
SLV 16	1520	-1216	-288643	0	0	0	No, $e > l/2$
SLV 2	1340	-6254	-501049	0.56	1187340	2.37	Si
SLV 2	1520	-2953	322048	0.27	574938	1.785	Si
SLV 11	1340	-5362	196874	0.48	1025052	5.207	Si
SLV 11	1520	-791	-118481	0.07	156398	1.32	Si
SLV 13	1340	-6033	358104	0.54	1147361	3.204	Si
SLV 13	1520	-1897	-259909	0.17	372245	1.432	Si
SLV 4	1340	-5909	-436677	0.53	1124772	2.576	Si
SLV 4	1520	-2272	293314	0.2	444561	1.516	Si
SLV 3	1340	-5909	-436677	0.53	1124772	2.576	Si
SLV 3	1520	-2272	293314	0.2	444561	1.516	Si
SLV 15	1340	-5688	422477	0.51	1084570	2.567	Si
SLV 15	1520	-1216	-288643	0	0	0	No, $e > l/2$
SLV 14	1340	-6033	358104	0.54	1147361	3.204	Si
SLV 14	1520	-1897	-259909	0.17	372245	1.432	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 19	1340	-5665	-374	-61039		0.51	398	0.62	6946			18.56	Si
SLU 19	1520	-1926	-375	17009		0.17	398	0.58	6448			17.2	Si
SLU 81	1340	-7717	-473	-78667		0.69	398	0.65	7220			15.27	Si
SLU 81	1520	-2742	-474	18615		0.25	398	0.59	6557			13.84	Si
SLU 39	1340	-6092	-417	-74058		0.55	398	0.63	7003			16.8	Si
SLU 39	1520	-2246	-418	10523		0.2	398	0.58	6491			15.54	Si
SLU 61	1340	-7298	-430	-65648		0.65	398	0.64	7163			16.64	Si
SLU 61	1520	-2422	-431	25101		0.22	398	0.58	6514			15.11	Si
SLU 18	1340	-5673	-382	-61876		0.51	398	0.62	6947			18.19	Si
SLU 18	1520	-1933	-382	17505		0.17	398	0.58	6449			16.86	Si
SLU 52	1340	-7351	-379	-55314		0.66	398	0.64	7171			18.93	Si
SLU 52	1520	-2440	-379	25218		0.22	398	0.58	6516			17.17	Si
SLU 60	1340	-7298	-438	-66485		0.65	398	0.64	7164			16.36	Si
SLU 60	1520	-2429	-439	25597		0.22	398	0.58	6515			14.86	Si
SLU 73	1340	-7770	-414	-67496		0.7	398	0.65	7227			17.47	Si
SLU 73	1520	-2753	-415	18235		0.25	398	0.59	6558			15.81	Si
SLU 82	1340	-7709	-465	-77831		0.69	398	0.65	7219			15.51	Si
SLU 82	1520	-2735	-466	18119		0.25	398	0.59	6556			14.06	Si
SLU 40	1340	-6084	-409	-73221		0.55	398	0.63	7002			17.11	Si
SLU 40	1520	-2239	-410	10026		0.2	398	0.58	6490			15.82	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	1340	-5362	1368	196874		0.48	398	0.93	10359			7.57	Si
SLV 11	1520	-791	1059	-118481		0.19	147.36	0.87	3597			3.4	Si
SLV 16	1340	-5688	4647	422477		0.54	374.16	0.94	9868			2.12	Si
SLV 16	1520	-1216	2364	-288643		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1340	-6033	4540	358104		0.54	398	0.94	10493			2.31	Si
SLV 14	1520	-1897	2010	-259909		0.36	185.97	0.91	4719			2.35	Si
SLV 12	1340	-5362	1368	196874		0.48	398	0.93	10359			7.57	Si
SLV 12	1520	-791	1059	-118481		0.19	147.36	0.87	3597			3.4	Si
SLV 13	1340	-6033	4540	358104		0.54	398	0.94	10493			2.31	Si
SLV 13	1520	-1897	2010	-259909		0.36	185.97	0.91	4719			2.35	Si
SLV 2	1340	-6254	-5182	-501049		0.63	356.64	0.96	9572			1.85	Si
SLV 2	1520	-2953	-2901	322048		0.39	269.85	0.91	6887			2.37	Si
SLV 3	1340	-5909	-5076	-436677		0.56	375.28	0.95	9938			1.96	Si
SLV 3	1520	-2272	-2546	293314		0.39	209.68	0.91	5347			2.1	Si
SLV 1	1340	-6254	-5182	-501049		0.63	356.64	0.96	9572			1.85	Si
SLV 1	1520	-2953	-2901	322048		0.39	269.85	0.91	6887			2.37	Si
SLV 15	1340	-5688	4647	422477		0.54	374.16	0.94	9868			2.12	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	1520	-1216	2364	-288643		0	0	0.83	0			0	No, Vu<V
SLV 4	1340	-5909	-5076	-436677		0.56	375.28	0.95	9938			1.96	Si
SLV 4	1520	-2272	-2546	293314		0.39	209.68	0.91	5347			2.1	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0.34	-3766	45209	51267	1.13	Si
SLV 8	14	0.53	0.34	-3766	45209	51267	1.13	Si
SLV 11	14	0.53	0.34	-3776	45209	51404	1.14	Si
SLV 12	14	0.53	0.34	-3776	45209	51404	1.14	Si
SLV 4	14	0.53	0.39	-4364	45209	59133	1.31	Si
SLV 3	14	0.53	0.39	-4364	45209	59133	1.31	Si
SLV 16	14	0.53	0.39	-4398	45209	59585	1.32	Si
SLV 15	14	0.53	0.39	-4398	45209	59585	1.32	Si
SLV 2	14	0.53	0.44	-4886	45209	65951	1.46	Si
SLV 1	14	0.53	0.44	-4886	45209	65951	1.46	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	-1461	-7870	862	0	7.176	0.903	0	1930.074	No
SLV 11	350	-6938	58	0	0	0	0	1930.074	No, Trazione
SLV 5	-1885	-7319	865	0	7.506	0.895	0	1930.074	No
SLV 6	-1885	-7319	865	0	7.506	0.895	0	1930.074	No
SLV 10	-1461	-7870	862	0	7.176	0.903	0	1930.074	No
SLV 3	-1203	-6070	345	0	6.991	0.909	0	979.113	No
SLV 2	-1746	-6349	586	0	7.395	0.897	0	979.113	No
SLV 4	-1203	-6070	345	0	6.991	0.909	0	979.113	No
SLV 12	350	-6938	58	0	0	0	0	1930.074	No, Trazione
SLV 1	-1746	-6349	586	0	7.395	0.897	0	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.271	SLU 39	Si
V_SLU	13.837	SLU 81	Si
PF_SLV	0	SLV 15	No
V_SLV	0	SLV 15	No
PFFP_SLV	1.134	SLV 7	Si
R_SLV	0	SLV 16	No

Maschio 209

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-705.8	666.1	-501.8	666.1	L6	L7	204	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 59	1340	-1964	-72768	0.34	191839	2.636	Si
SLU 59	1520	646	-375770	0	0	0	No, Trazione
SLU 1	1340	-2461	-29424	0.43	237778	8.081	Si
SLU 1	1520	-447	-108568	0	0	0	No, e>l/2
SLU 61	1340	-3126	-28036	0.55	297437	10.609	Si
SLU 61	1520	-517	-127237	0	0	0	No, e>l/2
SLU 57	1340	-2583	-74038	0.45	248879	3.362	Si
SLU 57	1520	26	-366236	0	0	0	No, Trazione
SLU 58	1340	-1990	-72894	0.35	194269	2.665	Si
SLU 58	1520	620	-373657	0	0	0	No, Trazione
SLU 53	1340	-3207	-53080	0.56	304527	5.737	Si
SLU 53	1520	-597	-239442	0	0	0	No, e>l/2
SLU 55	1340	-2543	-51600	0.45	245243	4.753	Si
SLU 55	1520	66	-252499	0	0	0	No, Trazione
SLU 54	1340	-3181	-52954	0.56	302236	5.708	Si
SLU 54	1520	-571	-241555	0	0	0	No, e>l/2
SLU 56	1340	-2609	-74164	0.46	251238	3.388	Si
SLU 56	1520	0	-364122	0	0	0	No, Trazione
SLU 60	1340	-3152	-28161	0.55	299735	10.643	Si
SLU 60	1520	-543	-125124	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLD 1	1340	-2171	-102027	0.38	214525	2.103	Si
SLD 1	1520	119	-144984	0	0	0	No, Trazione
SLV 2	1340	-1869	-200747	0	0	0	No, e>l/2
SLV 2	1520	781	-173072	0	0	0	No, Trazione



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 9	1340	-1535	-153665	0.27	153167	0.997	No, M>Mu
SLV 9	1520	1122	-282916	0	0	0	No, Trazione
SLV 5	1340	-1389	-227619	0	0	0	No, e>l/2
SLV 5	1520	1509	-283389	0	0	0	No, Trazione
SLV 14	1340	-2357	45766	0.41	232272	5.075	Si
SLV 14	1520	-508	-171492	0	0	0	No, e>l/2
SLV 13	1340	-2357	45766	0.41	232272	5.075	Si
SLV 13	1520	-508	-171492	0	0	0	No, e>l/2
SLV 4	1340	-2427	-103759	0.42	238931	2.303	Si
SLV 4	1520	-230	-78039	0	0	0	No, e>l/2
SLV 6	1340	-1389	-227619	0	0	0	No, e>l/2
SLV 6	1520	1509	-283389	0	0	0	No, Trazione
SLV 3	1340	-2427	-103759	0.42	238931	2.303	Si
SLV 3	1520	-230	-78039	0	0	0	No, e>l/2
SLV 10	1340	-1535	-153665	0.27	153167	0.997	No, M>Mu
SLV 10	1520	1122	-282916	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 53	1340	-3207	1064	-53080	0.56	0	204	0.63	3601	0	0	3.38	Si
SLU 53	1520	-597	1064	-239442	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 55	1340	-2543	1145	-51600	0.45	0	204	0.61	3512	0	0	3.07	Si
SLU 55	1520	66	1145	-252499	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 1	1340	-2461	462	-29424	0.43	0	204	0.61	3502	0	0	7.58	Si
SLU 1	1520	-447	462	-108568	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 54	1340	-3181	1077	-52954	0.56	0	204	0.63	3597	0	0	3.34	Si
SLU 54	1520	-571	1077	-241555	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 60	1340	-3152	568	-28161	0.55	0	204	0.63	3594	0	0	6.33	Si
SLU 60	1520	-543	568	-125124	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 61	1340	-3126	580	-28036	0.55	0	204	0.63	3590	0	0	6.19	Si
SLU 61	1520	-517	580	-127237	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 58	1340	-1990	1700	-72894	0.36	0	196.09	0.6	3316	0	0	1.95	Si
SLU 58	1520	620	1700	-373657	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 56	1340	-2609	1640	-74164	0.46	0	204	0.62	3521	0	0	2.15	Si
SLU 56	1520	0	1640	-364122	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 59	1340	-1964	1712	-72768	0.36	0	194.83	0.6	3292	0	0	1.92	Si
SLU 59	1520	646	1712	-375770	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 57	1340	-2583	1652	-74038	0.45	0	204	0.62	3518	0	0	2.13	Si
SLU 57	1520	26	1652	-366236	0	0	0	0.56	0	0	0	0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 1	1340	-2171	-94	-102027	0.47	0	164.99	0.93	4284	0	0	45.72	Si
SLD 1	1520	119	391	-144984	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 2	1340	-1869	-962	-200747	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 2	1520	781	168	-173072	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 9	1340	-1535	906	-153665	9.52	0	5.76	1.63	262	0	0	0.29	No, Vu<V
SLV 9	1520	1122	372	-282916	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 4	1340	-2427	-906	-103759	0.49	0	177.74	0.93	4633	0	0	5.12	Si
SLV 4	1520	-230	332	-78039	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 10	1340	-1535	906	-153665	9.52	0	5.76	1.63	262	0	0	0.29	No, Vu<V
SLV 10	1520	1122	372	-282916	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 6	1340	-1389	13	-227619	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 6	1520	1509	190	-283389	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 5	1340	-1389	13	-227619	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 5	1520	1509	190	-283389	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 13	1340	-2357	2014	45766	0.41	0	204	0.92	5231	0	0	2.6	Si
SLV 13	1520	-508	776	-171492	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 14	1340	-2357	2014	45766	0.41	0	204	0.92	5231	0	0	2.6	Si
SLV 14	1520	-508	776	-171492	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 3	1340	-2427	-906	-103759	0.49	0	177.74	0.93	4633	0	0	5.12	Si
SLV 3	1520	-230	332	-78039	0	0	0	0.83	0	0	0	0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.53	0	-534	23172	0	0	No, e>t/2
SLV 3	14	0.53	0	-1452	23172	0	0	No, e>t/2
SLV 5	14	0.53	0	-193	23172	0	0	No, e>t/2
SLV 10	14	0.53	0	-534	23172	0	0	No, e>t/2
SLV 6	14	0.53	0	-193	23172	0	0	No, e>t/2
SLV 1	14	0.53	0	-687	23172	0	0	No, e>t/2
SLV 4	14	0.53	0	-1452	23172	0	0	No, e>t/2
SLV 2	14	0.53	0	-687	23172	0	0	No, e>t/2
SLV 13	14	0.53	0.32	-1826	23172	24900	1.07	Si
SLV 14	14	0.53	0.32	-1826	23172	24900	1.07	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	1342	-1163	512	0	0	0	0	1930.074	No, Trazione
SLV 9	778	-2391	503	0	0	0	0	1930.074	No, Trazione
SLV 10	778	-2391	503	0	0	0	0	1930.074	No, Trazione
SLV 7	-309	-3852	-467	0	3.399	0.937	0	1930.074	No
SLV 1	1422	-671	179	0	0	0	0	979.113	No, Trazione
SLV 5	1342	-1163	512	0	0	0	0	1930.074	No, Trazione
SLV 2	1422	-671	179	0	0	0	0	979.113	No, Trazione

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-309	-3852	-467	0	3.399	0.937	0	1930.074	No
SLV 4	927	-1478	-114	0	0	0	0	979.113	No, Trazione
SLV 3	927	-1478	-114	0	0	0	0	979.113	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 10	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 10	No

Maschio 210

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2066.8	104.6	-2452.8	104.6	L6	L7	386	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 16	1250	-10177	73946	0.94	1737173	23.492	Si
SLU 16	1460	-6131	-358076	0.57	1100823	3.074	Si
SLU 51	1250	-12481	-148452	1.15	2067384	13.926	Si
SLU 51	1460	-7265	-414833	0.67	1286363	3.101	Si
SLU 72	1250	-13272	-29754	1.23	2175339	73.111	Si
SLU 72	1460	-7927	-451931	0.73	1392128	3.08	Si
SLU 37	1250	-10968	192644	1.01	1853114	9.619	Si
SLU 37	1460	-6793	-395175	0.63	1209880	3.062	Si
SLU 17	1250	-10183	52007	0.94	1738013	33.419	Si
SLU 17	1460	-6136	-363007	0.57	1101764	3.035	Si
SLU 30	1250	-10859	14693	1	1837293	125.047	Si
SLU 30	1460	-6684	-412943	0.62	1192064	2.887	Si
SLU 38	1250	-10974	170705	1.02	1853935	10.86	Si
SLU 38	1460	-6799	-400105	0.63	1210805	3.026	Si
SLU 9	1250	-10068	-104005	0.93	1720973	16.547	Si
SLU 9	1460	-6022	-375844	0.56	1082690	2.881	Si
SLU 29	1250	-10853	36632	1	1836469	50.133	Si
SLU 29	1460	-6678	-408012	0.62	1191136	2.919	Si
SLU 8	1250	-10063	-82066	0.93	1720130	20.96	Si
SLU 8	1460	-6016	-370914	0.56	1081746	2.916	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 3	1250	-12475	360498	1.15	2180227	6.048	Si
SLV 3	1460	-8401	-689996	0.78	1518279	2.2	Si
SLV 8	1250	-9997	17491	0.92	1783308	101.955	Si
SLV 8	1460	-6589	-429600	0.61	1208309	2.813	Si
SLV 4	1250	-12475	360498	1.15	2180227	6.048	Si
SLV 4	1460	-8401	-689996	0.78	1518279	2.2	Si
SLV 2	1250	-12600	450729	1.17	2199756	4.88	Si
SLV 2	1460	-8082	-625975	0.75	1464389	2.339	Si
SLV 14	1250	-5935	-228523	0.55	1094045	4.787	Si
SLV 14	1460	-1842	331414	0.17	350608	1.058	Si
SLV 1	1250	-12600	450729	1.17	2199756	4.88	Si
SLV 1	1460	-8082	-625975	0.75	1464389	2.339	Si
SLV 15	1250	-5810	-318754	0.54	1072082	3.363	Si
SLV 15	1460	-2161	267394	0.2	410317	1.535	Si
SLV 16	1250	-5810	-318754	0.54	1072082	3.363	Si
SLV 16	1460	-2161	267394	0.2	410317	1.535	Si
SLV 7	1250	-9997	17491	0.92	1783308	101.955	Si
SLV 7	1460	-6589	-429600	0.61	1208309	2.813	Si
SLV 13	1250	-5935	-228523	0.55	1094045	4.787	Si
SLV 13	1460	-1842	331414	0.17	350608	1.058	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	1250	-12872	2792	249843		1.19	386	0.71	7721			2.76	Si
SLU 83	1460	-7527	2792	-329384		0.7	386	0.65	7008			2.51	Si
SLU 42	1250	-10465	2729	272350		0.97	386	0.68	7400			2.71	Si
SLU 42	1460	-6290	2729	-295326		0.58	386	0.63	6843			2.51	Si
SLU 84	1250	-12878	2711	227904		1.19	386	0.71	7721			2.85	Si
SLU 84	1460	-7532	2711	-334314		0.7	386	0.65	7009			2.58	Si
SLU 38	1250	-10974	2744	170705		1.02	386	0.69	7468			2.72	Si
SLU 38	1460	-6799	2744	-400105		0.63	386	0.64	6911			2.52	Si
SLU 35	1250	-12309	2894	214653		1.14	386	0.71	7646			2.64	Si
SLU 35	1460	-8134	2894	-387681		0.75	386	0.66	7089			2.45	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 36	1250	-12315	2813	192714		1.14	386	0.71	7646			2.72	Si
SLU 36	1460	-8140	2813	-392612		0.75	386	0.66	7090			2.52	Si
SLU 79	1250	-13381	2807	148197		1.24	386	0.72	7789			2.77	Si
SLU 79	1460	-8036	2807	-434163		0.74	386	0.65	7076			2.52	Si
SLU 41	1250	-10459	2810	294289		0.97	386	0.68	7399			2.63	Si
SLU 41	1460	-6284	2810	-290396		0.58	386	0.63	6842			2.43	Si
SLU 37	1250	-10968	2825	192644		1.01	386	0.69	7467			2.64	Si
SLU 37	1460	-6793	2825	-395175		0.63	386	0.64	6910			2.45	Si
SLU 77	1250	-14722	2876	170206		1.36	386	0.74	7967			2.77	Si
SLU 77	1460	-9377	2876	-426670		0.87	386	0.67	7255			2.52	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1250	-5935	-1142	-228523		0.55	386	0.94	10194			8.92	Si
SLV 13	1460	-1842	-1329	331414		1.67	39.33	1.17	1286			0.97	No, Vu<V
SLV 14	1250	-5935	-1142	-228523		0.55	386	0.94	10194			8.92	Si
SLV 14	1460	-1842	-1329	331414		1.67	39.33	1.17	1286			0.97	No, Vu<V
SLV 1	1250	-12600	4101	450729		1.17	386	1.07	11527			2.81	Si
SLV 1	1460	-8082	4264	-625975		0.83	346.65	1	9705			2.28	Si
SLV 16	1250	-5810	-1713	-318754		0.54	386	0.94	10169			5.94	Si
SLV 16	1460	-2161	-1875	267394		0.37	207.86	0.91	5282			2.82	Si
SLV 5	1250	-10413	2932	318259		0.96	386	1.03	11089			3.78	Si
SLV 5	1460	-5526	2944	-216198		0.51	386	0.94	10112			3.44	Si
SLV 2	1250	-12600	4101	450729		1.17	386	1.07	11527			2.81	Si
SLV 2	1460	-8082	4264	-625975		0.83	346.65	1	9705			2.28	Si
SLV 15	1250	-5810	-1713	-318754		0.54	386	0.94	10169			5.94	Si
SLV 15	1460	-2161	-1875	267394		0.37	207.86	0.91	5282			2.82	Si
SLV 3	1250	-12475	3531	360498		1.15	386	1.06	11502			3.26	Si
SLV 3	1460	-8401	3718	-689996		0.9	332.61	1.01	9441			2.54	Si
SLV 6	1250	-10413	2932	318259		0.96	386	1.03	11089			3.78	Si
SLV 6	1460	-5526	2944	-216198		0.51	386	0.94	10112			3.44	Si
SLV 4	1250	-12475	3531	360498		1.15	386	1.06	11502			3.26	Si
SLV 4	1460	-8401	3718	-689996		0.9	332.61	1.01	9441			2.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.53	0	-2782	44865	0	0	No, e>t/2
SLV 13	14	0.53	0	-2782	44865	0	0	No, e>t/2
SLV 15	14	0.53	0	-2894	44865	0	0	No, e>t/2
SLV 16	14	0.53	0	-2894	44865	0	0	No, e>t/2
SLV 10	14	0.53	0.45	-4833	44865	65181	1.45	Si
SLV 9	14	0.53	0.45	-4833	44865	65181	1.45	Si
SLV 12	14	0.53	0.48	-5205	44865	70002	1.56	Si
SLV 11	14	0.53	0.48	-5205	44865	70002	1.56	Si
SLV 5	14	0.53	0.62	-6702	44865	89066	1.99	Si
SLV 6	14	0.53	0.62	-6702	44865	89066	1.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-1617	-10413	13	0.071	7.111	0.899	114.214	1930.074	No
SLV 5	-1617	-10413	13	0.071	7.111	0.899	114.214	1930.074	No
SLV 12	-1579	-7997	-13	0.071	7.082	0.899	114.571	1930.074	No
SLV 11	-1579	-7997	-13	0.071	7.082	0.899	114.571	1930.074	No
SLV 7	-1703	-9997	-7	0.071	7.179	0.897	115.677	1930.074	No
SLV 8	-1703	-9997	-7	0.071	7.179	0.897	115.677	1930.074	No
SLV 10	-1493	-8414	7	0.073	7.016	0.901	117.1	1930.074	No
SLV 9	-1493	-8414	7	0.073	7.016	0.901	117.1	1930.074	No
SLV 2	-1791	-12600	13	0.07	7.249	0.896	113.065	979.113	No
SLV 1	-1791	-12600	13	0.07	7.249	0.896	113.065	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.881	SLU 9	Si
V_SLU	2.435	SLU 41	Si
PF_SLV	1.058	SLV 13	Si
V_SLV	0.968	SLV 13	No
PFFP_SLV	0	SLV 13	No
R_SLV	0.059	SLV 5	No

Maschio 211

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1228.3	104.6	-1986.8	104.6	L6	L7	758.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 83	1250	-39476	-1186606	1.86	11555125	9.738	Si
SLU 83	1500	-30472	-431796	1.43	9521022	22.05	Si
SLU 40	1250	-28121	-999250	1.32	8931457	8.938	Si
SLU 40	1500	-21142	-533064	1	7038129	13.203	Si
SLU 18	1250	-25484	-805598	1.2	8241019	10.23	Si
SLU 18	1500	-18192	-548599	0.86	6173965	11.254	Si
SLU 42	1250	-32522	-1034238	1.53	10015353	9.684	Si
SLU 42	1500	-26052	-269906	1.23	8392368	31.094	Si
SLU 37	1250	-37065	-1073483	1.75	11045173	10.289	Si
SLU 37	1500	-30895	-20290	1.45	9624579	474.359	Si
SLU 82	1250	-35284	-1072361	1.66	10652330	9.934	Si
SLU 82	1500	-25680	-632076	1.21	8293527	13.121	Si
SLU 81	1250	-35076	-1151619	1.65	10605401	9.209	Si
SLU 81	1500	-25562	-694955	1.2	8261944	11.888	Si
SLU 32	1250	-34480	-1066527	1.62	10470358	9.817	Si
SLU 32	1500	-27915	-366952	1.31	8878504	24.195	Si
SLU 39	1250	-27913	-1078508	1.31	8877977	8.232	Si
SLU 39	1500	-21023	-595943	0.99	7004192	11.753	Si
SLU 41	1250	-32313	-1113495	1.52	9965898	8.95	Si
SLU 41	1500	-25934	-332784	1.22	8360979	25.124	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 15	1250	-20867	-352090	0.98	7277377	20.669	Si
SLV 15	1500	-13876	2650997	0.65	4981063	1.879	Si
SLV 1	1250	-33358	-1015057	1.57	11024885	10.861	Si
SLV 1	1500	-24401	-3512124	1.15	8383787	2.387	Si
SLV 16	1250	-20867	-352090	0.98	7277377	20.669	Si
SLV 16	1500	-13876	2650997	0.65	4981063	1.879	Si
SLD 3	1250	-29417	-705726	1.39	9891853	14.017	Si
SLD 3	1500	-21775	-1802809	1.03	7565213	4.196	Si
SLV 13	1250	-21713	-629481	1.02	7545567	11.987	Si
SLV 13	1500	-12959	2784459	0.61	4669353	1.677	Si
SLV 2	1250	-33358	-1015057	1.57	11024885	10.861	Si
SLV 2	1500	-24401	-3512124	1.15	8383787	2.387	Si
SLV 4	1250	-32512	-737666	1.53	10785491	14.621	Si
SLV 4	1500	-25317	-3645586	1.19	8664840	2.377	Si
SLV 3	1250	-32512	-737666	1.53	10785491	14.621	Si
SLV 3	1500	-25317	-3645586	1.19	8664840	2.377	Si
SLV 14	1250	-21713	-629481	1.02	7545567	11.987	Si
SLV 14	1500	-12959	2784459	0.61	4669353	1.677	Si
SLD 4	1250	-29417	-705726	1.39	9891853	14.017	Si
SLD 4	1500	-21775	-1802809	1.03	7565213	4.196	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 29	1250	-37883	-1447	-898484		1.78	758.5	0.79	16850			11.65	Si
SLU 29	1500	-31015	-1396	94828		1.46	758.5	0.75	15934			11.41	Si
SLU 28	1250	-39907	-1303	-847258		1.88	758.5	0.81	17120			13.13	Si
SLU 28	1500	-33063	-1203	74202		1.56	758.5	0.76	16207			13.48	Si
SLU 72	1250	-45254	-1241	-892338		2.13	758.5	0.84	17833			14.37	Si
SLU 72	1500	-35672	-1305	58695		1.68	758.5	0.78	16555			12.68	Si
SLU 30	1250	-38091	-1473	-819227		1.79	758.5	0.79	16878			11.46	Si
SLU 30	1500	-31134	-1468	157706		1.47	758.5	0.75	15950			10.86	Si
SLU 27	1250	-39699	-1277	-926515		1.87	758.5	0.8	17092			13.38	Si
SLU 27	1500	-32945	-1130	11324		1.55	758.5	0.76	16192			14.32	Si
SLU 9	1250	-35662	-1041	-546317		1.68	758.5	0.78	16554			15.9	Si
SLU 9	1500	-28303	-1250	205050		1.33	758.5	0.73	15573			12.46	Si
SLU 8	1250	-35453	-1015	-625575		1.67	758.5	0.78	16526			16.29	Si
SLU 8	1500	-28184	-1178	142171		1.33	758.5	0.73	15557			13.21	Si
SLU 18	1250	-25484	658	-805598		1.2	758.5	0.72	15197			23.09	Si
SLU 18	1500	-18192	1082	-548599		0.86	758.5	0.67	14225			13.14	Si
SLU 61	1250	-32855	863	-799452		1.55	758.5	0.76	16180			18.74	Si
SLU 61	1500	-22849	1173	-584732		1.08	758.5	0.7	14845			12.65	Si
SLU 60	1250	-32646	890	-878710		1.54	758.5	0.76	16152			18.15	Si
SLU 60	1500	-22731	1245	-647611		1.07	758.5	0.7	14830			11.91	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1250	-27449	9283	-279091		1.29	758.5	1.09	23188			2.5	Si
SLV 7	1500	-22382	7389	-1597488		1.05	758.5	1.04	22175			3	Si
SLV 1	1250	-33358	18243	-1015057		1.57	758.5	1.15	24370			1.34	Si
SLV 1	1500	-24401	10655	-3512124		1.23	705.94	1.08	21352			2	Si
SLV 15	1250	-20867	-17780	-352090		0.98	758.5	1.03	21872			1.23	Si
SLV 15	1500	-13876	-9875	2650997		0.88	564.6	1.01	15949			1.62	Si
SLV 2	1250	-33358	18243	-1015057		1.57	758.5	1.15	24370			1.34	Si
SLV 2	1500	-24401	10655	-3512124		1.23	705.94	1.08	21352			2	Si
SLV 8	1250	-27449	9283	-279091		1.29	758.5	1.09	23188			2.5	Si
SLV 8	1500	-22382	7389	-1597488		1.05	758.5	1.04	22175			3	Si
SLV 14	1250	-21713	-19789	-629481		1.02	758.5	1.04	22041			1.11	Si
SLV 14	1500	-12959	-12033	2784459		0.94	493.16	1.02	14099			1.17	Si
SLV 3	1250	-32512	20251	-737666		1.53	758.5	1.14	24201			1.2	Si
SLV 3	1500	-25317	12812	-3645586		1.28	705.76	1.09	21531			1.68	Si
SLV 16	1250	-20867	-17780	-352090		0.98	758.5	1.03	21872			1.23	Si
SLV 16	1500	-13876	-9875	2650997		0.88	564.6	1.01	15949			1.62	Si
SLV 13	1250	-21713	-19789	-629481		1.02	758.5	1.04	22041			1.11	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1500	-12959	-12033	2784459		0.94	493.16	1.02	14099			1.17	Si
SLV 4	1250	-32512	20251	-737666		1.53	758.5	1.14	24201			1.2	Si
SLV 4	1500	-25317	12812	-3645586		1.28	705.76	1.09	21531			1.68	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.53	0.8	-17020	88161	222653	2.53	Si
SLV 13	14	0.53	0.8	-17020	88161	222653	2.53	Si
SLV 15	14	0.53	0.83	-17711	88161	231029	2.62	Si
SLV 16	14	0.53	0.83	-17711	88161	231029	2.62	Si
SLV 10	14	0.53	0.93	-19722	88161	255123	2.89	Si
SLV 9	14	0.53	0.93	-19722	88161	255123	2.89	Si
SLV 11	14	0.53	1.04	-22024	88161	282170	3.2	Si
SLV 12	14	0.53	1.04	-22024	88161	282170	3.2	Si
SLV 5	14	0.53	1.07	-22728	88161	290329	3.29	Si
SLV 6	14	0.53	1.07	-22728	88161	290329	3.29	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-16735	-23956	1084	0.008	26.765	0.911	13.484	1930.074	No
SLV 12	-16735	-23956	1084	0.008	26.765	0.911	13.484	1930.074	No
SLV 8	-18870	-27449	1088	0.011	28.895	0.916	18.031	1930.074	No
SLV 7	-18870	-27449	1088	0.011	28.895	0.916	18.031	1930.074	No
SLV 9	-14073	-26776	-910	0.012	24.125	0.905	19.878	1930.074	No
SLV 10	-14073	-26776	-910	0.012	24.125	0.905	19.878	1930.074	No
SLV 5	-16208	-30269	-906	0.016	26.241	0.91	24.953	1930.074	No
SLV 6	-16208	-30269	-906	0.016	26.241	0.91	24.953	1930.074	No
SLV 15	-13312	-20867	381	0.038	23.375	0.903	61.831	979.113	No
SLV 16	-13312	-20867	381	0.038	23.375	0.903	61.831	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.232	SLU 39	Si
V_SLU	10.862	SLU 30	Si
PF_SLV	1.677	SLV 13	Si
V_SLV	1.114	SLV 13	Si
PFFP_SLV	2.526	SLV 13	Si
R_SLV	0.007	SLV 11	No

Maschio 212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1046.6	104.6	-1116.3	104.6	L6	L7	69.6	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 40	1250	-2515	40630	1.29	73713	1.814	Si
SLU 40	1500	-3843	-27242	1.97	101429	3.723	Si
SLU 38	1250	-3249	42205	1.67	89979	2.132	Si
SLU 38	1500	-5603	-28983	2.87	126271	4.357	Si
SLU 37	1250	-3256	43044	1.67	90124	2.094	Si
SLU 37	1500	-5654	-29652	2.9	126784	4.276	Si
SLU 32	1250	-3116	40900	1.6	87203	2.132	Si
SLU 32	1500	-5055	-27905	2.59	119994	4.3	Si
SLU 31	1250	-2572	36398	1.32	75051	2.062	Si
SLU 31	1500	-3824	-24562	1.96	101097	4.116	Si
SLU 39	1250	-2522	41469	1.29	73880	1.782	Si
SLU 39	1500	-3893	-27911	2	102332	3.666	Si
SLU 42	1250	-2851	43254	1.46	81460	1.883	Si
SLU 42	1500	-4715	-29229	2.42	115440	3.949	Si
SLU 81	1250	-3257	42653	1.67	90144	2.113	Si
SLU 81	1500	-4640	-28697	2.38	114366	3.985	Si
SLU 41	1250	-2859	44093	1.47	81616	1.851	Si
SLU 41	1500	-4766	-29898	2.44	116150	3.885	Si
SLU 34	1250	-2908	39022	1.49	82715	2.12	Si
SLU 34	1500	-4697	-26550	2.41	115179	4.338	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 8	1250	-1854	68046	0	0	0	No, e>l/2
SLV 8	1500	-695	-56451	0	0	0	No, e>l/2
SLV 14	1250	-4018	-162743	0	0	0	No, e>l/2
SLV 14	1500	-4765	124614	2.44	132722	1.065	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 2	1250	-1373	216489	0	0	0	No, e>/2
SLV 2	1500	-3690	-157774	0	0	0	No, e>/2
SLD 1	1250	-2071	105630	0	0	0	No, e>/2
SLD 1	1500	-3549	-76554	1.82	105151	1.374	Si
SLV 6	1250	-2538	92218	0	0	0	No, e>/2
SLV 6	1500	-5881	-60278	3.02	154225	2.559	Si
SLV 3	1250	-1168	209237	0	0	0	No, e>/2
SLV 3	1500	-2134	-156626	0	0	0	No, e>/2
SLV 5	1250	-2538	92218	0	0	0	No, e>/2
SLV 5	1500	-5881	-60278	3.02	154225	2.559	Si
SLV 7	1250	-1854	68046	0	0	0	No, e>/2
SLV 7	1500	-695	-56451	0	0	0	No, e>/2
SLV 4	1250	-1168	209237	0	0	0	No, e>/2
SLV 4	1500	-2134	-156626	0	0	0	No, e>/2
SLV 13	1250	-4018	-162743	0	0	0	No, e>/2
SLV 13	1500	-4765	124614	2.44	132722	1.065	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 39	1250	-2522	469	41469		1.63	55.14	0.77	1194			2.55	Si
SLU 39	1500	-3893	443	-27911		2	69.64	0.82	1602			3.62	Si
SLU 40	1250	-2515	459	40630		1.6	56	0.77	1206			2.63	Si
SLU 40	1500	-3843	434	-27242		1.97	69.64	0.82	1596			3.68	Si
SLU 38	1250	-3249	549	42205		1.77	65.48	0.79	1452			2.65	Si
SLU 38	1500	-5603	528	-28983		2.87	69.64	0.94	1830			3.47	Si
SLU 83	1250	-3593	558	45277		1.93	66.65	0.81	1516			2.72	Si
SLU 83	1500	-5513	531	-30685		2.83	69.64	0.93	1818			3.42	Si
SLU 41	1250	-2859	529	44093		1.75	58.18	0.79	1286			2.43	Si
SLU 41	1500	-4766	502	-29898		2.44	69.64	0.88	1719			3.42	Si
SLU 79	1250	-3990	587	44227		2.05	69.64	0.83	1615			2.75	Si
SLU 79	1500	-6401	566	-30438		3.28	69.64	0.99	1937			3.42	Si
SLU 42	1250	-2851	519	43254		1.73	58.95	0.79	1297			2.5	Si
SLU 42	1500	-4715	493	-29229		2.42	69.64	0.88	1712			3.47	Si
SLU 35	1250	-3452	567	43524		1.85	66.63	0.8	1497			2.64	Si
SLU 35	1500	-5928	546	-29892		3.04	69.64	0.96	1874			3.43	Si
SLU 36	1250	-3445	557	42686		1.83	67.28	0.8	1506			2.7	Si
SLU 36	1500	-5877	537	-29223		3.01	69.64	0.96	1867			3.48	Si
SLU 37	1250	-3256	558	43044		1.79	64.79	0.79	1442			2.58	Si
SLU 37	1500	-5654	537	-29652		2.9	69.64	0.94	1837			3.42	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	1250	-2538	964	92218		0	0	0.83	0			0	No, Vu<V
SLV 5	1500	-5881	798	-60278		3.02	69.64	1.44	2801			3.51	Si
SLV 4	1250	-1168	1975	209237		0	0	0.83	0			0	No, Vu<V
SLV 4	1500	-2134	1255	-156626		0	0	0.83	0			0	No, Vu<V
SLV 3	1250	-1168	1975	209237		0	0	0.83	0			0	No, Vu<V
SLV 3	1500	-2134	1255	-156626		0	0	0.83	0			0	No, Vu<V
SLD 1	1250	-2071	1050	105630		0	0	0.83	0			0	No, Vu<V
SLD 1	1500	-3549	753	-76554		3.19	39.73	1.47	1637			2.17	Si
SLV 8	1250	-1854	664	68046		0	0	0.83	0			0	No, Vu<V
SLV 8	1500	-695	396	-56451		0	0	0.83	0			0	No, Vu<V
SLV 14	1250	-4018	-1381	-162743		0	0	0.83	0			0	No, Vu<V
SLV 14	1500	-4765	-677	124614		6.55	26	1.63	1183			1.75	Si
SLV 6	1250	-2538	964	92218		0	0	0.83	0			0	No, Vu<V
SLV 6	1500	-5881	798	-60278		3.02	69.64	1.44	2801			3.51	Si
SLV 7	1250	-1854	664	68046		0	0	0.83	0			0	No, Vu<V
SLV 7	1500	-695	396	-56451		0	0	0.83	0			0	No, Vu<V
SLV 13	1250	-4018	-1381	-162743		0	0	0.83	0			0	No, Vu<V
SLV 13	1500	-4765	-677	124614		6.55	26	1.63	1183			1.75	Si
SLV 2	1250	-1373	2065	216489		0	0	0.83	0			0	No, Vu<V
SLV 2	1500	-3690	1376	-157774		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0.51	-1000	8094	13415	1.66	Si
SLV 8	14	0.53	0.51	-1000	8094	13415	1.66	Si
SLV 11	14	0.53	0.74	-1441	8094	18949	2.34	Si
SLV 12	14	0.53	0.74	-1441	8094	18949	2.34	Si
SLV 4	14	0.53	0.85	-1659	8094	21610	2.67	Si
SLV 3	14	0.53	0.85	-1659	8094	21610	2.67	Si
SLV 2	14	0.53	1.37	-2664	8094	33129	4.09	Si
SLV 1	14	0.53	1.37	-2664	8094	33129	4.09	Si
SLV 16	14	0.53	1.6	-3127	8094	38035	4.7	Si
SLV 15	14	0.53	1.6	-3127	8094	38035	4.7	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-204	-1854	294	0	1.218	0.911	0	1930.074	No
SLV 3	-899	-1168	135	0	1.831	0.894	0	979.113	No
SLV 6	-3499	-2538	-239	0	4.435	0.944	0	1930.074	No
SLV 12	-596	-2648	271	0	1.546	0.889	0	1930.074	No
SLV 8	-204	-1854	294	0	1.218	0.911	0	1930.074	No
SLV 11	-596	-2648	271	0	1.546	0.889	0	1930.074	No
SLV 10	-3891	-3331	-263	0	4.833	0.948	0	1930.074	No

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-3499	-2538	-239	0	4.435	0.944	0	1930.074	No
SLV 9	-3891	-3331	-263	0	4.833	0.948	0	1930.074	No
SLV 4	-899	-1168	135	0	1.831	0.894	0	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.782	SLV 39	Si
V_SLV	2.433	SLV 41	Si
PF_SLV	0	SLD 1	No
V_SLV	0	SLD 1	No
PFFP_SLV	1.657	SLV 7	Si
R_SLV	0	SLV 3	No

Maschio 213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-727.8	104.6	-938.6	104.6	L6	L7	210.9	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 1	1250	-8060	969	1.37	707387	730.249	Si
SLU 1	1500	-4828	39169	0.82	457963	11.692	Si
SLU 46	1250	-12513	11825	2.12	976034	82.543	Si
SLU 46	1500	-8021	65112	1.36	704647	10.822	Si
SLU 61	1250	-9279	-26742	1.57	789575	29.526	Si
SLU 61	1500	-5341	43391	0.9	500566	11.536	Si
SLU 2	1250	-8211	-5455	1.39	717905	131.605	Si
SLU 2	1500	-4945	42640	0.84	467784	10.971	Si
SLU 45	1250	-12423	15679	2.1	971442	61.959	Si
SLU 45	1500	-7951	63029	1.35	699707	11.101	Si
SLU 52	1250	-9713	-24143	1.65	817260	33.85	Si
SLU 52	1500	-5695	50446	0.96	529359	10.494	Si
SLU 44	1250	-10585	-12084	1.79	870385	72.027	Si
SLU 44	1500	-6413	63668	1.09	585991	9.204	Si
SLU 43	1250	-10434	-5660	1.77	861437	152.184	Si
SLU 43	1500	-6296	60196	1.07	576922	9.584	Si
SLU 60	1250	-9189	-22888	1.56	783700	34.241	Si
SLU 60	1500	-5271	41308	0.89	494802	11.978	Si
SLU 47	1250	-11903	13651	2.02	944379	69.179	Si
SLU 47	1500	-7428	57707	1.26	662163	11.475	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 6	1250	-6487	302067	1.1	622409	2.061	Si
SLV 6	1500	-2051	-263857	0	0	0	No, e>1/2
SLD 1	1250	-5970	194631	1.01	577371	2.966	Si
SLD 1	1500	-1940	-240622	0	0	0	No, e>1/2
SLV 4	1250	-3468	344227	0.59	348100	1.011	Si
SLV 4	1500	1204	-534075	0	0	0	No, Trazione
SLV 3	1250	-3468	344227	0.59	348100	1.011	Si
SLV 3	1500	1204	-534075	0	0	0	No, Trazione
SLV 1	1250	-3442	452390	0	0	0	No, e>1/2
SLV 1	1500	1652	-601780	0	0	0	No, Trazione
SLV 5	1250	-6487	302067	1.1	622409	2.061	Si
SLV 5	1500	-2051	-263857	0	0	0	No, e>1/2
SLV 2	1250	-3442	452390	0	0	0	No, e>1/2
SLV 2	1500	1652	-601780	0	0	0	No, Trazione
SLD 3	1250	-5975	149052	1.01	577790	3.876	Si
SLD 3	1500	-2121	-212432	0.36	217088	1.022	Si
SLD 2	1250	-5970	194631	1.01	577371	2.966	Si
SLD 2	1500	-1940	-240622	0	0	0	No, e>1/2
SLD 4	1250	-5975	149052	1.01	577790	3.876	Si
SLD 4	1500	-2121	-212432	0.36	217088	1.022	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	1250	-10915	848	68768		1.85	210.86	0.8	4735			5.58	Si
SLU 30	1500	-6871	206	2274		1.16	210.86	0.71	4196			20.41	Si
SLU 72	1250	-13290	783	62139		2.25	210.86	0.86	5052			6.45	Si
SLU 72	1500	-8339	188	23301		1.41	210.86	0.74	4392			23.35	Si
SLU 29	1250	-10825	864	72622		1.83	210.86	0.8	4723			5.47	Si
SLU 29	1500	-6801	210	191		1.15	210.86	0.71	4187			19.91	Si
SLU 27	1250	-11495	822	68226		1.95	210.86	0.82	4813			5.86	Si
SLU 27	1500	-7441	165	8984		1.26	210.86	0.72	4272			25.86	Si
SLU 38	1250	-10044	788	56709		1.7	210.86	0.78	4619			5.86	Si
SLU 38	1500	-6153	84	-10948		1.04	210.86	0.69	4101			49.03	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 71	1250	-13199	799	65993		2.24	210.86	0.85	5040			6.31	Si
SLU 71	1500	-8269	193	21219		1.4	210.86	0.74	4383			22.74	Si
SLU 28	1250	-11586	806	64372		1.96	210.86	0.82	4825			5.99	Si
SLU 28	1500	-7512	161	11067		1.27	210.86	0.73	4282			26.66	Si
SLU 36	1250	-10714	746	52313		1.81	210.86	0.8	4709			6.31	Si
SLU 36	1500	-6794	39	-2155		1.15	210.86	0.71	4186			108.39	Si
SLU 37	1250	-9953	803	60563		1.69	210.86	0.78	4607			5.73	Si
SLU 37	1500	-6083	88	-13031		1.03	210.86	0.69	4091			46.33	Si
SLU 35	1250	-10623	761	56167		1.8	210.86	0.8	4697			6.17	Si
SLU 35	1500	-6724	43	-4238		1.14	210.86	0.71	4177			96.5	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1250	-3468	5082	344227		6.68	18.56	1.63	844			0.17	No, Vu<V
SLV 3	1500	1204	3057	-534075		0	0	0.83	0			0	No, Vu<V
SLV 4	1250	-3468	5082	344227		6.68	18.56	1.63	844			0.17	No, Vu<V
SLV 4	1500	1204	3057	-534075		0	0	0.83	0			0	No, Vu<V
SLD 3	1250	-5975	2239	149052		1.01	210.86	1.04	6115			2.73	Si
SLD 3	1500	-2121	1313	-212432		4.77	15.88	1.63	723			0.55	No, Vu<V
SLD 4	1250	-5975	2239	149052		1.01	210.86	1.04	6115			2.73	Si
SLD 4	1500	-2121	1313	-212432		4.77	15.88	1.63	723			0.55	No, Vu<V
SLV 5	1250	-6487	3122	302067		1.31	176.59	1.1	5418			1.74	Si
SLV 5	1500	-2051	2087	-263857		0	0	0.83	0			0	No, Vu<V
SLD 2	1250	-5970	2591	194631		1.01	210.86	1.04	6114			2.36	Si
SLD 2	1500	-1940	1580	-240622		0	0	0.83	0			0	No, Vu<V
SLV 2	1250	-3442	5916	452390		0	0	0.83	0			0	No, Vu<V
SLV 2	1500	1652	3695	-601780		0	0	0.83	0			0	No, Vu<V
SLD 1	1250	-5970	2591	194631		1.01	210.86	1.04	6114			2.36	Si
SLD 1	1500	-1940	1580	-240622		0	0	0.83	0			0	No, Vu<V
SLV 1	1250	-3442	5916	452390		0	0	0.83	0			0	No, Vu<V
SLV 1	1500	1652	3695	-601780		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	-6487	3122	302067		1.31	176.59	1.1	5418			1.74	Si
SLV 6	1500	-2051	2087	-263857		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.53	0	-1735	24509	0	0	No, e>t/2
SLV 1	14	0.53	0	-1594	24509	0	0	No, e>t/2
SLV 2	14	0.53	0	-1594	24509	0	0	No, e>t/2
SLV 3	14	0.53	0	-1735	24509	0	0	No, e>t/2
SLV 5	14	0.53	0.76	-4483	24509	58860	2.4	Si
SLV 6	14	0.53	0.76	-4483	24509	58860	2.4	Si
SLV 7	14	0.53	0.84	-4950	24509	64545	2.63	Si
SLV 8	14	0.53	0.84	-4950	24509	64545	2.63	Si
SLV 9	14	0.53	1.2	-7099	24509	89604	3.66	Si
SLV 10	14	0.53	1.2	-7099	24509	89604	3.66	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 4	1	-3468	16	0	0	0	0	979.113	No, Trazione
SLV 1	230	-3442	-35	0	0	0	0	979.113	No, Trazione
SLV 3	1	-3468	16	0	0	0	0	979.113	No, Trazione
SLV 2	230	-3442	-35	0	0	0	0	979.113	No, Trazione
SLV 5	-2035	-6487	-92	0.04	4.892	0.89	64.594	1930.074	No
SLV 6	-2035	-6487	-92	0.04	4.892	0.89	64.594	1930.074	No
SLV 9	-4206	-9122	-91	0.041	6.997	0.907	66.427	1930.074	No
SLV 10	-4206	-9122	-91	0.041	6.997	0.907	66.427	1930.074	No
SLV 12	-4970	-9209	77	0.044	7.758	0.914	69.89	1930.074	No
SLV 11	-4970	-9209	77	0.044	7.758	0.914	69.89	1930.074	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.204	SLU 44	Si
V_SLU	5.468	SLU 29	Si
PF_SLV	0	SLV 4	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 4	No

Maschio 214

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-496.8	104.6	-647.8	104.6	L6	L7	151	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

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Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 61	1250	-6399	-40218	1.51	393377	9.781	Si
SLU 61	1460	-6385	51024	1.51	392673	7.696	Si
SLU 43	1250	-6732	-27143	1.59	408905	15.065	Si
SLU 43	1460	-6055	47536	1.43	376770	7.926	Si
SLU 39	1250	-5103	-39024	1.21	328213	8.411	Si
SLU 39	1460	-5924	35039	1.4	370323	10.569	Si
SLU 19	1250	-4938	-34610	1.17	319344	9.227	Si
SLU 19	1460	-5212	38754	1.23	333953	8.617	Si
SLU 18	1250	-4756	-36537	1.12	309471	8.47	Si
SLU 18	1460	-5072	39968	1.2	326535	8.17	Si
SLU 60	1250	-6217	-42145	1.47	384671	9.127	Si
SLU 60	1460	-6244	52238	1.48	385975	7.389	Si
SLU 1	1250	-5270	-21535	1.25	337001	15.649	Si
SLU 1	1460	-4882	35266	1.15	316356	8.97	Si
SLU 52	1250	-6675	-34432	1.58	406288	11.8	Si
SLU 52	1460	-6421	48803	1.52	394404	8.082	Si
SLU 44	1250	-7035	-23931	1.66	422651	17.661	Si
SLU 44	1460	-6288	45512	1.49	388080	8.527	Si
SLU 81	1250	-6565	-44632	1.55	401184	8.989	Si
SLU 81	1460	-7096	47309	1.68	425383	8.992	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 1	1250	-4699	299813	1.11	322515	1.076	Si
SLV 1	1460	-3885	-272829	0.92	271236	0.994	No, M>Mu
SLV 13	1250	-5651	-290623	1.34	379976	1.307	Si
SLV 13	1460	-5870	310211	1.39	392848	1.266	Si
SLV 3	1250	-4882	240131	1.15	333762	1.39	Si
SLV 3	1460	-4457	-240614	1.05	307462	1.278	Si
SLV 12	1250	-5714	-213282	1.35	383695	1.799	Si
SLV 12	1460	-6415	175946	1.52	424197	2.411	Si
SLV 16	1250	-5834	-350305	1.38	390715	1.115	Si
SLV 16	1460	-6443	342426	1.52	425753	1.243	Si
SLV 15	1250	-5834	-350305	1.38	390715	1.115	Si
SLV 15	1460	-6443	342426	1.52	425753	1.243	Si
SLV 11	1250	-5714	-213282	1.35	383695	1.799	Si
SLV 11	1460	-6415	175946	1.52	424197	2.411	Si
SLV 14	1250	-5651	-290623	1.34	379976	1.307	Si
SLV 14	1460	-5870	310211	1.39	392848	1.266	Si
SLV 4	1250	-4882	240131	1.15	333762	1.39	Si
SLV 4	1460	-4457	-240614	1.05	307462	1.278	Si
SLV 2	1250	-4699	299813	1.11	322515	1.076	Si
SLV 2	1460	-3885	-272829	0.92	271236	0.994	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	1250	-9072	-796	-40212		2.15	151	0.84	3558			4.47	Si
SLU 77	1460	-10382	-795	42154		2.46	151	0.88	3733			4.69	Si
SLU 80	1250	-8868	-794	-37724		2.1	151	0.84	3531			4.45	Si
SLU 80	1460	-10037	-792	40058		2.37	151	0.87	3687			4.66	Si
SLU 84	1250	-7730	-716	-42464		1.83	151	0.8	3380			4.72	Si
SLU 84	1460	-8665	-714	43782		2.05	151	0.83	3504			4.9	Si
SLU 56	1250	-8724	-749	-37725		2.06	151	0.83	3512			4.69	Si
SLU 56	1460	-9530	-749	47083		2.25	151	0.86	3620			4.83	Si
SLU 58	1250	-8338	-764	-37165		1.97	151	0.82	3461			4.53	Si
SLU 58	1460	-9045	-763	46202		2.14	151	0.84	3555			4.66	Si
SLU 79	1250	-8686	-810	-39651		2.05	151	0.83	3507			4.33	Si
SLU 79	1460	-9897	-810	41273		2.34	151	0.87	3668			4.53	Si
SLU 37	1250	-7224	-717	-34043		1.71	151	0.78	3312			4.62	Si
SLU 37	1460	-8724	-717	29003		2.06	151	0.83	3512			4.9	Si
SLU 59	1250	-8520	-747	-35237		2.02	151	0.82	3485			4.66	Si
SLU 59	1460	-9185	-745	44988		2.17	151	0.85	3574			4.79	Si
SLU 78	1250	-9254	-779	-38284		2.19	151	0.85	3583			4.6	Si
SLU 78	1460	-10522	-777	40939		2.49	151	0.89	3752			4.83	Si
SLU 83	1250	-7548	-733	-44392		1.79	151	0.79	3355			4.58	Si
SLU 83	1460	-8525	-732	44997		2.02	151	0.82	3486			4.76	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	1250	-5834	-4587	-350305		4.49	46.36	1.63	2109			0.46	No, Vu<V
SLV 16	1460	-6443	-3619	342426		3.43	67.05	1.52	2853			0.79	No, Vu<V
SLV 13	1250	-5651	-3541	-290623		2.79	72.21	1.39	2815			0.79	No, Vu<V
SLV 13	1460	-5870	-2651	310211		3.08	67.97	1.45	2760			1.04	Si
SLV 11	1250	-5714	-3242	-213282		1.78	114.52	1.19	3815			1.18	Si
SLV 11	1460	-6415	-2836	175946		1.59	144.22	1.15	4648			1.64	Si
SLV 1	1250	-4699	3785	299813		4.78	35.1	1.63	1597			0.42	No, Vu<V
SLV 1	1460	-3885	2818	-272829		8.78	15.8	1.63	719			0.26	No, Vu<V
SLV 4	1250	-4882	2740	240131		2.21	78.94	1.28	2818			1.03	Si
SLV 4	1460	-4457	1849	-240614		2.47	64.54	1.33	2397			1.3	Si
SLV 15	1250	-5834	-4587	-350305		4.49	46.36	1.63	2109			0.46	No, Vu<V
SLV 15	1460	-6443	-3619	342426		3.43	67.05	1.52	2853			0.79	No, Vu<V
SLV 14	1250	-5651	-3541	-290623		2.79	72.21	1.39	2815			0.79	No, Vu<V
SLV 14	1460	-5870	-2651	310211		3.08	67.97	1.45	2760			1.04	Si
SLV 12	1250	-5714	-3242	-213282		1.78	114.52	1.19	3815			1.18	Si
SLV 12	1460	-6415	-2836	175946		1.59	144.22	1.15	4648			1.64	Si
SLV 2	1250	-4699	3785	299813		4.78	35.1	1.63	1597			0.42	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1460	-3885	2818	-272829		8.78	15.8	1.63	719			0.26	No, Vu<V
SLV 3	1250	-4882	2740	240131		2.21	78.94	1.28	2818			1.03	Si
SLV 3	1460	-4457	1849	-240614		2.47	64.54	1.33	2397			1.3	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0.91	-3844	17551	49813	2.84	Si
SLV 5	14	0.53	0.91	-3844	17551	49813	2.84	Si
SLV 1	14	0.53	0.93	-3919	17551	50699	2.89	Si
SLV 2	14	0.53	0.93	-3919	17551	50699	2.89	Si
SLV 9	14	0.53	1.03	-4347	17551	55737	3.18	Si
SLV 10	14	0.53	1.03	-4347	17551	55737	3.18	Si
SLV 3	14	0.53	1.06	-4485	17551	57342	3.27	Si
SLV 4	14	0.53	1.06	-4485	17551	57342	3.27	Si
SLV 14	14	0.53	1.32	-5595	17551	69845	3.98	Si
SLV 13	14	0.53	1.32	-5595	17551	69845	3.98	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-4826	-5714	135	0.031	6.826	0.926	48.324	1930.074	No
SLV 12	-4826	-5714	135	0.031	6.826	0.926	48.324	1930.074	No
SLV 7	-4269	-5429	120	0.032	6.266	0.921	50.591	1930.074	No
SLV 8	-4269	-5429	120	0.032	6.266	0.921	50.591	1930.074	No
SLV 6	-2895	-4819	-93	0.035	4.895	0.906	55.369	1930.074	No
SLV 5	-2895	-4819	-93	0.035	4.895	0.906	55.369	1930.074	No
SLV 9	-3452	-5104	-79	0.039	5.448	0.913	61.787	1930.074	No
SLV 10	-3452	-5104	-79	0.039	5.448	0.913	61.787	1930.074	No
SLV 16	-4994	-5834	77	0.041	6.995	0.927	63.466	979.113	No
SLV 15	-4994	-5834	77	0.041	6.995	0.927	63.466	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.389	SLU 60	Si
V_SLU	4.328	SLU 79	Si
PF_SLV	0.994	SLV 1	No
V_SLV	0.255	SLV 1	No
PFFP_SLV	2.838	SLV 5	Si
R_SLV	0.025	SLV 11	No

Maschio 215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	104.6	-416.8	104.6	L6	L7	404.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 80	1250	-11522	173187	1.02	2039300	11.775	Si
SLU 80	1460	-7645	546234	0.67	1418083	2.596	Si
SLU 8	1250	-9561	144715	0.84	1733342	11.978	Si
SLU 8	1460	-5811	419684	0.51	1101270	2.624	Si
SLU 30	1250	-9708	154669	0.86	1756883	11.359	Si
SLU 30	1460	-6329	482573	0.56	1192143	2.47	Si
SLU 29	1250	-9586	147920	0.85	1737323	11.745	Si
SLU 29	1460	-6307	484207	0.56	1188414	2.454	Si
SLU 79	1250	-11400	166437	1.01	2020713	12.141	Si
SLU 79	1460	-7624	547868	0.67	1414478	2.582	Si
SLU 38	1250	-8949	140022	0.79	1634392	11.672	Si
SLU 38	1460	-6333	501404	0.56	1192906	2.379	Si
SLU 37	1250	-8827	133273	0.78	1614425	12.114	Si
SLU 37	1460	-6312	503039	0.56	1189177	2.364	Si
SLU 17	1250	-8924	136817	0.79	1630341	11.916	Si
SLU 17	1460	-5837	436882	0.52	1105818	2.531	Si
SLU 9	1250	-9683	151465	0.85	1752915	11.573	Si
SLU 9	1460	-5832	418050	0.51	1105046	2.643	Si
SLU 16	1250	-8802	130068	0.78	1610361	12.381	Si
SLU 16	1460	-5815	438516	0.51	1102043	2.513	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 14	1250	-8981	63175	0.79	1698541	26.886	Si
SLD 14	1460	-5783	381894	0.51	1120822	2.935	Si
SLV 11	1250	-9248	86034	0.82	1745419	20.288	Si
SLV 11	1460	-6423	505015	0.57	1238670	2.453	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	1250	-9765	-617	0.86	1835531	1000	Si
SLV 13	1460	-6714	561103	0.59	1291953	2.303	Si
SLV 15	1250	-10008	4095	0.88	1877726	458.577	Si
SLV 15	1460	-7181	651265	0.63	1377065	2.114	Si
SLV 12	1250	-9248	86034	0.82	1745419	20.288	Si
SLV 12	1460	-6423	505015	0.57	1238670	2.453	Si
SLD 16	1250	-9082	65060	0.8	1716340	26.381	Si
SLD 16	1460	-5977	419064	0.53	1156577	2.76	Si
SLD 13	1250	-8981	63175	0.79	1698541	26.886	Si
SLD 13	1460	-5783	381894	0.51	1120822	2.935	Si
SLD 15	1250	-9082	65060	0.8	1716340	26.381	Si
SLD 15	1460	-5977	419064	0.53	1156577	2.76	Si
SLV 16	1250	-10008	4095	0.88	1877726	458.577	Si
SLV 16	1460	-7181	651265	0.63	1377065	2.114	Si
SLV 14	1250	-9765	-617	0.86	1835531	1000	Si
SLV 14	1460	-6714	561103	0.59	1291953	2.303	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	1250	-8827	-3618	133273		0.78	404.5	0.66	7469			2.06	Si
SLU 37	1460	-6312	-3469	503039		0.61	367.64	0.64	6560			1.89	Si
SLU 77	1250	-12462	-3788	205649		1.1	404.5	0.7	7954			2.1	Si
SLU 77	1460	-8907	-3645	571708		0.79	404.5	0.66	7480			2.05	Si
SLU 79	1250	-11400	-3651	166437		1.01	404.5	0.69	7812			2.14	Si
SLU 79	1460	-7624	-3500	547868		0.7	391.16	0.65	7101			2.03	Si
SLU 41	1250	-8023	-3636	111743		0.71	404.5	0.65	7362			2.02	Si
SLU 41	1460	-5878	-3536	412852		0.53	396.05	0.63	6944			1.96	Si
SLU 84	1250	-10718	-3523	151657		0.95	404.5	0.68	7721			2.19	Si
SLU 84	1460	-7212	-3437	456048		0.64	404.5	0.64	7254			2.11	Si
SLU 38	1250	-8949	-3472	140022		0.79	404.5	0.66	7485			2.16	Si
SLU 38	1460	-6333	-3339	501404		0.61	369.23	0.64	6588			1.97	Si
SLU 35	1250	-9889	-3755	172485		0.87	404.5	0.67	7611			2.03	Si
SLU 35	1460	-7595	-3615	526879		0.68	398.62	0.65	7213			2	Si
SLU 83	1250	-10596	-3669	144908		0.94	404.5	0.68	7705			2.1	Si
SLU 83	1460	-7190	-3567	457682		0.63	404.5	0.64	7251			2.03	Si
SLU 36	1250	-10011	-3609	179234		0.88	404.5	0.67	7627			2.11	Si
SLU 36	1460	-7616	-3485	525245		0.68	399.85	0.65	7235			2.08	Si
SLU 42	1250	-8146	-3490	118493		0.72	404.5	0.65	7378			2.11	Si
SLU 42	1460	-5900	-3406	411218		0.53	397.64	0.63	6972			2.05	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 13	1250	-8981	-3140	63175		0.79	404.5	0.99	11235			3.58	Si
SLD 13	1460	-5783	-1859	381894		0.51	404.5	0.94	10595			5.7	Si
SLD 14	1250	-8981	-3140	63175		0.79	404.5	0.99	11235			3.58	Si
SLD 14	1460	-5783	-1859	381894		0.51	404.5	0.94	10595			5.7	Si
SLV 16	1250	-10008	-5848	4095		0.88	404.5	1.01	11440			1.96	Si
SLV 16	1460	-7181	-2806	651265		0.77	334.69	0.99	9246			3.3	Si
SLV 14	1250	-9765	-5183	-617		0.86	404.5	1.01	11391			2.2	Si
SLV 14	1460	-6714	-2211	561103		0.67	356.02	0.97	9650			4.37	Si
SLV 13	1250	-9765	-5183	-617		0.86	404.5	1.01	11391			2.2	Si
SLV 13	1460	-6714	-2211	561103		0.67	356.02	0.97	9650			4.37	Si
SLD 15	1250	-9082	-3413	65060		0.8	404.5	0.99	11255			3.3	Si
SLD 15	1460	-5977	-2103	419064		0.54	396.4	0.94	10445			4.97	Si
SLD 16	1250	-9082	-3413	65060		0.8	404.5	0.99	11255			3.3	Si
SLD 16	1460	-5977	-2103	419064		0.54	396.4	0.94	10445			4.97	Si
SLV 12	1250	-9248	-3898	86034		0.82	404.5	1	11288			2.9	Si
SLV 12	1460	-6423	-2853	505015		0.62	370.85	0.96	9938			3.48	Si
SLV 15	1250	-10008	-5848	4095		0.88	404.5	1.01	11440			1.96	Si
SLV 15	1460	-7181	-2806	651265		0.77	334.69	0.99	9246			3.3	Si
SLV 11	1250	-9248	-3898	86034		0.82	404.5	1	11288			2.9	Si
SLV 11	1460	-6423	-2853	505015		0.62	370.85	0.96	9938			3.48	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.53	0.34	-3818	47015	51978	1.11	Si
SLV 2	14	0.53	0.34	-3818	47015	51978	1.11	Si
SLV 4	14	0.53	0.37	-4246	47015	57626	1.23	Si
SLV 3	14	0.53	0.37	-4246	47015	57626	1.23	Si
SLV 5	14	0.53	0.41	-4588	47015	62102	1.32	Si
SLV 6	14	0.53	0.41	-4588	47015	62102	1.32	Si
SLV 9	14	0.53	0.5	-5676	47015	76210	1.62	Si
SLV 10	14	0.53	0.5	-5676	47015	76210	1.62	Si
SLV 7	14	0.53	0.53	-6016	47015	80565	1.71	Si
SLV 8	14	0.53	0.53	-6016	47015	80565	1.71	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-1582	-7542	78	0.058	7.366	0.901	93.104	1930.074	No
SLV 5	-1582	-7542	78	0.058	7.366	0.901	93.104	1930.074	No
SLV 12	-1673	-9248	-74	0.058	7.436	0.899	94.327	1930.074	No
SLV 11	-1673	-9248	-74	0.058	7.436	0.899	94.327	1930.074	No
SLV 9	-1633	-8437	72	0.059	7.405	0.9	95.242	1930.074	No
SLV 10	-1633	-8437	72	0.059	7.405	0.9	95.242	1930.074	No
SLV 8	-1622	-8353	-67	0.06	7.396	0.9	96.742	1930.074	No

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 7	-1622	-8353	-67	0.06	7.396	0.9	96.742	1930.074	No
SLV 1	-1536	-6782	35	0.067	7.331	0.901	107.795	979.113	No
SLV 2	-1536	-6782	35	0.067	7.331	0.901	107.795	979.113	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.364	SLU 37	Si
V_SLU	1.891	SLU 37	Si
PF_SLV	2.114	SLV 15	Si
V_SLV	1.956	SLV 15	Si
PFFP_SLV	1.106	SLV 1	Si
R_SLV	0.048	SLV 5	No

Maschio 216

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1100.3	-350.9	-1100.3	104.6	L6	L7	455.6	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 50	1250	-17177	492636	1.35	3265927	6.629	Si
SLU 50	1566	-986	242169	0	0	0	No, e>/2
SLU 38	1250	-15702	459784	1.23	3036154	6.603	Si
SLU 38	1566	-899	223067	0	0	0	No, e>/2
SLU 48	1250	-17582	532706	1.38	3327275	6.246	Si
SLU 48	1566	-1073	251691	0	0	0	No, e>/2
SLU 49	1250	-17519	528279	1.37	3317800	6.28	Si
SLU 49	1566	-1062	249260	0	0	0	No, e>/2
SLU 47	1250	-16017	446306	1.26	3086064	6.915	Si
SLU 47	1566	-855	197747	0	0	0	No, e>/2
SLU 36	1250	-16107	499854	1.26	3100121	6.202	Si
SLU 36	1566	-986	232589	0	0	0	No, e>/2
SLU 42	1250	-14741	416528	1.16	2881404	6.918	Si
SLU 42	1566	-771	178729	0	0	0	No, e>/2
SLU 83	1250	-17896	500525	1.4	3374341	6.742	Si
SLU 83	1566	-929	212185	0	0	0	No, e>/2
SLU 37	1250	-15765	464212	1.24	3046130	6.562	Si
SLU 37	1566	-910	225497	0	0	0	No, e>/2
SLU 41	1250	-14804	420955	1.16	2891645	6.869	Si
SLU 41	1566	-781	181159	0	0	0	No, e>/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 10	1250	-15145	348172	1.19	3114555	8.945	Si
SLV 10	1566	-1684	397266	0	0	0	No, e>/2
SLV 9	1250	-15145	348172	1.19	3114555	8.945	Si
SLV 9	1566	-1684	397266	0	0	0	No, e>/2
SLV 7	1250	-9763	351382	0.77	2084550	5.932	Si
SLV 7	1566	423	-128259	0	0	0	No, Trazione
SLV 1	1250	-11765	385250	0.92	2477603	6.431	Si
SLV 1	1566	-120	43162	0	0	0	No, e>/2
SLV 4	1250	-10398	380275	0.82	2210401	5.813	Si
SLV 4	1566	375	-86394	0	0	0	No, Trazione
SLV 8	1250	-9763	351382	0.77	2084550	5.932	Si
SLV 8	1566	423	-128259	0	0	0	No, Trazione
SLV 5	1250	-14321	367963	1.12	2962423	8.051	Si
SLV 5	1566	-1229	303594	0	0	0	No, e>/2
SLD 1	1250	-12158	364816	0.95	2553379	6.999	Si
SLD 1	1566	-413	94882	0	0	0	No, e>/2
SLV 3	1250	-10398	380275	0.82	2210401	5.813	Si
SLV 3	1566	375	-86394	0	0	0	No, Trazione
SLV 2	1250	-11765	385250	0.92	2477603	6.431	Si
SLV 2	1566	-120	43162	0	0	0	No, e>/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 50	1250	-17177	-2032	492636	1.35	455.57	0.74	9377				4.62	Si
SLU 50	1566	-986	-600	242169	0	0	0.56	0				0	No, Vu<V
SLU 42	1250	-14741	-1387	416528	1.16	455.57	0.71	9052				6.52	Si
SLU 42	1566	-771	-453	178729	0	0	0.56	0				0	No, Vu<V
SLU 36	1250	-16107	-2069	499854	1.26	455.57	0.72	9234				4.46	Si
SLU 36	1566	-986	-663	232589	0	0	0.56	0				0	No, Vu<V
SLU 47	1250	-16017	-1154	446306	1.26	455.57	0.72	9222				7.99	Si
SLU 47	1566	-855	-320	197747	0	0	0.56	0				0	No, Vu<V
SLU 41	1250	-14804	-1463	420955	1.16	455.57	0.71	9060				6.19	Si
SLU 41	1566	-781	-469	181159	0	0	0.56	0				0	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 38	1250	-15702	-2171	459784		1.23	455.57	0.72	9180			4.23	Si
SLU 38	1566	-899	-708	223067		0	0	0.56	0			0	No, Vu<V
SLU 49	1250	-17519	-1854	528279		1.37	455.57	0.74	9423			5.08	Si
SLU 49	1566	-1062	-540	249260		0	0	0.56	0			0	No, Vu<V
SLU 83	1250	-17896	-1499	500525		1.4	455.57	0.74	9473			6.32	Si
SLU 83	1566	-929	-460	212185		0	0	0.56	0			0	No, Vu<V
SLU 48	1250	-17582	-1930	532706		1.38	455.57	0.74	9431			4.89	Si
SLU 48	1566	-1073	-555	251691		0	0	0.56	0			0	No, Vu<V
SLU 37	1250	-15765	-2247	464212		1.24	455.57	0.72	9189			4.09	Si
SLU 37	1566	-910	-724	225497		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1250	-10398	3243	380275		0.82	455.57	1	12709			3.92	Si
SLV 3	1566	375	1076	-86394		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	-14321	-6668	367963		1.12	455.57	1.06	13494			2.02	Si
SLV 6	1566	-1229	-2305	303594		0	0	0.83	0			0	No, Vu<V
SLV 5	1250	-14321	-6668	367963		1.12	455.57	1.06	13494			2.02	Si
SLV 5	1566	-1229	-2305	303594		0	0	0.83	0			0	No, Vu<V
SLV 2	1250	-11765	-745	385250		0.92	455.57	1.02	12983			17.43	Si
SLV 2	1566	-120	-319	43162		0	0	0.83	0			0	No, Vu<V
SLD 1	1250	-12158	-641	364816		0.95	455.57	1.02	13062			20.39	Si
SLD 1	1566	-413	-213	94882		0	0	0.83	0			0	No, Vu<V
SLV 4	1250	-10398	3243	380275		0.82	455.57	1	12709			3.92	Si
SLV 4	1566	375	1076	-86394		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	-15145	-7757	348172		1.19	455.57	1.07	13659			1.76	Si
SLV 9	1566	-1684	-2612	397266		0	0	0.83	0			0	No, Vu<V
SLV 7	1250	-9763	6626	351382		0.77	455.57	0.99	12583			1.9	Si
SLV 7	1566	423	2344	-128259		0	0	0.83	0			0	No, Vu<V
SLV 8	1250	-9763	6626	351382		0.77	455.57	0.99	12583			1.9	Si
SLV 8	1566	423	2344	-128259		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	-15145	-7757	348172		1.19	455.57	1.07	13659			1.76	Si
SLV 10	1566	-1684	-2612	397266		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0.32	-4056	52951	55303	1.04	Si
SLV 8	14	0.53	0.32	-4056	52951	55303	1.04	Si
SLV 4	14	0.53	0.34	-4385	52951	59659	1.13	Si
SLV 3	14	0.53	0.34	-4385	52951	59659	1.13	Si
SLV 12	14	0.53	0.4	-5100	52951	69069	1.3	Si
SLV 11	14	0.53	0.4	-5100	52951	69069	1.3	Si
SLV 2	14	0.53	0.45	-5711	52951	77028	1.45	Si
SLV 1	14	0.53	0.45	-5711	52951	77028	1.45	Si
SLV 16	14	0.53	0.62	-7867	52951	104577	1.97	Si
SLV 15	14	0.53	0.62	-7867	52951	104577	1.97	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	375	-10398	0	0	0	0	0	979.113	No, Trazione
SLV 8	423	-9763	48	0	0	0	0	1930.074	No, Trazione
SLV 7	423	-9763	48	0	0	0	0	1930.074	No, Trazione
SLV 4	375	-10398	0	0	0	0	0	979.113	No, Trazione
SLV 5	-1229	-14321	-66	0.064	7.902	0.914	101.627	1930.074	No
SLV 6	-1229	-14321	-66	0.064	7.902	0.914	101.627	1930.074	No
SLV 10	-1684	-15145	-59	0.063	8.223	0.902	102.201	1930.074	No
SLV 9	-1684	-15145	-59	0.063	8.223	0.902	102.201	1930.074	No
SLV 12	-32	-10587	54	0.073	7.397	0.996	107.074	1930.074	No
SLV 11	-32	-10587	54	0.073	7.397	0.996	107.074	1930.074	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 5	No
V_SLU	0	SLU 5	No
PF_SLV	0	SLV 8	No
V_SLV	0	SLD 1	No
PFFP_SLV	1.044	SLV 7	Si
R_SLV	0	SLV 8	No

Maschio 217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-972.8	220.1	-972.8	666.1	L6	L7	446	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	f ν_0	μ	ϕ	f ν_{lim}	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

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Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 17	1250	-6148	38921	0.98	1205262	30.967	Si
SLU 17	1566	-1830	308391	0.29	393399	1.276	Si
SLU 9	1250	-5514	50607	0.88	1096396	21.665	Si
SLU 9	1566	-1786	306371	0.29	384252	1.254	Si
SLU 29	1250	-6088	63907	0.97	1195052	18.7	Si
SLU 29	1566	-2095	358149	0.34	447940	1.251	Si
SLU 71	1250	-7529	49997	1.21	1430502	28.612	Si
SLU 71	1566	-2156	362814	0.35	460487	1.269	Si
SLU 38	1250	-6726	51163	1.08	1301601	25.44	Si
SLU 38	1566	-2141	360449	0.34	457245	1.269	Si
SLU 72	1250	-7535	48938	1.21	1431330	29.248	Si
SLU 72	1566	-2158	363093	0.35	460764	1.269	Si
SLU 37	1250	-6721	52222	1.08	1300735	24.908	Si
SLU 37	1566	-2139	360169	0.34	456968	1.269	Si
SLU 16	1250	-6143	39980	0.98	1204370	30.124	Si
SLU 16	1566	-1829	308112	0.29	393119	1.276	Si
SLU 8	1250	-5509	51666	0.88	1095474	21.203	Si
SLU 8	1566	-1784	306092	0.29	383970	1.254	Si
SLU 30	1250	-6093	62848	0.98	1195947	19.029	Si
SLU 30	1566	-2096	358428	0.34	448218	1.251	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	1250	-5983	-87980	0.96	1229565	13.976	Si
SLV 13	1566	-758	123621	0.12	167426	1.354	Si
SLD 10	1250	-5450	-2398	0.87	1128494	470.533	Si
SLD 10	1566	-534	79265	0.09	118286	1.492	Si
SLV 14	1250	-5983	-87980	0.96	1229565	13.976	Si
SLV 14	1566	-758	123621	0.12	167426	1.354	Si
SLV 10	1250	-4954	39320	0.79	1033072	26.273	Si
SLV 10	1566	-351	60983	0.06	77986	1.279	Si
SLD 13	1250	-5885	-56153	0.94	1211167	21.569	Si
SLD 13	1566	-704	105040	0.11	155529	1.481	Si
SLD 9	1250	-5450	-2398	0.87	1128494	470.533	Si
SLD 9	1566	-534	79265	0.09	118286	1.492	Si
SLV 9	1250	-4954	39320	0.79	1033072	26.273	Si
SLV 9	1566	-351	60983	0.06	77986	1.279	Si
SLV 16	1250	-6583	-146178	1.05	1341320	9.176	Si
SLV 16	1566	-982	149632	0.16	216106	1.444	Si
SLD 14	1250	-5885	-56153	0.94	1211167	21.569	Si
SLD 14	1566	-704	105040	0.11	155529	1.481	Si
SLV 15	1250	-6583	-146178	1.05	1341320	9.176	Si
SLV 15	1566	-982	149632	0.16	216106	1.444	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	1250	-8168	1029	37252		1.31	446	0.73	4558			4.43	Si
SLU 80	1566	-2202	-1022	365114		0.92	171.55	0.68	1628			1.59	Si
SLU 38	1250	-6726	1059	51163		1.08	446	0.7	4366			4.12	Si
SLU 38	1566	-2141	-977	360449		0.93	163.82	0.68	1560			1.6	Si
SLU 72	1250	-7535	1082	48938		1.21	446	0.72	4474			4.14	Si
SLU 72	1566	-2158	-974	363093		0.94	164.18	0.68	1565			1.61	Si
SLU 79	1250	-8163	1035	38311		1.31	446	0.73	4557			4.4	Si
SLU 79	1566	-2201	-1017	364835		0.92	171.62	0.68	1628			1.6	Si
SLU 37	1250	-6721	1065	52222		1.08	446	0.7	4365			4.1	Si
SLU 37	1566	-2139	-971	360169		0.93	163.89	0.68	1560			1.61	Si
SLU 77	1250	-8497	959	29751		1.36	446	0.74	4602			4.8	Si
SLU 77	1566	-2158	-978	344792		0.81	189.59	0.66	1762			1.8	Si
SLU 71	1250	-7529	1088	49997		1.21	446	0.72	4473			4.11	Si
SLU 71	1566	-2156	-968	362814		0.94	164.25	0.68	1565			1.62	Si
SLU 78	1250	-8503	953	28692		1.36	446	0.74	4603			4.83	Si
SLU 78	1566	-2159	-984	345072		0.81	189.5	0.66	1762			1.79	Si
SLU 30	1250	-6093	1112	62848		0.98	446	0.69	4281			3.85	Si
SLU 30	1566	-2096	-928	358428		0.96	156.07	0.68	1493			1.61	Si
SLU 29	1250	-6088	1118	63907		0.97	446	0.69	4281			3.83	Si
SLU 29	1566	-2095	-923	358149		0.96	156.14	0.68	1494			1.62	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	1250	-6583	29	-146178		1.05	446	1.04	6520			227.21	Si
SLV 15	1566	-982	-1238	149632		0.33	211.75	0.9	2667			2.15	Si
SLV 16	1250	-6583	29	-146178		1.05	446	1.04	6520			227.21	Si
SLV 16	1566	-982	-1238	149632		0.33	211.75	0.9	2667			2.15	Si
SLV 12	1250	-6954	2076	-154676		1.11	446	1.06	6594			3.18	Si
SLV 12	1566	-1096	-1053	147687		0.3	264.73	0.89	3308			3.14	Si
SLV 8	1250	-6673	2507	-103760		1.07	446	1.05	6538			2.61	Si
SLV 8	1566	-971	-618	120009		0.23	298.03	0.88	3671			5.94	Si
SLV 9	1250	-4954	-2335	39320		0.79	446	0.99	6194			2.65	Si
SLV 9	1566	-351	-133	60983		0.17	148.27	0.87	1800			13.52	Si
SLV 7	1250	-6673	2507	-103760		1.07	446	1.05	6538			2.61	Si
SLV 7	1566	-971	-618	120009		0.23	298.03	0.88	3671			5.94	Si
SLV 10	1250	-4954	-2335	39320		0.79	446	0.99	6194			2.65	Si
SLV 10	1566	-351	-133	60983		0.17	148.27	0.87	1800			13.52	Si
SLV 11	1250	-6954	2076	-154676		1.11	446	1.06	6594			3.18	Si
SLV 11	1566	-1096	-1053	147687		0.3	264.73	0.89	3308			3.14	Si
SLV 14	1250	-5983	-1294	-87980		0.96	446	1.02	6400			4.94	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	1566	-758	-962	123621		0.3	179.95	0.89	2251			2.34	Si
SLV 13	1250	-5983	-1294	-87980		0.96	446	1.02	6400			4.94	Si
SLV 13	1566	-758	-962	123621		0.3	179.95	0.89	2251			2.34	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.53	0	-2348	24741	0	0	No, $e > t/2$
SLV 5	14	0.53	0	-1997	24741	0	0	No, $e > t/2$
SLV 1	14	0.53	0	-2348	24741	0	0	No, $e > t/2$
SLV 3	14	0.53	0	-2805	24741	0	0	No, $e > t/2$
SLV 10	14	0.53	0	-2152	24741	0	0	No, $e > t/2$
SLV 9	14	0.53	0	-2152	24741	0	0	No, $e > t/2$
SLV 4	14	0.53	0	-2805	24741	0	0	No, $e > t/2$
SLV 7	14	0.53	0	-3519	24741	0	0	No, $e > t/2$
SLV 8	14	0.53	0	-3519	24741	0	0	No, $e > t/2$
SLV 6	14	0.53	0	-1997	24741	0	0	No, $e > t/2$

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	-564	-5644	77	0.006	3.843	0.916	9.693	2071.149	No
SLV 4	-564	-5644	77	0.006	3.843	0.916	9.693	2071.149	No
SLV 13	-758	-5983	-77	0.007	3.976	0.905	11.599	2071.149	No
SLV 14	-758	-5983	-77	0.007	3.976	0.905	11.599	2071.149	No
SLV 1	-340	-5044	61	0.012	3.716	0.937	18.441	2071.149	No
SLV 2	-340	-5044	61	0.012	3.716	0.937	18.441	2071.149	No
SLV 15	-982	-6583	-61	0.014	4.146	0.897	22.946	2071.149	No
SLV 16	-982	-6583	-61	0.014	4.146	0.897	22.946	2071.149	No
SLV 10	-351	-4954	-47	0.018	3.722	0.936	28.651	2129.563	No
SLV 9	-351	-4954	-47	0.018	3.722	0.936	28.651	2129.563	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.251	SLU 30	Si
V_SLU	1.593	SLU 80	Si
PF_SLV	1.279	SLV 9	Si
V_SLV	2.154	SLV 15	Si
PFFP_SLV	0	SLV 1	No
R_SLV	0.005	SLV 3	No

Maschio 218

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-626.8	-335.9	-626.8	104.6	L6	L7	440.5	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 29	1250	-7953	301549	1.29	1474284	4.889	Si
SLU 29	1566	-1064	-132738	0.17	229428	1.728	Si
SLU 30	1250	-7955	329345	1.29	1474632	4.477	Si
SLU 30	1566	-1109	-142385	0.18	238817	1.677	Si
SLU 9	1250	-7134	298709	1.16	1348080	4.513	Si
SLU 9	1566	-985	-121865	0.16	212607	1.745	Si
SLU 72	1250	-9446	372805	1.53	1689238	4.531	Si
SLU 72	1566	-1182	-136550	0.19	254121	1.861	Si
SLU 28	1250	-8225	338007	1.33	1514921	4.482	Si
SLU 28	1566	-1115	-129759	0.18	240231	1.851	Si
SLU 17	1250	-7647	302957	1.24	1427934	4.713	Si
SLU 17	1566	-980	-119893	0.16	211665	1.765	Si
SLU 16	1250	-7645	275161	1.24	1427579	5.188	Si
SLU 16	1566	-936	-110245	0.15	202226	1.834	Si
SLU 8	1250	-7131	270912	1.16	1347715	4.975	Si
SLU 8	1566	-940	-112217	0.15	203170	1.811	Si
SLU 37	1250	-8466	305797	1.37	1550449	5.07	Si
SLU 37	1566	-1060	-130766	0.17	228489	1.747	Si
SLU 38	1250	-8469	333594	1.37	1550787	4.649	Si
SLU 38	1566	-1104	-140414	0.18	237880	1.694	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 5	1250	-6298	110628	1.02	1271209	11.491	Si
SLV 5	1566	-214	168561	0	0	0	No, $e > l/2$
SLV 14	1250	-7077	109765	1.15	1412321	12.867	Si
SLV 14	1566	-461	128399	0	0	0	No, $e > l/2$



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	1250	-7077	109765	1.15	1412321	12.867	Si
SLV 13	1566	-461	128399	0	0	0	No, e>l/2
SLV 12	1250	-6280	269066	1.02	1267932	4.712	Si
SLV 12	1566	-623	-187163	0	0	0	No, e>l/2
SLV 3	1250	-5501	269929	0.89	1123193	4.161	Si
SLV 3	1566	-377	-147001	0	0	0	No, e>l/2
SLV 7	1250	-5848	300066	0.95	1188058	3.959	Si
SLV 7	1566	-567	-233589	0	0	0	No, e>l/2
SLV 4	1250	-5501	269929	0.89	1123193	4.161	Si
SLV 4	1566	-377	-147001	0	0	0	No, e>l/2
SLV 8	1250	-5848	300066	0.95	1188058	3.959	Si
SLV 8	1566	-567	-233589	0	0	0	No, e>l/2
SLV 9	1250	-6730	79628	1.09	1349947	16.953	Si
SLV 9	1566	-271	214987	0	0	0	No, e>l/2
SLV 11	1250	-6280	269066	1.02	1267932	4.712	Si
SLV 11	1566	-623	-187163	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 9	1250	-7134	920	298709		1.16	440.5	0.71	4377			4.76	Si
SLU 9	1566	-985	1529	-121865		0.24	289.44	0.59	2382			1.56	Si
SLU 17	1250	-7647	897	302957		1.24	440.5	0.72	4446			4.96	Si
SLU 17	1566	-980	1509	-119893		0.24	293.79	0.59	2416			1.6	Si
SLU 37	1250	-8466	1012	305797		1.37	440.5	0.74	4555			4.5	Si
SLU 37	1566	-1060	1497	-130766		0.26	290.58	0.59	2401			1.6	Si
SLU 72	1250	-9446	1078	372805		1.53	440.5	0.76	4686			4.35	Si
SLU 72	1566	-1182	1761	-136550		0.27	314.05	0.59	2600			1.48	Si
SLU 38	1250	-8469	1001	333594		1.37	440.5	0.74	4555			4.55	Si
SLU 38	1566	-1104	1685	-140414		0.28	279.3	0.59	2320			1.38	Si
SLU 29	1250	-7953	1035	301549		1.29	440.5	0.73	4486			4.33	Si
SLU 29	1566	-1064	1518	-132738		0.27	286.57	0.59	2371			1.56	Si
SLU 28	1250	-8225	962	338007		1.33	440.5	0.73	4523			4.7	Si
SLU 28	1566	-1115	1617	-129759		0.26	311.78	0.59	2574			1.59	Si
SLU 36	1250	-8739	939	342255		1.42	440.5	0.74	4591			4.89	Si
SLU 36	1566	-1111	1597	-127787		0.25	315.7	0.59	2604			1.63	Si
SLU 80	1250	-9959	1054	377054		1.61	440.5	0.77	4754			4.51	Si
SLU 80	1566	-1177	1740	-134578		0.26	317.77	0.59	2628			1.51	Si
SLU 30	1250	-7955	1024	329345		1.29	440.5	0.73	4487			4.38	Si
SLU 30	1566	-1109	1705	-142385		0.29	275.5	0.59	2291			1.34	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1250	-5501	1387	269929		0.89	440.5	1.01	6239			4.5	Si
SLV 4	1566	-377	1693	-147001		0	0	0.83	0			0	No, Vu<V
SLV 12	1250	-6280	4839	269066		1.02	440.5	1.04	6395			1.32	Si
SLV 12	1566	-623	3234	-187163		0	0	0.83	0			0	No, Vu<V
SLV 7	1250	-5848	4680	300066		0.95	440.5	1.02	6309			1.35	Si
SLV 7	1566	-567	3466	-233589		0	0	0.83	0			0	No, Vu<V
SLV 8	1250	-5848	4680	300066		0.95	440.5	1.02	6309			1.35	Si
SLV 8	1566	-567	3466	-233589		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	-6298	-4197	110628		1.02	440.5	1.04	6399			1.52	Si
SLV 6	1566	-214	-2373	168561		0	0	0.83	0			0	No, Vu<V
SLV 13	1250	-7077	-745	109765		1.15	440.5	1.06	6555			8.8	Si
SLV 13	1566	-461	-831	128399		0	0	0.83	0			0	No, Vu<V
SLV 11	1250	-6280	4839	269066		1.02	440.5	1.04	6395			1.32	Si
SLV 11	1566	-623	3234	-187163		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	-6730	-4038	79628		1.09	440.5	1.05	6485			1.61	Si
SLV 9	1566	-271	-2605	214987		0	0	0.83	0			0	No, Vu<V
SLV 5	1250	-6298	-4197	110628		1.02	440.5	1.04	6399			1.52	Si
SLV 5	1566	-214	-2373	168561		0	0	0.83	0			0	No, Vu<V
SLV 3	1250	-5501	1387	269929		0.89	440.5	1.01	6239			4.5	Si
SLV 3	1566	-377	1693	-147001		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.53	0	-3688	26764	0	0	No, e>t/2
SLV 7	14	0.53	0	-3537	26764	0	0	No, e>t/2
SLV 8	14	0.53	0	-3537	26764	0	0	No, e>t/2
SLV 6	14	0.53	0	-3363	26764	0	0	No, e>t/2
SLV 1	14	0.53	0	-3045	26764	0	0	No, e>t/2
SLV 4	14	0.53	0	-3097	26764	0	0	No, e>t/2
SLV 2	14	0.53	0	-3045	26764	0	0	No, e>t/2
SLV 3	14	0.53	0	-3097	26764	0	0	No, e>t/2
SLV 5	14	0.53	0	-3363	26764	0	0	No, e>t/2
SLV 9	14	0.53	0	-3688	26764	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-623	-6280	-5	0.036	3.84	0.912	58.093	2129.563	No
SLV 11	-623	-6280	-5	0.036	3.84	0.912	58.093	2129.563	No
SLV 8	-567	-5848	-5	0.037	3.802	0.916	58.494	2129.563	No
SLV 7	-567	-5848	-5	0.037	3.802	0.916	58.494	2129.563	No
SLV 10	-271	-6730	4	0.039	3.641	0.945	60.312	2129.563	No
SLV 9	-271	-6730	4	0.039	3.641	0.945	60.312	2129.563	No
SLV 6	-214	-6298	4	0.04	3.619	0.954	60.43	2129.563	No

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-234	-6298	4	0.04	3.619	0.954	60.43	2129.563	No
SLV 15	-566	-6942	-2	0.038	3.802	0.916	60.509	2071.149	No
SLV 16	-566	-6942	-2	0.038	3.802	0.916	60.509	2071.149	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.677	SLU 30	Si
V_SLU	1.343	SLU 30	Si
PF_SLV	0	SLD 9	No
V_SLV	0	SLD 9	No
PFFP_SLV	0	SLV 1	No
R_SLV	0.027	SLV 11	No

Maschio 219

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-515.8	104.6	-515.8	581.1	L6	L7	476.5	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 72	1250	-17194	567732	2.58	2800276	4.932	Si
SLU 72	1566	-5787	1039872	0.87	1231956	1.185	Si
SLU 71	1250	-17162	586104	2.57	2797519	4.773	Si
SLU 71	1566	-5770	1037535	0.87	1228817	1.184	Si
SLU 38	1250	-16004	582548	2.4	2689955	4.618	Si
SLU 38	1566	-5619	1017253	0.84	1200371	1.18	Si
SLU 79	1250	-17611	566286	2.64	2836049	5.008	Si
SLU 79	1566	-5737	1029907	0.86	1222593	1.187	Si
SLU 80	1250	-17643	547914	2.64	2838683	5.181	Si
SLU 80	1566	-5754	1032244	0.86	1225737	1.187	Si
SLU 8	1250	-13662	524929	2.05	2436644	4.642	Si
SLU 8	1566	-4879	885899	0.73	1058054	1.194	Si
SLU 37	1250	-15972	600920	2.39	2686869	4.471	Si
SLU 37	1566	-5603	1014917	0.84	1197207	1.18	Si
SLU 9	1250	-13694	506557	2.05	2440367	4.818	Si
SLU 9	1566	-4896	888235	0.73	1061324	1.195	Si
SLU 30	1250	-15554	602367	2.33	2645092	4.391	Si
SLU 30	1566	-5653	1024881	0.85	1206629	1.177	Si
SLU 29	1250	-15523	620739	2.33	2641882	4.256	Si
SLU 29	1566	-5636	1022545	0.84	1203470	1.177	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLD 6	1250	-7644	-37277	1.15	1650306	44.272	Si
SLD 6	1566	-1848	406186	0.28	430407	1.06	Si
SLD 5	1250	-7644	-37277	1.15	1650306	44.272	Si
SLD 5	1566	-1848	406186	0.28	430407	1.06	Si
SLD 10	1250	-7708	-39182	1.16	1662783	42.437	Si
SLD 10	1566	-1642	370460	0.25	383237	1.034	Si
SLV 5	1250	-6803	-116362	1.02	1485612	12.767	Si
SLV 5	1566	-2331	635607	0	0	0	No, e>1/2
SLV 9	1250	-6963	-119634	1.04	1517250	12.682	Si
SLV 9	1566	-1846	552096	0	0	0	No, e>1/2
SLV 14	1250	-8107	-29821	1.22	1739346	58.327	Si
SLV 14	1566	-882	209068	0.13	207856	0.994	No, M>Mu
SLD 9	1250	-7708	-39182	1.16	1662783	42.437	Si
SLD 9	1566	-1642	370460	0.25	383237	1.034	Si
SLV 6	1250	-6803	-116362	1.02	1485612	12.767	Si
SLV 6	1566	-2331	635607	0	0	0	No, e>1/2
SLV 10	1250	-6963	-119634	1.04	1517250	12.682	Si
SLV 10	1566	-1846	552096	0	0	0	No, e>1/2
SLV 13	1250	-8107	-29821	1.22	1739346	58.327	Si
SLV 13	1566	-882	209068	0.13	207856	0.994	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 35	1250	-15748	691	529086		2.36	476.5	0.87	5806			8.4	Si
SLU 35	1566	-5342	343	952025		2.12	180.09	0.84	2113			6.16	Si
SLU 36	1250	-15779	579	510714		2.37	476.5	0.87	5810			10.03	Si
SLU 36	1566	-5359	288	954361		2.12	180.45	0.84	2118			7.34	Si
SLU 41	1250	-13129	532	326986		1.97	476.5	0.82	5457			10.26	Si
SLU 41	1566	-3806	328	671766		1.47	185.22	0.75	1948			5.94	Si
SLU 79	1250	-17611	609	566286		2.64	476.5	0.91	6054			9.94	Si
SLU 79	1566	-5737	280	1029907		2.33	176.22	0.87	2136			7.63	Si
SLU 77	1250	-17387	600	494452		2.61	476.5	0.9	6024			10.05	Si
SLU 77	1566	-5476	299	967015		2.11	185.02	0.84	2169			7.25	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	1250	-14768	440	292352		2.21	476.5	0.85	5675			12.9	Si
SLU 83	1566	-3940	284	686756		1.47	191.9	0.75	2018			7.1	Si
SLU 37	1250	-15972	701	600920		2.39	476.5	0.87	5836			8.33	Si
SLU 37	1566	-5603	323	1014917		2.34	171.3	0.87	2079			6.43	Si
SLU 39	1250	-10093	309	61546		1.51	476.5	0.76	5052			16.35	Si
SLU 39	1566	-2023	280	331884		0.65	222.63	0.64	2001			7.14	Si
SLU 32	1250	-12712	469	263646		1.91	476.5	0.81	5401			11.53	Si
SLU 32	1566	-3559	295	612143		1.28	198.78	0.73	2021			6.84	Si
SLU 42	1250	-13160	419	308614		1.97	476.5	0.82	5461			13.02	Si
SLU 42	1566	-3823	273	674103		1.47	185.7	0.75	1954			7.15	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1250	-8107	-31	-29821		1.22	476.5	1.08	7181			230.54	Si
SLV 13	1566	-882	537	209068		17.44	3.61	1.63	82			0.15	No, Vu<V
SLV 14	1250	-8107	-31	-29821		1.22	476.5	1.08	7181			230.54	Si
SLV 14	1566	-882	537	209068		17.44	3.61	1.63	82			0.15	No, Vu<V
SLD 6	1250	-7644	-2399	-37277		1.15	476.5	1.06	7088			2.95	Si
SLD 6	1566	-1848	-1137	406186		2.38	55.52	1.31	1017			0.89	No, Vu<V
SLV 11	1250	-9698	5730	147883		1.45	476.5	1.12	7499			1.31	Si
SLV 11	1566	-710	2902	-149612		0.61	82.49	0.96	1104			0.38	No, Vu<V
SLV 12	1250	-9698	5730	147883		1.45	476.5	1.12	7499			1.31	Si
SLV 12	1566	-710	2902	-149612		0.61	82.49	0.96	1104			0.38	No, Vu<V
SLV 5	1250	-6803	-5689	-116362		1.02	476.5	1.04	6920			1.22	Si
SLV 5	1566	-2331	-2787	635607		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	-6963	-4774	-119634		1.04	476.5	1.04	6952			1.46	Si
SLV 9	1566	-1846	-2053	552096		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	-6803	-5689	-116362		1.02	476.5	1.04	6920			1.22	Si
SLV 6	1566	-2331	-2787	635607		0	0	0.83	0			0	No, Vu<V
SLD 5	1250	-7644	-2399	-37277		1.15	476.5	1.06	7088			2.95	Si
SLD 5	1566	-1848	-1137	406186		2.38	55.52	1.31	1017			0.89	No, Vu<V
SLV 10	1250	-6963	-4774	-119634		1.04	476.5	1.04	6952			1.46	Si
SLV 10	1566	-1846	-2053	552096		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.03 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.53	0.64	-4270	28951	28322	0.98	No, M>Mu
SLV 14	14	0.53	0.64	-4270	28951	28322	0.98	No, M>Mu
SLV 15	14	0.53	0.65	-4323	28951	28653	0.99	No, M>Mu
SLV 16	14	0.53	0.65	-4323	28951	28653	0.99	No, M>Mu
SLV 9	14	0.53	0.68	-4522	28951	29897	1.03	Si
SLV 10	14	0.53	0.68	-4522	28951	29897	1.03	Si
SLV 11	14	0.53	0.7	-4698	28951	30991	1.07	Si
SLV 12	14	0.53	0.7	-4698	28951	30991	1.07	Si
SLV 6	14	0.53	0.72	-4791	28951	31565	1.09	Si
SLV 5	14	0.53	0.72	-4791	28951	31565	1.09	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-2331	-6803	-12	0.029	5.557	0.89	47.751	2129.563	No
SLV 5	-2331	-6803	-12	0.029	5.557	0.89	47.751	2129.563	No
SLV 9	-1846	-6963	-15	0.029	5.111	0.889	47.868	2129.563	No
SLV 10	-1846	-6963	-15	0.029	5.111	0.889	47.868	2129.563	No
SLV 8	-1195	-9538	14	0.031	4.547	0.894	50.505	2129.563	No
SLV 7	-1195	-9538	14	0.031	4.547	0.894	50.505	2129.563	No
SLV 4	-2159	-8395	9	0.03	5.397	0.889	49.498	2071.149	No
SLV 3	-2159	-8395	9	0.03	5.397	0.889	49.498	2071.149	No
SLV 2	-2500	-7574	1	0.031	5.715	0.891	51.34	2071.149	No
SLV 1	-2500	-7574	1	0.031	5.715	0.891	51.34	2071.149	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.177	SLU 29	Si
V_SLU	5.943	SLU 41	Si
PF_SLV	0	SLV 5	No
V_SLV	0	SLV 5	No
PFFP_SLV	0.978	SLV 13	No
R_SLV	0.022	SLV 5	No

Maschio 220

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	581.1	-515.8	600.6	L6	L7	19.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

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Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 48	1450	-4980	-4681	9.12	0	0	No, Rottura per schiacciamento
SLU 48	1530	-5727	14949	10.49	0	0	No, Rottura per schiacciamento
SLU 83	1450	-4368	-3473	8	766	0.221	No, M>Mu
SLU 83	1530	-5086	15720	9.31	0	0	No, Rottura per schiacciamento
SLU 50	1450	-5256	-5055	9.63	0	0	No, Rottura per schiacciamento
SLU 50	1530	-6028	15186	11.04	0	0	No, Rottura per schiacciamento
SLU 36	1450	-5788	-5099	10.6	0	0	No, Rottura per schiacciamento
SLU 36	1530	-6710	18255	12.29	0	0	No, Rottura per schiacciamento
SLU 42	1450	-4218	-3489	7.73	2122	0.608	No, M>Mu
SLU 42	1530	-4929	15043	9.03	0	0	No, Rottura per schiacciamento
SLU 35	1450	-5822	-4954	10.66	0	0	No, Rottura per schiacciamento
SLU 35	1530	-6728	17983	12.32	0	0	No, Rottura per schiacciamento
SLU 38	1450	-6063	-5473	11.1	0	0	No, Rottura per schiacciamento
SLU 38	1530	-7011	18493	12.84	0	0	No, Rottura per schiacciamento
SLU 49	1450	-4945	-4826	9.06	0	0	No, Rottura per schiacciamento
SLU 49	1530	-5709	15221	10.46	0	0	No, Rottura per schiacciamento
SLU 41	1450	-4253	-3344	7.79	1815	0.543	No, M>Mu
SLU 41	1530	-4947	14771	9.06	0	0	No, Rottura per schiacciamento
SLU 37	1450	-6098	-5328	11.17	0	0	No, Rottura per schiacciamento
SLU 37	1530	-7029	18220	12.87	0	0	No, Rottura per schiacciamento

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 15	1450	-2104	520	3.85	14044	27.02	Si
SLV 15	1530	-2600	19791	4.76	15471	0.782	No, M>Mu
SLV 9	1450	-1136	631	2.08	9187	14.569	Si
SLV 9	1530	-1149	8392	2.1	9274	1.105	Si
SLD 14	1450	-1693	-224	3.1	12316	54.977	Si
SLD 14	1530	-1990	12003	3.64	13615	1.134	Si
SLD 16	1450	-1830	-527	3.35	12950	24.593	Si
SLD 16	1530	-2208	12637	4.04	14404	1.14	Si
SLD 13	1450	-1693	-224	3.1	12316	54.977	Si
SLD 13	1530	-1990	12003	3.64	13615	1.134	Si
SLV 10	1450	-1136	631	2.08	9187	14.569	Si
SLV 10	1530	-1149	8392	2.1	9274	1.105	Si
SLV 13	1450	-1746	1268	3.2	12567	9.914	Si
SLV 13	1530	-2056	18310	3.77	13868	0.757	No, M>Mu
SLV 14	1450	-1746	1268	3.2	12567	9.914	Si
SLV 14	1530	-2056	18310	3.77	13868	0.757	No, M>Mu
SLD 15	1450	-1830	-527	3.35	12950	24.593	Si
SLD 15	1530	-2208	12637	4.04	14404	1.14	Si
SLV 16	1450	-2104	520	3.85	14044	27.02	Si
SLV 16	1530	-2600	19791	4.76	15471	0.782	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	1450	-5902	-382	-5229		10.81	19.5	1.08	591			1.55	Si
SLU 78	1530	-6849	-511	19204		12.54	19.5	1.08	591			1.16	Si
SLU 37	1450	-6098	-399	-5328		11.17	19.5	1.08	591			1.48	Si
SLU 37	1530	-7029	-461	18220		12.87	19.5	1.08	591			1.28	Si
SLU 80	1450	-6178	-407	-5603		11.31	19.5	1.08	591			1.45	Si
SLU 80	1530	-7150	-508	19441		13.09	19.5	1.08	591			1.16	Si
SLU 72	1450	-6091	-416	-5826		11.16	19.5	1.08	591			1.42	Si
SLU 72	1530	-7019	-461	18128		12.85	19.5	1.08	591			1.28	Si
SLU 79	1450	-6213	-404	-5458		11.38	19.5	1.08	591			1.46	Si
SLU 79	1530	-7168	-496	19169		13.13	19.5	1.08	591			1.19	Si
SLU 38	1450	-6063	-402	-5473		11.1	19.5	1.08	591			1.47	Si
SLU 38	1530	-7011	-474	18493		12.84	19.5	1.08	591			1.25	Si
SLU 35	1450	-5822	-374	-4954		10.66	19.5	1.08	591			1.58	Si
SLU 35	1530	-6728	-464	17983		12.32	19.5	1.08	591			1.27	Si
SLU 70	1450	-5816	-390	-5452		10.65	19.5	1.08	591			1.52	Si
SLU 70	1530	-6718	-463	17890		12.3	19.5	1.08	591			1.28	Si
SLU 36	1450	-5788	-377	-5099		10.6	19.5	1.08	591			1.57	Si
SLU 36	1530	-6710	-476	18255		12.29	19.5	1.08	591			1.24	Si
SLU 77	1450	-5937	-379	-5084		10.87	19.5	1.08	591			1.56	Si
SLU 77	1530	-6867	-498	18932		12.58	19.5	1.08	591			1.19	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 14	1450	-1693	-69	-224		3.1	19.5	1.45	794			11.58	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 14	1530	-1990	-415	12003		6.37	11.15	1.63	508			1.22	Si
SLV 15	1450	-2104	-77	520		3.85	19.5	1.6	876			11.42	Si
SLV 15	1530	-2600	-537	19791		14.48	6.41	1.63	292			0.54	No, Vu<V
SLV 14	1450	-1746	-39	1268		3.2	19.5	1.47	804			20.5	Si
SLV 14	1530	-2056	-673	18310		29.01	2.53	1.63	115			0.17	No, Vu<V
SLD 16	1450	-1830	-83	-527		3.35	19.5	1.5	821			9.86	Si
SLD 16	1530	-2208	-358	12637		6.53	12.08	1.63	550			1.53	Si
SLD 13	1450	-1693	-69	-224		3.1	19.5	1.45	794			11.58	Si
SLD 13	1530	-1990	-415	12003		6.37	11.15	1.63	508			1.22	Si
SLD 15	1450	-1830	-83	-527		3.35	19.5	1.5	821			9.86	Si
SLD 15	1530	-2208	-358	12637		6.53	12.08	1.63	550			1.53	Si
SLV 9	1450	-1136	-17	631		2.08	19.5	1.25	682			40.18	Si
SLV 9	1530	-1149	-565	8392		5.59	7.34	1.63	334			0.59	No, Vu<V
SLV 10	1450	-1136	-17	631		2.08	19.5	1.25	682			40.18	Si
SLV 10	1530	-1149	-565	8392		5.59	7.34	1.63	334			0.59	No, Vu<V
SLV 13	1450	-1746	-39	1268		3.2	19.5	1.47	804			20.5	Si
SLV 13	1530	-2056	-673	18310		29.01	2.53	1.63	115			0.17	No, Vu<V
SLV 16	1450	-2104	-77	520		3.85	19.5	1.6	876			11.42	Si
SLV 16	1530	-2600	-537	19791		14.48	6.41	1.63	292			0.54	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0.74	-404	2267	5319	2.35	Si
SLV 5	14	0.53	0.74	-404	2267	5319	2.35	Si
SLV 10	14	0.53	0.85	-465	2267	6052	2.67	Si
SLV 9	14	0.53	0.85	-465	2267	6052	2.67	Si
SLV 1	14	0.53	0.88	-483	2267	6273	2.77	Si
SLV 2	14	0.53	0.88	-483	2267	6273	2.77	Si
SLV 4	14	0.53	1.12	-611	2267	7767	3.43	Si
SLV 3	14	0.53	1.12	-611	2267	7767	3.43	Si
SLV 13	14	0.53	1.25	-684	2267	8592	3.79	Si
SLV 14	14	0.53	1.25	-684	2267	8592	3.79	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	239	-829	-44	0	0	0	0	1930.074	No, Trazione
SLV 12	-277	-871	55	0	0.538	0.897	0	1930.074	No
SLV 9	-1506	-438	105	0	1.777	0.959	0	1930.074	No
SLV 8	239	-829	-44	0	0	0	0	1930.074	No, Trazione
SLV 10	-1506	-438	105	0	1.777	0.959	0	1930.074	No
SLV 11	-277	-871	55	0	0.538	0.897	0	1930.074	No
SLV 2	42	-498	-127	0	0	0	0	979.113	No, Trazione
SLV 3	410	-628	-142	0	0	0	0	979.113	No, Trazione
SLV 4	410	-628	-142	0	0	0	0	979.113	No, Trazione
SLV 1	42	-498	-127	0	0	0	0	979.113	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 6	No
V_SLU	1.159	SLU 78	Si
PF_SLV	0.757	SLV 13	No
V_SLV	0.171	SLV 13	No
PFFP_SLV	2.347	SLV 5	Si
R_SLV	0	SLV 8	No

Maschio 221

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-515.8	650.6	-515.8	652.1	L6	L7	1.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fV0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 61	1450	-428	-13	10.18	0	0	No, Rottura per schiacciamento
SLU 61	1530	-420	18	9.99	0	0	No, Rottura per schiacciamento
SLU 55	1450	-657	-30	15.64	0	0	No, Rottura per schiacciamento
SLU 55	1530	-649	42	15.45	0	0	No, Rottura per schiacciamento
SLU 59	1450	-912	-46	21.71	0	0	No, Rottura per schiacciamento
SLU 59	1530	-904	66	21.52	0	0	No, Rottura per schiacciamento

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 58	1450	-910	-45	21.66	0	0	No, Rottura per schiacciamento
SLU 58	1530	-902	65	21.47	0	0	No, Rottura per schiacciamento
SLU 54	1450	-633	-27	15.08	0	0	No, Rottura per schiacciamento
SLU 54	1530	-626	38	14.89	0	0	No, Rottura per schiacciamento
SLU 62	1450	-682	-29	16.24	0	0	No, Rottura per schiacciamento
SLU 62	1530	-674	42	16.05	0	0	No, Rottura per schiacciamento
SLU 57	1450	-890	-43	21.19	0	0	No, Rottura per schiacciamento
SLU 57	1530	-882	62	21	0	0	No, Rottura per schiacciamento
SLU 56	1450	-888	-43	21.14	0	0	No, Rottura per schiacciamento
SLU 56	1530	-880	61	20.95	0	0	No, Rottura per schiacciamento
SLU 42	1450	-811	-36	19.3	0	0	No, Rottura per schiacciamento
SLU 42	1530	-804	51	19.15	0	0	No, Rottura per schiacciamento
SLU 60	1450	-426	-13	10.13	0	0	No, Rottura per schiacciamento
SLU 60	1530	-418	18	9.94	0	0	No, Rottura per schiacciamento

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 6	1450	-186	140	0	0	0	No, $e > l/2$
SLV 6	1530	-191	-28	4.55	90	3.167	Si
SLV 2	1450	116	-2	0	0	0	No, Trazione
SLV 2	1530	53	7	0	0	0	No, Trazione
SLV 13	1450	-817	74	19.45	0	0	No, Rottura per schiacciamento
SLV 13	1530	-736	2	17.51	0	0	No, Rottura per schiacciamento
SLV 3	1450	94	-101	0	0	0	No, Trazione
SLV 3	1530	25	37	0	0	0	No, Trazione
SLV 5	1450	-186	140	0	0	0	No, $e > l/2$
SLV 5	1530	-191	-28	4.55	90	3.167	Si
SLV 11	1450	-537	-168	12.79	0	0	No, Rottura per schiacciamento
SLV 11	1530	-519	67	12.37	0	0	No, Rottura per schiacciamento
SLV 4	1450	94	-101	0	0	0	No, Trazione
SLV 4	1530	25	37	0	0	0	No, Trazione
SLV 14	1450	-817	74	19.45	0	0	No, Rottura per schiacciamento
SLV 14	1530	-736	2	17.51	0	0	No, Rottura per schiacciamento
SLV 12	1450	-537	-168	12.79	0	0	No, Rottura per schiacciamento
SLV 12	1530	-519	67	12.37	0	0	No, Rottura per schiacciamento
SLD 16	1450	-563	-19	13.4	0	0	No, Rottura per schiacciamento
SLD 16	1530	-528	25	12.57	0	0	No, Rottura per schiacciamento

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 38	1450	-1038	-2	-52		24.72	1.5	1.08	46			28.73	Si
SLU 38	1530	-1032	-2	75		24.57	1.5	1.08	46			28.73	Si
SLU 70	1450	-984	-2	-50		23.42	1.5	1.08	46			29.87	Si
SLU 70	1530	-976	-2	72		23.23	1.5	1.08	46			29.87	Si
SLU 80	1450	-1072	-2	-53		25.53	1.5	1.08	46			28.22	Si
SLU 80	1530	-1064	-2	76		25.34	1.5	1.08	46			28.21	Si
SLU 79	1450	-1070	-2	-53		25.48	1.5	1.08	46			28.37	Si
SLU 79	1530	-1062	-2	76		25.29	1.5	1.08	46			28.37	Si
SLU 37	1450	-1036	-2	-51		24.68	1.5	1.08	46			28.9	Si
SLU 37	1530	-1030	-2	74		24.53	1.5	1.08	46			28.89	Si
SLU 78	1450	-1050	-2	-50		25.01	1.5	1.08	46			29.74	Si
SLU 78	1530	-1042	-2	72		24.82	1.5	1.08	46			29.74	Si
SLU 71	1450	-1004	-2	-52		23.9	1.5	1.08	46			28.49	Si
SLU 71	1530	-996	-2	75		23.71	1.5	1.08	46			28.49	Si
SLU 30	1450	-972	-2	-52		23.14	1.5	1.08	46			28.85	Si
SLU 30	1530	-966	-2	75		22.99	1.5	1.08	46			28.85	Si
SLU 29	1450	-970	-2	-51		23.09	1.5	1.08	46			29.02	Si
SLU 29	1530	-964	-2	74		22.94	1.5	1.08	46			29.02	Si
SLU 72	1450	-1006	-2	-53		23.95	1.5	1.08	46			28.33	Si
SLU 72	1530	-998	-2	76		23.75	1.5	1.08	46			28.33	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	1450	-466	7	163		13.88	1.2	1.63	55			7.71	Si
SLV 10	1530	-427	3	-30		10.18	1.5	1.63	68			26.51	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	1450	-257	-8	-191	0	0	0	0.83	0	0	0	0	No, Vu<V
SLV 8	1530	-283	-3	69	6.74	1.5	1.63	68	0	0	0	20.06	Si
SLV 6	1450	-186	6	140	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 6	1530	-191	3	-28	4.55	1.5	1.63	68	0	0	0	22.61	Si
SLV 1	1450	116	0	-2	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 1	1530	53	1	7	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 4	1450	94	-4	-101	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 4	1530	25	-1	37	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 3	1450	94	-4	-101	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 3	1530	25	-1	37	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 7	1450	-257	-8	-191	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 7	1530	-283	-3	69	6.74	1.5	1.63	68	0	0	0	20.06	Si
SLV 5	1450	-186	6	140	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 5	1530	-191	3	-28	4.55	1.5	1.63	68	0	0	0	22.61	Si
SLV 2	1450	116	0	-2	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 2	1530	53	1	7	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 9	1450	-466	7	163	13.88	1.2	1.63	55	0	0	0	7.71	Si
SLV 9	1530	-427	3	-30	10.18	1.5	1.63	68	0	0	0	26.51	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.53	0	-9	174	0	0	No, e>t/2
SLV 5	14	0.53	0	4	174	0	0	No, Trazione
SLV 6	14	0.53	0	4	174	0	0	No, Trazione
SLV 2	14	0.53	0	6	174	0	0	No, Trazione
SLV 1	14	0.53	0	6	174	0	0	No, Trazione
SLV 10	14	0.53	0	-9	174	0	0	No, e>t/2
SLV 3	14	0.53	0	-5	174	0	0	No, e>t/2
SLV 4	14	0.53	0	-5	174	0	0	No, e>t/2
SLV 7	14	0.53	0.83	-35	174	456	2.61	Si
SLV 8	14	0.53	0.83	-35	174	456	2.61	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	67	-30	-9	0	0	0	0	979.113	No, Trazione
SLV 8	19	-43	-4	0	0	0	0	1930.074	No, Trazione
SLV 1	65	-22	-9	0	0	0	0	979.113	No, Trazione
SLV 4	67	-30	-9	0	0	0	0	979.113	No, Trazione
SLV 9	-29	-20	4	0.049	0.907	0	0	1930.074	No
SLV 7	19	-43	-4	0	0	0	0	1930.074	No, Trazione
SLV 6	14	-17	-2	0	0	0	0	1930.074	No, Trazione
SLV 10	-29	-20	4	0.049	0.907	0	0	1930.074	No
SLV 2	65	-22	-9	0	0	0	0	979.113	No, Trazione
SLV 5	14	-17	-2	0	0	0	0	1930.074	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 3	No
V_SLU	28.215	SLU 80	Si
PF_SLV	0	SLV 4	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 6	No
R_SLV	0	SLV 8	No

Maschio 222

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-296.3	595.1	-501.8	595.1	L6	L7	205.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 56	1340	73	-179478	0	0	0	No, Trazione
SLU 56	1520	2665	-369471	0	0	0	No, Trazione
SLU 60	1340	-2306	-97542	0.4	225318	2.31	Si
SLU 60	1520	286	-132484	0	0	0	No, Trazione
SLU 59	1340	806	-186193	0	0	0	No, Trazione
SLU 59	1520	3398	-379982	0	0	0	No, Trazione
SLU 58	1340	772	-181459	0	0	0	No, Trazione
SLU 58	1520	3364	-376175	0	0	0	No, Trazione
SLU 1	1340	-1703	-75229	0.3	168625	2.241	Si
SLU 1	1520	298	-113563	0	0	0	No, Trazione
SLU 55	1340	-728	-146178	0	0	0	No, e>l/2
SLU 55	1520	1865	-260110	0	0	0	No, Trazione
SLU 54	1340	-1449	-141041	0.25	144305	1.023	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 54	1520	1143	-250867	0	0	0	No, Trazione
SLU 57	1340	107	-184212	0	0	0	No, Trazione
SLU 57	1520	2699	-373277	0	0	0	No, Trazione
SLU 61	1340	-2273	-102277	0.39	222186	2.172	Si
SLU 61	1520	320	-136291	0	0	0	No, Trazione
SLU 53	1340	-1483	-136307	0.26	147559	1.083	Si
SLU 53	1520	1109	-247061	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 5	1340	-400	-26652	0.07	40845	1.533	Si
SLV 5	1520	1556	-351975	0	0	0	No, Trazione
SLV 6	1340	-400	-26652	0.07	40845	1.533	Si
SLV 6	1520	1556	-351975	0	0	0	No, Trazione
SLV 12	1340	-2620	-140944	0.46	259206	1.839	Si
SLV 12	1520	-557	91828	0	0	0	No, e>/2
SLV 11	1340	-2620	-140944	0.46	259206	1.839	Si
SLV 11	1520	-557	91828	0	0	0	No, e>/2
SLV 10	1340	-372	-89037	0	0	0	No, e>/2
SLV 10	1520	1227	-259730	0	0	0	No, Trazione
SLV 9	1340	-372	-89037	0	0	0	No, e>/2
SLV 9	1520	1227	-259730	0	0	0	No, Trazione
SLV 4	1340	-1893	12392	0.33	189283	15.275	Si
SLV 4	1520	779	-231082	0	0	0	No, Trazione
SLV 13	1340	-1127	-179988	0	0	0	No, e>/2
SLV 13	1520	219	-29066	0	0	0	No, Trazione
SLV 14	1340	-1127	-179988	0	0	0	No, e>/2
SLV 14	1520	219	-29066	0	0	0	No, Trazione
SLD 1	1340	-1377	-37088	0.24	138674	3.739	Si
SLD 1	1520	853	-218290	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 53	1340	-1483	572	-136307		1.63	32.52	0.77	704			1.23	Si
SLU 53	1520	1109	572	-247061		0	0	0.56	0			0	No, Vu<V
SLU 56	1340	73	1013	-179478		0	0	0.56	0			0	No, Vu<V
SLU 56	1520	2665	1013	-369471		0	0	0.56	0			0	No, Vu<V
SLU 60	1340	-2306	151	-97542		0.45	181.37	0.62	3129			20.7	Si
SLU 60	1520	286	151	-132484		0	0	0.56	0			0	No, Vu<V
SLU 54	1340	-1449	567	-141041		3.18	16.29	0.98	447			0.79	No, Vu<V
SLU 54	1520	1143	567	-250867		0	0	0.56	0			0	No, Vu<V
SLU 1	1340	-1703	180	-75229		0.35	175.73	0.6	2961			16.46	Si
SLU 1	1520	298	180	-113563		0	0	0.56	0			0	No, Vu<V
SLU 58	1340	772	1039	-181459		0	0	0.56	0			0	No, Vu<V
SLU 58	1520	3364	1039	-376175		0	0	0.56	0			0	No, Vu<V
SLU 55	1340	-728	590	-146178		0	0	0.56	0			0	No, Vu<V
SLU 55	1520	1865	590	-260110		0	0	0.56	0			0	No, Vu<V
SLU 61	1340	-2273	146	-102277		0.47	173.24	0.62	2998			20.54	Si
SLU 61	1520	320	146	-136291		0	0	0.56	0			0	No, Vu<V
SLU 57	1340	107	1007	-184212		0	0	0.56	0			0	No, Vu<V
SLU 57	1520	2699	1007	-373277		0	0	0.56	0			0	No, Vu<V
SLU 59	1340	806	1034	-186193		0	0	0.56	0			0	No, Vu<V
SLU 59	1520	3398	1034	-379982		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	1340	-1127	-1173	-179988		0	0	0.83	0			0	No, Vu<V
SLV 14	1520	219	-784	-29066		0	0	0.83	0			0	No, Vu<V
SLV 6	1340	-400	1927	-26652		0.13	108.26	0.86	2606			1.35	Si
SLV 6	1520	1556	1504	-351975		0	0	0.83	0			0	No, Vu<V
SLV 4	1340	-1893	1621	12392		0.33	205.5	0.9	5174			3.19	Si
SLV 4	1520	779	1231	-231082		0	0	0.83	0			0	No, Vu<V
SLV 11	1340	-2620	-1479	-140944		0.64	146.88	0.96	3951			2.67	Si
SLV 11	1520	-557	-1056	91828		0	0	0.83	0			0	No, Vu<V
SLV 12	1340	-2620	-1479	-140944		0.64	146.88	0.96	3951			2.67	Si
SLV 12	1520	-557	-1056	91828		0	0	0.83	0			0	No, Vu<V
SLV 13	1340	-1127	-1173	-179988		0	0	0.83	0			0	No, Vu<V
SLV 13	1520	219	-784	-29066		0	0	0.83	0			0	No, Vu<V
SLV 9	1340	-372	877	-89037		0	0	0.83	0			0	No, Vu<V
SLV 9	1520	1227	738	-259730		0	0	0.83	0			0	No, Vu<V
SLV 10	1340	-372	877	-89037		0	0	0.83	0			0	No, Vu<V
SLV 10	1520	1227	738	-259730		0	0	0.83	0			0	No, Vu<V
SLV 5	1340	-400	1927	-26652		0.13	108.26	0.86	2606			1.35	Si
SLV 5	1520	1556	1504	-351975		0	0	0.83	0			0	No, Vu<V
SLD 1	1340	-1377	1121	-37088		0.24	205.5	0.88	5070			4.52	Si
SLD 1	1520	853	884	-218290		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.53	0	411	23343	0	0	No, Trazione
SLV 6	14	0.53	0	235	23343	0	0	No, Trazione
SLV 2	14	0.53	0	-762	23343	0	0	No, e>t/2
SLV 4	14	0.53	0	-1441	23343	0	0	No, e>t/2
SLV 3	14	0.53	0	-1441	23343	0	0	No, e>t/2
SLV 14	14	0.53	0	-175	23343	0	0	No, e>t/2
SLV 5	14	0.53	0	235	23343	0	0	No, Trazione



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.53	0	-762	23343	0	0	No, e>t/2
SLV 13	14	0.53	0	-175	23343	0	0	No, e>t/2
SLV 9	14	0.53	0	411	23343	0	0	No, Trazione

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	119	-2817	510	0	0	0	0	1930.074	No, Trazione
SLV 4	1819	-3795	299	0	0	0	0	979.113	No, Trazione
SLV 3	1819	-3795	299	0	0	0	0	979.113	No, Trazione
SLV 10	1776	-1150	-529	0	0	0	0	1930.074	No, Trazione
SLV 6	2515	-2179	-429	0	0	0	0	1930.074	No, Trazione
SLV 5	2515	-2179	-429	0	0	0	0	1930.074	No, Trazione
SLV 9	1776	-1150	-529	0	0	0	0	1930.074	No, Trazione
SLV 7	119	-2817	510	0	0	0	0	1930.074	No, Trazione
SLV 2	2538	-3603	17	0	0	0	0	979.113	No, Trazione
SLV 1	2538	-3603	17	0	0	0	0	979.113	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 14	No

Maschio 223

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	595.1	-206.3	595.1	L6	L7	194	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 37	1340	-3308	-145636	0.61	296923	2.039	Si
SLU 37	1520	-2453	126300	0.45	224751	1.78	Si
SLU 9	1340	-3286	-105209	0.6	295047	2.804	Si
SLU 9	1520	-2142	114189	0.39	197690	1.731	Si
SLU 72	1340	-4187	-142181	0.77	367673	2.586	Si
SLU 72	1520	-2757	134949	0.51	250762	1.858	Si
SLU 16	1340	-3185	-123554	0.59	286726	2.321	Si
SLU 16	1520	-2183	109574	0.4	201329	1.837	Si
SLU 29	1340	-3451	-125560	0.64	308599	2.458	Si
SLU 29	1520	-2409	129184	0.44	220967	1.71	Si
SLU 30	1340	-3409	-127291	0.63	305190	2.398	Si
SLU 30	1520	-2411	130916	0.44	221162	1.689	Si
SLU 38	1340	-3267	-147367	0.6	293487	1.992	Si
SLU 38	1520	-2455	128032	0.45	224945	1.757	Si
SLU 8	1340	-3327	-103478	0.61	298479	2.884	Si
SLU 8	1520	-2139	112457	0.39	197493	1.756	Si
SLU 42	1340	-2909	-141668	0.54	263602	1.861	Si
SLU 42	1520	-2134	86848	0.39	197041	2.269	Si
SLU 17	1340	-3144	-125285	0.58	283268	2.261	Si
SLU 17	1520	-2186	111306	0.4	201526	1.811	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 15	1340	-2488	-151456	0.46	232333	1.534	Si
SLD 15	1520	-1612	58602	0.3	152597	2.604	Si
SLV 11	1340	-2860	-207925	0.53	265422	1.277	Si
SLV 11	1520	-1795	11840	0.33	169398	14.307	Si
SLV 14	1340	-1971	-188247	0.36	185510	0.985	No, M>Mu
SLV 14	1520	-1562	114407	0.29	147945	1.293	Si
SLV 12	1340	-2860	-207925	0.53	265422	1.277	Si
SLV 12	1520	-1795	11840	0.33	169398	14.307	Si
SLV 10	1340	-2201	-41671	0.41	206412	4.953	Si
SLV 10	1520	-1352	99992	0.25	128429	1.284	Si
SLV 16	1340	-2169	-238123	0	0	0	No, e>l/2
SLV 16	1520	-1695	87961	0.31	160214	1.821	Si
SLV 13	1340	-1971	-188247	0.36	185510	0.985	No, M>Mu
SLV 13	1520	-1562	114407	0.29	147945	1.293	Si
SLV 9	1340	-2201	-41671	0.41	206412	4.953	Si
SLV 9	1520	-1352	99992	0.25	128429	1.284	Si
SLD 16	1340	-2488	-151456	0.46	232333	1.534	Si
SLD 16	1520	-1612	58602	0.3	152597	2.604	Si
SLV 15	1340	-2169	-238123	0	0	0	No, e>l/2



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 15	1520	-1695	87961	0.31	160214	1.821	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLU 29	1340	-3451	-1941	-125560		0.68	181.83	0.65	3289			1.69	Si
SLU 29	1520	-2409	-1737	129184		0.66	130.14	0.64	2346			1.35	Si
SLU 30	1340	-3409	-1985	-127291		0.68	178.98	0.65	3239			1.63	Si
SLU 30	1520	-2411	-1780	130916		0.67	128.13	0.65	2315			1.3	Si
SLU 79	1340	-4086	-2303	-160527		0.84	173.14	0.67	3238			1.41	Si
SLU 79	1520	-2799	-2097	130333		0.66	151.28	0.64	2726			1.3	Si
SLU 78	1340	-4348	-2365	-155629		0.85	183.62	0.67	3436			1.45	Si
SLU 78	1520	-3179	-2169	135583		0.7	163.06	0.65	2960			1.36	Si
SLU 38	1340	-3267	-2180	-147367		0.75	155.67	0.66	2857			1.31	Si
SLU 38	1520	-2455	-1975	128032		0.65	134.56	0.64	2421			1.23	Si
SLU 80	1340	-4044	-2347	-162257		0.85	170.65	0.67	3194			1.36	Si
SLU 80	1520	-2801	-2140	132066		0.67	149.54	0.64	2700			1.26	Si
SLU 36	1340	-3570	-2199	-140738		0.74	172.75	0.65	3163			1.44	Si
SLU 36	1520	-2834	-2005	131550		0.67	151.73	0.64	2738			1.37	Si
SLU 72	1340	-4187	-2151	-142181		0.79	189.12	0.66	3500			1.63	Si
SLU 72	1520	-2757	-1944	134949		0.68	144.15	0.65	2610			1.34	Si
SLU 42	1340	-2909	-1913	-141668		0.72	144.89	0.65	2642			1.38	Si
SLU 42	1520	-2134	-1776	86848		0.45	168.93	0.62	2912			1.64	Si
SLU 37	1340	-3308	-2137	-145636		0.74	158.94	0.65	2914			1.36	Si
SLU 37	1520	-2453	-1933	126300		0.64	136.54	0.64	2451			1.27	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLV 12	1340	-2860	-1947	-207925		1.4	72.86	1.11	2272			1.17	Si
SLV 12	1520	-1795	-1037	11840		0.33	194	0.9	4886			4.71	Si
SLD 16	1340	-2488	-1886	-151456		0.82	108.41	1	3027			1.61	Si
SLD 16	1520	-1612	-1235	58602		0.32	181.96	0.9	4568			3.7	Si
SLV 13	1340	-1971	-2783	-188247		15.73	4.48	1.63	204			0.07	No, Vu<V
SLV 13	1520	-1562	-1616	114407		0.78	71.26	0.99	1975			1.22	Si
SLV 16	1340	-2169	-2985	-238123		0	0	0.83	0			0	No, Vu<V
SLV 16	1520	-1695	-1528	87961		0.45	135.31	0.92	3496			2.29	Si
SLV 9	1340	-2201	-1276	-41671		0.41	194	0.91	4967			3.89	Si
SLV 9	1520	-1352	-1332	99992		0.7	69.05	0.97	1881			1.41	Si
SLV 11	1340	-2860	-1947	-207925		1.4	72.86	1.11	2272			1.17	Si
SLV 11	1520	-1795	-1037	11840		0.33	194	0.9	4886			4.71	Si
SLV 15	1340	-2169	-2985	-238123		0	0	0.83	0			0	No, Vu<V
SLV 15	1520	-1695	-1528	87961		0.45	135.31	0.92	3496			2.29	Si
SLV 10	1340	-2201	-1276	-41671		0.41	194	0.91	4967			3.89	Si
SLV 10	1520	-1352	-1332	99992		0.7	69.05	0.97	1881			1.41	Si
SLV 14	1340	-1971	-2783	-188247		15.73	4.48	1.63	204			0.07	No, Vu<V
SLV 14	1520	-1562	-1616	114407		0.78	71.26	0.99	1975			1.22	Si
SLD 15	1340	-2488	-1886	-151456		0.82	108.41	1	3027			1.61	Si
SLD 15	1520	-1612	-1235	58602		0.32	181.96	0.9	4568			3.7	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.53	0.38	-2073	22036	28118	1.28	Si
SLV 10	14	0.53	0.38	-2073	22036	28118	1.28	Si
SLV 5	14	0.53	0.4	-2150	22036	29125	1.32	Si
SLV 6	14	0.53	0.4	-2150	22036	29125	1.32	Si
SLV 14	14	0.53	0.42	-2264	22036	30616	1.39	Si
SLV 13	14	0.53	0.42	-2264	22036	30616	1.39	Si
SLV 16	14	0.53	0.46	-2504	22036	33740	1.53	Si
SLV 15	14	0.53	0.46	-2504	22036	33740	1.53	Si
SLV 2	14	0.53	0.46	-2520	22036	33942	1.54	Si
SLV 1	14	0.53	0.46	-2520	22036	33942	1.54	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-943	-2361	-150	0.012	3.678	0.895	18.852	1930.074	No
SLV 10	-943	-2361	-150	0.012	3.678	0.895	18.852	1930.074	No
SLV 5	-872	-1854	-130	0.019	3.621	0.897	30.586	1930.074	No
SLV 6	-872	-1854	-130	0.019	3.621	0.897	30.586	1930.074	No
SLV 14	-1041	-3876	-119	0.025	3.759	0.893	40.13	979.113	No
SLV 13	-1041	-3876	-119	0.025	3.759	0.893	40.13	979.113	No
SLV 8	-917	-4488	24	0.063	3.657	0.895	101.54	1930.074	No
SLV 7	-917	-4488	24	0.063	3.657	0.895	101.54	1930.074	No
SLV 12	-988	-4996	4	0.07	3.715	0.894	113.66	1930.074	No
SLV 11	-988	-4996	4	0.07	3.715	0.894	113.66	1930.074	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.689	SLV 30	Si
V_SLV	1.225	SLV 38	Si
PF_SLV	0	SLV 15	No
V_SLV	0	SLV 15	No
PFFP_SLV	1.276	SLV 9	Si
R_SLV	0.01	SLV 9	No



Maschio 224

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	-335.9	-12.3	595.1	L6	L7	931	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 62	1250	-28366	255416	1.09	11440459	44.791	Si
SLU 62	1566	-2288	134815	0.09	1053688	7.816	Si
SLU 22	1250	-22187	189844	0.85	9249083	48.719	Si
SLU 22	1566	-1572	98749	0.06	726440	7.356	Si
SLU 64	1250	-27162	234439	1.04	11026691	47.034	Si
SLU 64	1566	-1679	112075	0.06	775355	6.918	Si
SLU 18	1250	-21984	175707	0.84	9174051	52.212	Si
SLU 18	1566	-1169	79978	0.04	541273	6.768	Si
SLU 39	1250	-24599	194930	0.94	10124448	51.939	Si
SLU 39	1566	-1737	105331	0.07	801917	7.613	Si
SLU 1	1250	-19572	170621	0.75	8271028	48.476	Si
SLU 1	1566	-1005	73395	0.04	465386	6.341	Si
SLU 81	1250	-29574	239525	1.13	11849448	49.471	Si
SLU 81	1566	-1844	118657	0.07	850755	7.17	Si
SLU 45	1250	-26410	240481	1.01	10764748	44.763	Si
SLU 45	1566	-2053	121958	0.08	946498	7.761	Si
SLU 43	1250	-24547	215216	0.94	10105683	46.956	Si
SLU 43	1566	-1111	86722	0.04	514567	5.934	Si
SLU 60	1250	-26959	220302	1.03	10956098	49.732	Si
SLU 60	1566	-1276	93304	0.05	590376	6.327	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 6	1250	-19943	-1521473	0.77	8702207	5.72	Si
SLV 6	1566	-1026	-239448	0.04	476217	1.989	Si
SLV 11	1250	-21660	1875734	0.83	9397217	5.01	Si
SLV 11	1566	-1373	403359	0.05	636360	1.578	Si
SLV 8	1250	-20295	1673408	0.78	8845173	5.286	Si
SLV 8	1566	-1675	391578	0.06	775390	1.98	Si
SLV 15	1250	-23131	993573	0.89	9985444	10.05	Si
SLV 15	1566	-794	196245	0.03	368818	1.879	Si
SLV 10	1250	-21309	-1319147	0.82	9255655	7.016	Si
SLV 10	1566	-725	-227666	0.03	336615	1.479	Si
SLV 9	1250	-21309	-1319147	0.82	9255655	7.016	Si
SLV 9	1566	-725	-227666	0.03	336615	1.479	Si
SLV 16	1250	-23131	993573	0.89	9985444	10.05	Si
SLV 16	1566	-794	196245	0.03	368818	1.879	Si
SLV 5	1250	-19943	-1521473	0.77	8702207	5.72	Si
SLV 5	1566	-1026	-239448	0.04	476217	1.989	Si
SLV 12	1250	-21660	1875734	0.83	9397217	5.01	Si
SLV 12	1566	-1373	403359	0.05	636360	1.578	Si
SLV 7	1250	-20295	1673408	0.78	8845173	5.286	Si
SLV 7	1566	-1675	391578	0.06	775390	1.98	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	1250	-30981	557	274639		1.19	931	0.71	18613			33.44	Si
SLU 83	1566	-2856	459	160169		0.11	931	0.57	14863			32.39	Si
SLU 43	1250	-24547	539	215216		0.94	931	0.68	17755			32.95	Si
SLU 43	1566	-1111	509	86722		0.04	931	0.56	14630			28.74	Si
SLU 64	1250	-27162	574	234439		1.04	931	0.69	18104			31.53	Si
SLU 64	1566	-1679	524	112075		0.06	931	0.56	14706			28.06	Si
SLU 39	1250	-24599	554	194930		0.94	931	0.68	17762			32.06	Si
SLU 39	1566	-1737	505	105331		0.07	931	0.56	14714			29.12	Si
SLU 18	1250	-21984	519	175707		0.84	931	0.67	17413			33.58	Si
SLU 18	1566	-1169	490	79978		0.04	931	0.56	14638			29.86	Si
SLU 81	1250	-29574	669	239525		1.13	931	0.71	18425			27.54	Si
SLU 81	1566	-1844	619	118657		0.07	931	0.56	14728			23.8	Si
SLU 61	1250	-27057	392	140535		1.04	931	0.69	18090			46.1	Si
SLU 61	1566	-1340	482	63107		0.05	931	0.56	14661			30.4	Si
SLU 60	1250	-26959	634	220302		1.03	931	0.69	18077			28.53	Si
SLU 60	1566	-1276	604	93304		0.05	931	0.56	14652			24.27	Si
SLU 74	1250	-30714	555	263264		1.18	931	0.71	18577			33.45	Si
SLU 74	1566	-2736	466	151919		0.1	931	0.57	14847			31.89	Si
SLU 82	1250	-29672	428	159758		1.14	931	0.71	18438			43.1	Si
SLU 82	1566	-1907	497	88460		0.07	931	0.57	14737			29.63	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	1250	-20295	10073	1673408		0.78	931	0.99	25782			2.56	Si
SLV 8	1566	-1675	3171	391578		0.09	694.96	0.85	16551			5.22	Si
SLV 11	1250	-21660	10255	1875734		0.83	931	1	26055			2.54	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	1566	-1373	3244	403359		0.1	515.14	0.85	12294			3.79	Si
SLD 11	1250	-21167	4593	898287		0.81	931	1	25957			5.65	Si
SLD 11	1566	-1266	1623	215615		0.05	885.71	0.84	20920			12.89	Si
SLV 10	1250	-21309	-9167	-1319147		0.82	931	1	25985			2.83	Si
SLV 10	1566	-725	-2334	-227666		0.06	454.14	0.84	10742			4.6	Si
SLV 6	1250	-19943	-9349	-1521473		0.77	931	0.99	25712			2.75	Si
SLV 6	1566	-1026	-2406	-239448		0.05	696.59	0.84	16459			6.84	Si
SLD 12	1250	-21167	4593	898287		0.81	931	1	25957			5.65	Si
SLD 12	1566	-1266	1623	215615		0.05	885.71	0.84	20920			12.89	Si
SLV 12	1250	-21660	10255	1875734		0.83	931	1	26055			2.54	Si
SLV 12	1566	-1373	3244	403359		0.1	515.14	0.85	12294			3.79	Si
SLV 9	1250	-21309	-9167	-1319147		0.82	931	1	25985			2.83	Si
SLV 9	1566	-725	-2334	-227666		0.06	454.14	0.84	10742			4.6	Si
SLV 7	1250	-20295	10073	1673408		0.78	931	0.99	25782			2.56	Si
SLV 7	1566	-1675	3171	391578		0.09	694.96	0.85	16551			5.22	Si
SLV 5	1250	-19943	-9349	-1521473		0.77	931	0.99	25712			2.75	Si
SLV 5	1566	-1026	-2406	-239448		0.05	696.59	0.84	16459			6.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1408 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.53	0.38	-9928	109441	134655	1.23	Si
SLV 4	14	0.53	0.38	-9928	109441	134655	1.23	Si
SLV 2	14	0.53	0.38	-9932	109441	134718	1.23	Si
SLV 1	14	0.53	0.38	-9932	109441	134718	1.23	Si
SLV 7	14	0.53	0.39	-10105	109441	136978	1.25	Si
SLV 8	14	0.53	0.39	-10105	109441	136978	1.25	Si
SLV 5	14	0.53	0.39	-10121	109441	137187	1.25	Si
SLV 6	14	0.53	0.39	-10121	109441	137187	1.25	Si
SLV 11	14	0.53	0.39	-10261	109441	139029	1.27	Si
SLV 12	14	0.53	0.39	-10261	109441	139029	1.27	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1408 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 2	-1605	-18473	-796	0	15.609	0.932	0	979.113	No
SLV 1	-1605	-18473	-796	0	15.609	0.932	0	979.113	No
SLV 4	-1799	-18578	-795	0	15.714	0.927	0	979.113	No
SLV 3	-1799	-18578	-795	0	15.714	0.927	0	979.113	No
SLV 5	-1026	-19943	-441	0.031	15.342	0.949	47.364	1930.074	No
SLV 6	-1026	-19943	-441	0.031	15.342	0.949	47.364	1930.074	No
SLV 7	-1675	-20295	-438	0.032	15.646	0.93	50.382	1930.074	No
SLV 8	-1675	-20295	-438	0.032	15.646	0.93	50.382	1930.074	No
SLV 9	-725	-21309	-136	0.068	15.235	0.961	102.716	1930.074	No
SLV 10	-725	-21309	-136	0.068	15.235	0.961	102.716	1930.074	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.934	SLU 43	Si
V_SLU	23.799	SLU 81	Si
PF_SLV	1.479	SLV 9	Si
V_SLV	2.541	SLV 11	Si
PFFP_SLV	1.23	SLV 3	Si
R_SLV	0	SLV 1	No

Maschio 225

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1633.3	-335.9	-1720.3	-335.9	L6	F1	87	28	319.3	319.3	319.3			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 73	1250	-2458	-36645	1.01	93666	2.556	Si
SLU 73	1460	-2123	12309	0.87	82461	6.699	Si
SLU 31	1250	-1885	-30147	0.77	74216	2.462	Si
SLU 31	1460	-1869	10670	0.77	73657	6.903	Si
SLU 19	1250	-1844	-28507	0.76	72776	2.553	Si
SLU 19	1460	-1437	10739	0.59	57973	5.398	Si
SLU 82	1250	-2544	-37946	1.04	96472	2.542	Si
SLU 82	1460	-1950	11324	0.8	76473	6.753	Si
SLU 61	1250	-2417	-35005	0.99	92328	2.638	Si
SLU 61	1460	-1690	12378	0.69	67258	5.434	Si
SLU 81	1250	-2698	-38211	1.11	101402	2.654	Si
SLU 81	1460	-1679	8295	0.69	66842	8.058	Si
SLU 40	1250	-1971	-31449	0.81	77239	2.456	Si
SLU 40	1460	-1696	9685	0.7	67477	6.967	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 39	1250	-2125	-31713	0.87	82555	2.603	Si
SLU 39	1460	-1425	6656	0.59	57545	8.646	Si
SLU 52	1250	-2331	-33703	0.96	89473	2.655	Si
SLU 52	1460	-1863	13362	0.76	73443	5.496	Si
SLU 10	1250	-1758	-27205	0.72	69705	2.562	Si
SLU 10	1460	-1610	11724	0.66	64351	5.489	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 9	1250	-5738	-72957	2.36	201487	2.762	Si
SLV 9	1460	-1910	102175	0	0	0	No, $e > l/2$
SLV 10	1250	-5738	-72957	2.36	201487	2.762	Si
SLV 10	1460	-1910	102175	0	0	0	No, $e > l/2$
SLV 11	1250	848	-8585	0	0	0	No, Trazione
SLV 11	1460	177	-51135	0	0	0	No, Trazione
SLV 14	1250	-4287	-83465	1.76	159640	1.913	Si
SLV 14	1460	-354	97217	0	0	0	No, $e > l/2$
SLV 4	1250	130	30242	0	0	0	No, Trazione
SLV 4	1460	-2086	-87921	0.86	84384	0.96	No, $M > Mu$
SLV 7	1250	1581	19733	0	0	0	No, Trazione
SLV 7	1460	-530	-92879	0	0	0	No, $e > l/2$
SLV 16	1250	-2312	-64153	0.95	92742	1.446	Si
SLV 16	1460	272	51225	0	0	0	No, Trazione
SLV 8	1250	1581	19733	0	0	0	No, Trazione
SLV 8	1460	-530	-92879	0	0	0	No, $e > l/2$
SLV 12	1250	848	-8585	0	0	0	No, Trazione
SLV 12	1460	177	-51135	0	0	0	No, Trazione
SLV 13	1250	-4287	-83465	1.76	159640	1.913	Si
SLV 13	1460	-354	97217	0	0	0	No, $e > l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	1250	-2899	-649	-34875		1.19	87	0.71	1740			2.68	Si
SLU 83	1460	-2243	243	-2167		0.92	87	0.68	1652			6.79	Si
SLU 74	1250	-3082	-661	-36206		1.27	87	0.72	1764			2.67	Si
SLU 74	1460	-2379	222	-1696		0.98	87	0.69	1671			7.53	Si
SLU 39	1250	-2125	-626	-31713		0.89	85.74	0.67	1617			2.58	Si
SLU 39	1460	-1425	14	6656		0.59	87	0.63	1543			113.01	Si
SLU 61	1250	-2417	-619	-35005		0.99	87	0.69	1676			2.71	Si
SLU 61	1460	-1690	-97	12378		0.69	87	0.65	1579			16.27	Si
SLU 81	1250	-2698	-748	-38211		1.11	87	0.7	1713			2.29	Si
SLU 81	1460	-1679	-10	8295		0.69	87	0.65	1577			158.81	Si
SLU 40	1250	-1971	-560	-31449		0.85	82.64	0.67	1548			2.77	Si
SLU 40	1460	-1696	-14	9685		0.7	87	0.65	1579			116.39	Si
SLU 64	1250	-2753	-661	-34460		1.13	87	0.71	1720			2.6	Si
SLU 64	1460	-1654	26	4844		0.68	87	0.65	1574			60.48	Si
SLU 60	1250	-2571	-686	-35270		1.06	87	0.7	1696			2.47	Si
SLU 60	1460	-1419	-70	9348		0.58	87	0.63	1543			22.11	Si
SLU 73	1250	-2458	-611	-36645		1.02	85.77	0.69	1662			2.72	Si
SLU 73	1460	-2123	-45	12309		0.87	87	0.67	1636			36.75	Si
SLU 82	1250	-2544	-681	-37946		1.06	85.75	0.7	1673			2.46	Si
SLU 82	1460	-1950	-37	11324		0.8	87	0.66	1613			43.42	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1250	1581	-819	19733		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1460	-530	1140	-92879		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1250	848	-1261	-8585		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1460	177	293	-51135		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1250	848	-1261	-8585		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1460	177	293	-51135		0	0	0.83	0			0	No, $V_u < V$
SLV 16	1250	-2312	-1408	-64153		1.75	47.24	1.18	1565			1.11	Si
SLV 16	1460	272	-1197	51225		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1250	-4287	-1091	-83465		2.12	72.1	1.26	2540			2.33	Si
SLV 14	1460	-354	-1627	97217		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1250	-5738	-205	-72957		2.36	87	1.3	3178			15.48	Si
SLV 10	1460	-1910	-1141	102175		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1250	-4287	-1091	-83465		2.12	72.1	1.26	2540			2.33	Si
SLV 13	1460	-354	-1627	97217		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1250	130	67	30242		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1460	-2086	1627	-87921		18.35	4.06	1.63	185			0.11	No, $V_u < V$
SLV 8	1250	1581	-819	19733		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1460	-530	1140	-92879		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1250	-5738	-205	-72957		2.36	87	1.3	3178			15.48	Si
SLV 9	1460	-1910	-1141	102175		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1409.6 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0	-71	10096	0	0	No, $e > t/2$
SLV 15	14	0.53	0	142	10096	0	0	No, Trazione
SLV 12	14	0.53	0	556	10096	0	0	No, Trazione
SLV 8	14	0.53	0	-71	10096	0	0	No, $e > t/2$
SLV 16	14	0.53	0	142	10096	0	0	No, Trazione
SLV 11	14	0.53	0	556	10096	0	0	No, Trazione
SLV 14	14	0.53	0.34	-839	10096	11420	1.13	Si
SLV 13	14	0.53	0.34	-839	10096	11420	1.13	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.53	0.8	-1948	10096	25484	2.52	Si
SLV 4	14	0.53	0.8	-1948	10096	25484	2.52	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1409.6 $W_a = 0.05$ $T_a = 0.0608$

Comb.	N top	N base	V orto	σ_0	M*	e*	a0*	aLim	Verifica
SLV 10	-124	-5738	-103	0	1.46	0.94	0	1969.228	No
SLV 12	-377	848	180	0	0	0	0	1969.228	No, Trazione
SLV 7	-408	1581	148	0	0	0	0	1969.228	No, Trazione
SLV 4	-356	130	13	0	0	0	0	998.556	No, Trazione
SLV 8	-408	1581	148	0	0	0	0	1969.228	No, Trazione
SLV 3	-356	130	13	0	0	0	0	998.556	No, Trazione
SLV 5	-155	-5005	-134	0	1.476	0.931	0	1969.228	No
SLV 6	-155	-5005	-134	0	1.476	0.931	0	1969.228	No
SLV 11	-377	848	180	0	0	0	0	1969.228	No, Trazione
SLV 9	-124	-5738	-103	0	1.46	0.94	0	1969.228	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.456	SLU 40	Si
V_SLU	2.291	SLU 81	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 13	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 12	No

Maschio 226

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-335.9	-1543.3	-335.9	L6	F1	168	28	319.1	319.1	319.2			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 81	1250	-4549	-67347	0.97	336759	5	Si
SLU 81	1460	-3242	97843	0.69	249293	2.548	Si
SLU 60	1250	-4382	-57605	0.93	325986	5.659	Si
SLU 60	1460	-2823	86857	0.6	219671	2.529	Si
SLU 19	1250	-3409	-50583	0.72	260862	5.157	Si
SLU 19	1460	-2289	73091	0.49	180772	2.473	Si
SLU 18	1250	-3372	-50599	0.72	258332	5.105	Si
SLU 18	1460	-2282	72418	0.49	180288	2.49	Si
SLU 82	1250	-4586	-67331	0.97	339100	5.036	Si
SLU 82	1460	-3249	98516	0.69	249749	2.535	Si
SLU 61	1250	-4418	-57589	0.94	328354	5.702	Si
SLU 61	1460	-2830	87530	0.6	220140	2.515	Si
SLU 52	1250	-4498	-52744	0.96	333498	6.323	Si
SLU 52	1460	-2834	84460	0.6	220445	2.61	Si
SLU 10	1250	-3489	-45739	0.74	266359	5.824	Si
SLU 10	1460	-2293	70020	0.49	181088	2.586	Si
SLU 40	1250	-3576	-60325	0.76	272348	4.515	Si
SLU 40	1460	-2708	84077	0.58	211375	2.514	Si
SLU 39	1250	-3539	-60341	0.75	269846	4.472	Si
SLU 39	1460	-2701	83404	0.57	210903	2.529	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 3	1250	-5668	86909	1.2	429149	4.938	Si
SLV 3	1460	-1628	-116966	0.35	132879	1.136	Si
SLV 6	1250	3281	28457	0	0	0	No, Trazione
SLV 6	1460	-1116	131954	0	0	0	No, e>1/2
SLV 9	1250	3306	-53059	0	0	0	No, Trazione
SLV 9	1460	-1754	221900	0	0	0	No, e>1/2
SLV 5	1250	3281	28457	0	0	0	No, Trazione
SLV 5	1460	-1116	131954	0	0	0	No, e>1/2
SLD 10	1250	-645	-44777	0.14	53556	1.196	Si
SLD 10	1460	-2101	130612	0.45	170041	1.302	Si
SLV 10	1250	3306	-53059	0	0	0	No, Trazione
SLV 10	1460	-1754	221900	0	0	0	No, e>1/2
SLV 13	1250	-1468	-167895	0	0	0	No, e>1/2
SLV 13	1460	-3175	249309	0.68	251988	1.011	Si
SLD 9	1250	-645	-44777	0.14	53556	1.196	Si
SLD 9	1460	-2101	130612	0.45	170041	1.302	Si
SLV 14	1250	-1468	-167895	0	0	0	No, e>1/2
SLV 14	1460	-3175	249309	0.68	251988	1.011	Si
SLV 4	1250	-5668	86909	1.2	429149	4.938	Si
SLV 4	1460	-1628	-116966	0.35	132879	1.136	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 81	1250	-4549	-1225	-67347		0.97	168	0.68	3220			2.63	Si
SLU 81	1460	-3242	-1223	97843		0.72	161.46	0.65	2944			2.41	Si
SLU 84	1250	-4876	-1279	-54501		1.04	168	0.69	3263			2.55	Si
SLU 84	1460	-3864	-1277	98076		0.82	168	0.67	3128			2.45	Si
SLU 82	1250	-4586	-1210	-67331		0.97	168	0.69	3225			2.67	Si
SLU 82	1460	-3249	-1218	98516		0.72	161.02	0.65	2938			2.41	Si
SLU 83	1250	-4839	-1294	-54516		1.03	168	0.69	3259			2.52	Si
SLU 83	1460	-3857	-1283	97403		0.82	168	0.66	3128			2.44	Si
SLU 80	1250	-5221	-1286	-36836		1.11	168	0.7	3309			2.57	Si
SLU 80	1460	-4478	-1274	94116		0.95	168	0.68	3210			2.52	Si
SLU 74	1250	-5139	-1279	-52130		1.09	168	0.7	3299			2.58	Si
SLU 74	1460	-4093	-1269	102119		0.87	168	0.67	3159			2.49	Si
SLU 79	1250	-5184	-1301	-36852		1.1	168	0.7	3305			2.54	Si
SLU 79	1460	-4472	-1280	93443		0.95	168	0.68	3210			2.51	Si
SLU 75	1250	-5176	-1264	-52114		1.1	168	0.7	3303			2.61	Si
SLU 75	1460	-4099	-1263	102792		0.87	168	0.67	3160			2.5	Si
SLU 78	1250	-5465	-1333	-39284		1.16	168	0.71	3342			2.51	Si
SLU 78	1460	-4714	-1323	102352		1	168	0.69	3242			2.45	Si
SLU 77	1250	-5429	-1348	-39300		1.15	168	0.71	3337			2.48	Si
SLU 77	1460	-4707	-1328	101679		1	168	0.69	3241			2.44	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 10	1250	3306	-3643	-53059		0	0	0.83	0			0	No, Vu<V
SLV 10	1460	-1754	-3448	221900		0	0	0.83	0			0	No, Vu<V
SLV 4	1250	-5668	1971	86909		1.2	168	1.07	5054			2.56	Si
SLV 4	1460	-1628	906	-116966		1.59	36.46	1.15	1176			1.3	Si
SLV 3	1250	-5668	1971	86909		1.2	168	1.07	5054			2.56	Si
SLV 3	1460	-1628	906	-116966		1.59	36.46	1.15	1176			1.3	Si
SLD 10	1250	-645	-1978	-44777		0.53	43.67	0.94	1148			0.58	No, Vu<V
SLD 10	1460	-2101	-1883	130612		1.15	65.51	1.06	1949			1.04	Si
SLV 13	1250	-1468	-3529	-167895		0	0	0.83	0			0	No, Vu<V
SLV 13	1460	-3175	-2460	249309		6.89	16.45	1.63	749			0.3	No, Vu<V
SLD 9	1250	-645	-1978	-44777		0.53	43.67	0.94	1148			0.58	No, Vu<V
SLD 9	1460	-2101	-1883	130612		1.15	65.51	1.06	1949			1.04	Si
SLV 6	1250	3281	-2396	28457		0	0	0.83	0			0	No, Vu<V
SLV 6	1460	-1116	-2867	131954		0	0	0.83	0			0	No, Vu<V
SLV 14	1250	-1468	-3529	-167895		0	0	0.83	0			0	No, Vu<V
SLV 14	1460	-3175	-2460	249309		6.89	16.45	1.63	749			0.3	No, Vu<V
SLV 5	1250	3281	-2396	28457		0	0	0.83	0			0	No, Vu<V
SLV 5	1460	-1116	-2867	131954		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	3306	-3643	-53059		0	0	0.83	0			0	No, Vu<V
SLV 9	1460	-1754	-3448	221900		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1409.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0	-510	19475	0	0	No, e>t/2
SLV 2	14	0.53	0	-1335	19475	0	0	No, e>t/2
SLV 1	14	0.53	0	-1335	19475	0	0	No, e>t/2
SLV 10	14	0.53	0	-1053	19475	0	0	No, e>t/2
SLV 9	14	0.53	0	-1053	19475	0	0	No, e>t/2
SLV 5	14	0.53	0	-510	19475	0	0	No, e>t/2
SLV 3	14	0.53	0.55	-2585	19475	34563	1.77	Si
SLV 4	14	0.53	0.55	-2585	19475	34563	1.77	Si
SLV 14	14	0.53	0.67	-3146	19475	41638	2.14	Si
SLV 13	14	0.53	0.67	-3146	19475	41638	2.14	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1409.5 Wa = 0.05 Ta = 0.0607

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	-827	3306	16	0	0	0	0	1967.337	No, Trazione
SLV 16	-1380	-5584	245	0	3.699	0.889	0	997.573	No
SLV 15	-1380	-5584	245	0	3.699	0.889	0	997.573	No
SLV 11	-1578	-10416	205	0	3.881	0.889	0	1967.337	No
SLV 14	-1154	-1468	188	0	3.497	0.889	0	997.573	No
SLV 12	-1578	-10416	205	0	3.881	0.889	0	1967.337	No
SLV 6	-772	3281	-75	0	0	0	0	1967.337	No, Trazione
SLV 13	-1154	-1468	188	0	3.497	0.889	0	997.573	No
SLV 5	-772	3281	-75	0	0	0	0	1967.337	No, Trazione
SLV 9	-827	3306	16	0	0	0	0	1967.337	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.473	SLU 19	Si
V_SLU	2.407	SLU 81	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLV 5	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 10	No



Maschio 227

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-944.8	-335.9	-1100.3	-335.9	L6	F1	155.5	28	318.8	318.8	318.9			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 31	1250	-2460	49995	0.57	178030	3.561	Si
SLU 31	1460	-2517	-59621	0.58	181775	3.049	Si
SLU 39	1250	-2380	53006	0.55	172630	3.257	Si
SLU 39	1460	-2527	-60477	0.58	182476	3.017	Si
SLU 73	1250	-3250	54594	0.75	229555	4.205	Si
SLU 73	1460	-3008	-70173	0.69	214039	3.05	Si
SLU 81	1250	-3170	57605	0.73	224433	3.896	Si
SLU 81	1460	-3019	-71029	0.69	214717	3.023	Si
SLU 82	1250	-3145	58373	0.72	222821	3.817	Si
SLU 82	1460	-3016	-71572	0.69	214542	2.998	Si
SLU 40	1250	-2355	53774	0.54	170930	3.179	Si
SLU 40	1460	-2524	-61020	0.58	182295	2.987	Si
SLU 60	1250	-3097	46698	0.71	219792	4.707	Si
SLU 60	1460	-2613	-61961	0.6	188204	3.037	Si
SLU 18	1250	-2308	42099	0.53	167738	3.984	Si
SLU 18	1460	-2122	-51409	0.49	155089	3.017	Si
SLU 19	1250	-2282	42867	0.52	166030	3.873	Si
SLU 19	1460	-2119	-51952	0.49	154903	2.982	Si
SLU 61	1250	-3072	47467	0.71	218172	4.596	Si
SLU 61	1460	-2610	-62504	0.6	188024	3.008	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	1250	-2807	-79813	0.64	206763	2.591	Si
SLV 16	1460	-530	77485	0	0	0	No, e>1/2
SLV 13	1250	-3770	-90927	0.87	272378	2.996	Si
SLV 13	1460	-1057	59238	0.24	80574	1.36	Si
SLV 14	1250	-3770	-90927	0.87	272378	2.996	Si
SLV 14	1460	-1057	59238	0.24	80574	1.36	Si
SLV 7	1250	-860	88038	0	0	0	No, e>1/2
SLV 7	1460	-1771	-54190	0.41	133099	2.456	Si
SLV 2	1250	-2502	147358	0.57	185398	1.258	Si
SLV 2	1460	-3913	-176090	0.9	281869	1.601	Si
SLV 8	1250	-860	88038	0	0	0	No, e>1/2
SLV 8	1460	-1771	-54190	0.41	133099	2.456	Si
SLV 4	1250	-1539	158472	0	0	0	No, e>1/2
SLV 4	1460	-3386	-157843	0.78	246487	1.562	Si
SLV 1	1250	-2502	147358	0.57	185398	1.258	Si
SLV 1	1460	-3913	-176090	0.9	281869	1.601	Si
SLV 3	1250	-1539	158472	0	0	0	No, e>1/2
SLV 3	1460	-3386	-157843	0.78	246487	1.562	Si
SLV 15	1250	-2807	-79813	0.64	206763	2.591	Si
SLV 15	1460	-530	77485	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	1250	-3716	1368	50117		0.85	155.5	0.67	2914			2.13	Si
SLU 83	1460	-3659	1336	-72198		0.84	155.5	0.67	2907			2.18	Si
SLU 40	1250	-2355	1227	53774		0.54	155.5	0.63	2733			2.23	Si
SLU 40	1460	-2524	1217	-61020		0.58	155.5	0.63	2755			2.26	Si
SLU 78	1250	-4435	1386	40600		1.02	155.5	0.69	3010			2.17	Si
SLU 78	1460	-4474	1360	-79336		1.03	155.5	0.69	3015			2.22	Si
SLU 84	1250	-3691	1376	50885		0.85	155.5	0.67	2911			2.12	Si
SLU 84	1460	-3656	1355	-72741		0.84	155.5	0.67	2906			2.14	Si
SLU 81	1250	-3170	1362	57605		0.73	155.5	0.65	2842			2.09	Si
SLU 81	1460	-3019	1338	-71029		0.69	155.5	0.65	2821			2.11	Si
SLU 75	1250	-3889	1380	48087		0.89	155.5	0.67	2937			2.13	Si
SLU 75	1460	-3834	1362	-78167		0.88	155.5	0.67	2930			2.15	Si
SLU 77	1250	-4460	1378	39832		1.02	155.5	0.69	3014			2.19	Si
SLU 77	1460	-4476	1340	-78792		1.03	155.5	0.69	3016			2.25	Si
SLU 73	1250	-3250	1298	54594		0.75	155.5	0.66	2852			2.2	Si
SLU 73	1460	-3008	1296	-70173		0.69	155.5	0.65	2820			2.18	Si
SLU 74	1250	-3914	1372	47319		0.9	155.5	0.68	2941			2.14	Si
SLU 74	1460	-3836	1343	-77623		0.88	155.5	0.67	2930			2.18	Si
SLU 82	1250	-3145	1370	58373		0.72	155.5	0.65	2838			2.07	Si
SLU 82	1460	-3016	1358	-71572		0.69	155.5	0.65	2821			2.08	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1250	-2502	2968	147358		1.58	56.58	1.15	1821			0.61	No, Vu<V
SLV 2	1460	-3913	1758	-176090		1.42	98.25	1.12	3075			1.75	Si
SLV 8	1250	-860	2730	88038		0	0	0.83	0			0	No, Vu<V

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Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	1460	-1771	1860	-54190		0.45	141.44	0.92	3655			1.96	Si
SLV 15	1250	-2807	-1265	-79813		0.68	147.96	0.97	4014			3.17	Si
SLV 15	1460	-530	-83	77485		0	0	0.83	0			0	No, Vu<V
SLV 16	1250	-2807	-1265	-79813		0.68	147.96	0.97	4014			3.17	Si
SLV 16	1460	-530	-83	77485		0	0	0.83	0			0	No, Vu<V
SLV 4	1250	-1539	3653	158472		0	0	0.83	0			0	No, Vu<V
SLV 4	1460	-3386	2169	-157843		1.29	93.39	1.09	2856			1.32	Si
SLV 1	1250	-2502	2968	147358		1.58	56.58	1.15	1821			0.61	No, Vu<V
SLV 1	1460	-3913	1758	-176090		1.42	98.25	1.12	3075			1.75	Si
SLV 7	1250	-860	2730	88038		0	0	0.83	0			0	No, Vu<V
SLV 7	1460	-1771	1860	-54190		0.45	141.44	0.92	3655			1.96	Si
SLV 3	1250	-1539	3653	158472		0	0	0.83	0			0	No, Vu<V
SLV 3	1460	-3386	2169	-157843		1.29	93.39	1.09	2856			1.32	Si
SLD 4	1250	-2185	2042	87112		0.69	113.65	0.97	3089			1.51	Si
SLD 4	1460	-2722	1400	-95900		0.76	127.56	0.99	3521			2.52	Si
SLD 3	1250	-2185	2042	87112		0.69	113.65	0.97	3089			1.51	Si
SLD 3	1460	-2722	1400	-95900		0.76	127.56	0.99	3521			2.52	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1409.4 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.53	0	-1277	17991	0	0	No, e>t/2
SLV 15	14	0.53	0	-900	17991	0	0	No, e>t/2
SLV 16	14	0.53	0	-900	17991	0	0	No, e>t/2
SLV 12	14	0.53	0	-1277	17991	0	0	No, e>t/2
SLV 14	14	0.53	0.3	-1324	17991	18080	1	Si
SLV 13	14	0.53	0.3	-1324	17991	18080	1	Si
SLV 8	14	0.53	0.46	-2024	17991	27263	1.52	Si
SLV 7	14	0.53	0.46	-2024	17991	27263	1.52	Si
SLV 10	14	0.53	0.62	-2692	17991	35786	1.99	Si
SLV 9	14	0.53	0.62	-2692	17991	35786	1.99	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1409.4 Wa = 0.05 Ta = 0.0606

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	-1040	-1539	204	0	3.21	0.89	0	995.815	No
SLV 2	-1040	-2502	155	0	3.209	0.89	0	995.815	No
SLV 1	-1040	-2502	155	0	3.209	0.89	0	995.815	No
SLV 7	-980	-860	172	0	3.158	0.89	0	1963.933	No
SLV 4	-1040	-1539	204	0	3.21	0.89	0	995.815	No
SLV 8	-980	-860	172	0	3.158	0.89	0	1963.933	No
SLV 11	-929	-1240	97	0.025	3.113	0.891	40.39	1963.933	No
SLV 12	-929	-1240	97	0.025	3.113	0.891	40.39	1963.933	No
SLV 9	-928	-4450	-65	0.039	3.113	0.891	64.11	1963.933	No
SLV 10	-928	-4450	-65	0.039	3.113	0.891	64.11	1963.933	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.982	SLU 19	Si
V_SLU	2.072	SLU 82	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 11	No
R_SLV	0	SLV 1	No

Maschio 228

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-741.3	-335.9	-854.8	-335.9	L6	F1	113.5	28	318.7	318.6	318.7			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 10	1340	-2214	-5282	0.7	114911	21.753	Si
SLU 10	1520	-1352	-16828	0.43	72737	4.322	Si
SLU 65	1340	-3074	-8861	0.97	153721	17.347	Si
SLU 65	1520	-1820	-19779	0.57	96019	4.855	Si
SLU 52	1340	-2775	-6569	0.87	140611	21.406	Si
SLU 52	1520	-1562	-19405	0.49	83284	4.292	Si
SLU 31	1340	-2485	-9031	0.78	127491	14.117	Si
SLU 31	1520	-1632	-18014	0.51	86791	4.818	Si
SLU 82	1340	-3009	-12840	0.95	150929	11.755	Si
SLU 82	1520	-1726	-18512	0.54	91419	4.938	Si
SLU 2	1340	-2242	-3826	0.71	116206	30.37	Si
SLU 2	1520	-1331	-16016	0.42	71629	4.472	Si
SLU 19	1340	-2178	-7805	0.69	113180	14.501	Si
SLU 19	1520	-1237	-14749	0.39	66828	4.531	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 44	1340	-2803	-5113	0.88	141839	27.742	Si
SLU 44	1520	-1540	-18593	0.48	82196	4.421	Si
SLU 61	1340	-2739	-9091	0.86	138971	15.286	Si
SLU 61	1520	-1446	-17326	0.46	77480	4.472	Si
SLU 73	1340	-3046	-10318	0.96	152526	14.783	Si
SLU 73	1520	-1842	-20591	0.58	97081	4.715	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 3	1340	-819	97084	0	0	0	No, e>l/2
SLV 3	1520	-1095	-68718	0	0	0	No, e>l/2
SLV 4	1340	-819	97084	0	0	0	No, e>l/2
SLV 4	1520	-1095	-68718	0	0	0	No, e>l/2
SLV 8	1340	-883	-12588	0.28	48967	3.89	Si
SLV 8	1520	277	27988	0	0	0	No, Trazione
SLV 11	1340	-1556	-83731	0.49	84748	1.012	Si
SLV 11	1520	544	73978	0	0	0	No, Trazione
SLV 1	1340	-1437	119944	0	0	0	No, e>l/2
SLV 1	1520	-2003	-105619	0.63	107821	1.021	Si
SLV 7	1340	-883	-12588	0.28	48967	3.89	Si
SLV 7	1520	277	27988	0	0	0	No, Trazione
SLV 16	1340	-3061	-140062	0.96	160038	1.143	Si
SLV 16	1520	-205	84581	0	0	0	No, e>l/2
SLV 15	1340	-3061	-140062	0.96	160038	1.143	Si
SLV 15	1520	-205	84581	0	0	0	No, e>l/2
SLV 2	1340	-1437	119944	0	0	0	No, e>l/2
SLV 2	1520	-2003	-105619	0.63	107821	1.021	Si
SLV 12	1340	-1556	-83731	0.49	84748	1.012	Si
SLV 12	1520	544	73978	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 71	1340	-4251	-364	-30769		1.34	113.5	0.73	2332			6.41	Si
SLU 71	1520	-2553	-205	-7734		0.8	113.5	0.66	2106			10.29	Si
SLU 27	1340	-3878	-358	-29410		1.22	113.5	0.72	2283			6.37	Si
SLU 27	1520	-2502	-194	-7657		0.79	113.5	0.66	2099			10.8	Si
SLU 35	1340	-3851	-355	-30866		1.21	113.5	0.72	2279			6.42	Si
SLU 35	1520	-2524	-153	-8469		0.79	113.5	0.66	2102			13.77	Si
SLU 30	1340	-3728	-363	-26635		1.17	113.5	0.71	2263			6.24	Si
SLU 30	1520	-2531	-194	-8797		0.8	113.5	0.66	2103			10.84	Si
SLU 72	1340	-4289	-360	-27921		1.35	113.5	0.74	2337			6.49	Si
SLU 72	1520	-2740	-182	-11374		0.86	113.5	0.67	2131			11.74	Si
SLU 28	1340	-3916	-355	-26563		1.23	113.5	0.72	2288			6.45	Si
SLU 28	1520	-2690	-171	-11297		0.85	113.5	0.67	2124			12.4	Si
SLU 29	1340	-3690	-366	-29482		1.16	113.5	0.71	2258			6.16	Si
SLU 29	1520	-2343	-217	-5156		0.74	113.5	0.65	2078			9.57	Si
SLU 38	1340	-3700	-359	-28091		1.16	113.5	0.71	2259			6.28	Si
SLU 38	1520	-2553	-152	-9609		0.8	113.5	0.66	2106			13.83	Si
SLU 79	1340	-4224	-361	-32225		1.33	113.5	0.73	2329			6.46	Si
SLU 79	1520	-2574	-163	-8546		0.81	113.5	0.66	2109			12.95	Si
SLU 37	1340	-3663	-363	-30939		1.15	113.5	0.71	2254			6.21	Si
SLU 37	1520	-2365	-175	-5968		0.74	113.5	0.65	2081			11.86	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1340	-883	-547	-12588		0.28	113.5	0.89	2825			5.17	Si
SLV 7	1520	277	-1414	27988		0	0	0.83	0			0	No, Vu<V
SLV 1	1340	-1437	2296	119944		0	0	0.83	0			0	No, Vu<V
SLV 1	1520	-2003	946	-105619		5.92	12.08	1.63	550			0.58	No, Vu<V
SLV 16	1340	-3061	-2379	-140062		3.31	33	1.5	1382			0.58	No, Vu<V
SLV 16	1520	-205	-821	84581		0	0	0.83	0			0	No, Vu<V
SLV 15	1340	-3061	-2379	-140062		3.31	33	1.5	1382			0.58	No, Vu<V
SLV 15	1520	-205	-821	84581		0	0	0.83	0			0	No, Vu<V
SLV 3	1340	-819	1632	97084		0	0	0.83	0			0	No, Vu<V
SLV 3	1520	-1095	-12	-68718		0	0	0.83	0			0	No, Vu<V
SLV 11	1340	-1556	-1750	-83731		6.33	8.78	1.63	400			0.23	No, Vu<V
SLV 11	1520	544	-1656	73978		0	0	0.83	0			0	No, Vu<V
SLV 2	1340	-1437	2296	119944		0	0	0.83	0			0	No, Vu<V
SLV 2	1520	-2003	946	-105619		5.92	12.08	1.63	550			0.58	No, Vu<V
SLV 4	1340	-819	1632	97084		0	0	0.83	0			0	No, Vu<V
SLV 4	1520	-1095	-12	-68718		0	0	0.83	0			0	No, Vu<V
SLV 12	1340	-1556	-1750	-83731		6.33	8.78	1.63	400			0.23	No, Vu<V
SLV 12	1520	544	-1656	73978		0	0	0.83	0			0	No, Vu<V
SLV 8	1340	-883	-547	-12588		0.28	113.5	0.89	2825			5.17	Si
SLV 8	1520	277	-1414	27988		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1409.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.53	0	144	13118	0	0	No, Trazione
SLV 8	14	0.53	0	1790	13118	0	0	No, Trazione
SLV 12	14	0.53	0	1141	13118	0	0	No, Trazione
SLV 11	14	0.53	0	1141	13118	0	0	No, Trazione
SLV 4	14	0.53	0	144	13118	0	0	No, Trazione
SLV 7	14	0.53	0	1790	13118	0	0	No, Trazione
SLV 2	14	0.53	0.6	-1916	13118	25497	1.94	Si
SLV 1	14	0.53	0.6	-1916	13118	25497	1.94	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.53	0.64	-2018	13118	26785	2.04	Si
SLV 15	14	0.53	0.64	-2018	13118	26785	2.04	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1409.3 $W_a = 0.05$ $T_a = 0.0606$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	-398	-6543	141	0	2.048	0.904	0	1962	No
SLV 7	-939	1131	-111	0	0	0	0	1962	No, Trazione
SLV 5	-398	-6543	141	0	2.048	0.904	0	1962	No
SLV 11	-942	1798	-128	0	0	0	0	1962	No, Trazione
SLV 12	-942	1798	-128	0	0	0	0	1962	No, Trazione
SLV 9	-402	-5876	124	0	2.05	0.904	0	1962	No
SLV 10	-402	-5876	124	0	2.05	0.904	0	1962	No
SLV 8	-939	1131	-111	0	0	0	0	1962	No, Trazione
SLV 1	-583	-4636	72	0.022	2.192	0.894	36.522	994.824	No
SLV 2	-583	-4636	72	0.022	2.192	0.894	36.522	994.824	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.292	SLU 52	Si
V_SLU	6.164	SLU 29	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 12	No

Maschio 229

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-600.8	-335.9	-651.3	-335.9	L6	F1	50.5	28	318.5	318.5	318.6			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 73	1450	-463	-5933	0.33	11229	1.893	Si
SLU 73	1530	-475	3722	0.34	11502	3.091	Si
SLU 34	1450	-308	-4313	0.22	7572	1.756	Si
SLU 34	1530	-707	4567	0.5	16754	3.669	Si
SLU 13	1450	-279	-3430	0.2	6869	2.003	Si
SLU 13	1530	-551	3555	0.39	13237	3.723	Si
SLU 2	1450	-298	-3644	0.21	7320	2.008	Si
SLU 2	1530	-236	2105	0.17	5830	2.77	Si
SLU 31	1450	-331	-5043	0.23	8123	1.611	Si
SLU 31	1530	-406	3546	0.29	9897	2.791	Si
SLU 40	1450	-404	-5397	0.29	9835	1.822	Si
SLU 40	1530	-481	3585	0.34	11647	3.249	Si
SLU 23	1450	-327	-4527	0.23	8020	1.771	Si
SLU 23	1530	-392	3116	0.28	9564	3.069	Si
SLU 42	1450	-381	-4666	0.27	9291	1.991	Si
SLU 42	1530	-782	4606	0.55	18405	3.996	Si
SLU 26	1450	-304	-3797	0.21	7469	1.967	Si
SLU 26	1530	-693	4137	0.49	16439	3.973	Si
SLU 10	1450	-302	-4160	0.21	7423	1.784	Si
SLU 10	1530	-250	2534	0.18	6174	2.436	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 4	1450	399	4819	0	0	0	No, Trazione
SLV 4	1530	51	-10794	0	0	0	No, Trazione
SLV 11	1450	851	6155	0	0	0	No, Trazione
SLV 11	1530	764	2211	0	0	0	No, Trazione
SLV 16	1450	-486	-6256	0.34	11933	1.907	Si
SLV 16	1530	-209	12995	0	0	0	No, e>1/2
SLV 8	1450	1116	9478	0	0	0	No, Trazione
SLV 8	1530	842	-4925	0	0	0	No, Trazione
SLD 8	1450	169	1112	0	0	0	No, Trazione
SLD 8	1530	74	-711	0	0	0	No, Trazione
SLV 12	1450	851	6155	0	0	0	No, Trazione
SLV 12	1530	764	2211	0	0	0	No, Trazione
SLV 15	1450	-486	-6256	0.34	11933	1.907	Si
SLV 15	1530	-209	12995	0	0	0	No, e>1/2
SLV 3	1450	399	4819	0	0	0	No, Trazione
SLV 3	1530	51	-10794	0	0	0	No, Trazione
SLD 7	1450	169	1112	0	0	0	No, Trazione
SLD 7	1530	74	-711	0	0	0	No, Trazione
SLV 7	1450	1116	9478	0	0	0	No, Trazione
SLV 7	1530	842	-4925	0	0	0	No, Trazione



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 80	1450	-488	-305	-4605		0.37	47.42	0.6	803			2.64	Si
SLU 80	1530	-1145	419	5619		0.81	50.5	0.66	938			2.24	Si
SLU 31	1450	-331	-232	-5043		0.39	30.07	0.61	512			2.21	Si
SLU 31	1530	-406	271	3546		0.29	49.57	0.59	825			3.04	Si
SLU 34	1450	-308	-252	-4313		0.33	33.76	0.6	566			2.25	Si
SLU 34	1530	-707	339	4567		0.5	50.5	0.62	880			2.6	Si
SLU 72	1450	-483	-280	-4090		0.34	50.37	0.6	848			3.03	Si
SLU 72	1530	-1131	386	5189		0.8	50.5	0.66	936			2.42	Si
SLU 77	1450	-756	-326	-5563		0.53	50.5	0.63	886			2.72	Si
SLU 77	1530	-1351	398	4997		0.96	50.5	0.68	966			2.42	Si
SLU 36	1450	-518	-292	-4474		0.37	49.84	0.61	844			2.89	Si
SLU 36	1530	-1179	392	5039		0.83	50.5	0.67	943			2.4	Si
SLU 78	1450	-650	-325	-5364		0.46	50.5	0.62	872			2.68	Si
SLU 78	1530	-1248	418	5215		0.88	50.5	0.67	952			2.28	Si
SLU 79	1450	-594	-305	-4805		0.42	50.5	0.61	865			2.83	Si
SLU 79	1530	-1249	399	5401		0.88	50.5	0.67	952			2.38	Si
SLU 76	1450	-440	-284	-5203		0.39	40.3	0.61	686			2.41	Si
SLU 76	1530	-776	364	4743		0.55	50.5	0.63	889			2.44	Si
SLU 38	1450	-356	-272	-3715		0.29	44.41	0.59	738			2.72	Si
SLU 38	1530	-1077	393	5443		0.76	50.5	0.66	929			2.36	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 8	1450	1116	230	9478		0	0	0.83	0			0	No, Vu<V
SLV 8	1530	842	621	-4925		0	0	0.83	0			0	No, Vu<V
SLV 16	1450	-486	-506	-6256		0.47	37.15	0.93	964			1.9	Si
SLV 16	1530	-209	379	12995		0	0	0.83	0			0	No, Vu<V
SLV 4	1450	399	315	4819		0	0	0.83	0			0	No, Vu<V
SLV 4	1530	51	250	-10794		0	0	0.83	0			0	No, Vu<V
SLV 15	1450	-486	-506	-6256		0.47	37.15	0.93	964			1.9	Si
SLV 15	1530	-209	379	12995		0	0	0.83	0			0	No, Vu<V
SLV 12	1450	851	-16	6155		0	0	0.83	0			0	No, Vu<V
SLV 12	1530	764	659	2211		0	0	0.83	0			0	No, Vu<V
SLD 8	1450	169	-16	1112		0	0	0.83	0			0	No, Vu<V
SLD 8	1530	74	360	-711		0	0	0.83	0			0	No, Vu<V
SLV 7	1450	1116	230	9478		0	0	0.83	0			0	No, Vu<V
SLV 7	1530	842	621	-4925		0	0	0.83	0			0	No, Vu<V
SLV 3	1450	399	315	4819		0	0	0.83	0			0	No, Vu<V
SLV 3	1530	51	250	-10794		0	0	0.83	0			0	No, Vu<V
SLV 11	1450	851	-16	6155		0	0	0.83	0			0	No, Vu<V
SLV 11	1530	764	659	2211		0	0	0.83	0			0	No, Vu<V
SLD 7	1450	169	-16	1112		0	0	0.83	0			0	No, Vu<V
SLD 7	1530	74	360	-711		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1409.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.53	0	-384	5832	0	0	No, e>t/2
SLV 8	14	0.53	0	514	5832	0	0	No, Trazione
SLV 7	14	0.53	0	514	5832	0	0	No, Trazione
SLV 15	14	0.53	0	148	5832	0	0	No, Trazione
SLV 11	14	0.53	0	632	5832	0	0	No, Trazione
SLV 4	14	0.53	0	-245	5832	0	0	No, e>t/2
SLV 3	14	0.53	0	-245	5832	0	0	No, e>t/2
SLV 14	14	0.53	0	-384	5832	0	0	No, e>t/2
SLV 16	14	0.53	0	148	5832	0	0	No, Trazione
SLV 12	14	0.53	0	632	5832	0	0	No, Trazione

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1409.3 Wa = 0.05 Ta = 0.0605

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	1186	-489	-38	0	0	0	0	1960.501	No, Trazione
SLV 4	910	-473	-31	0	0	0	0	994.058	No, Trazione
SLV 15	7	-561	-29	0	0	0	0	994.058	No, Trazione
SLV 8	1457	-463	-39	0	0	0	0	1960.501	No, Trazione
SLV 3	910	-473	-31	0	0	0	0	994.058	No, Trazione
SLV 1	170	-508	-24	0	0	0	0	994.058	No, Trazione
SLV 7	1457	-463	-39	0	0	0	0	1960.501	No, Trazione
SLV 2	170	-508	-24	0	0	0	0	994.058	No, Trazione
SLV 11	1186	-489	-38	0	0	0	0	1960.501	No, Trazione
SLV 16	7	-561	-29	0	0	0	0	994.058	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.611	SLU 31	Si
V_SLV	2.206	SLU 11	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 7	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 16	No



Maschio 230

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-318.3	-335.9	-550.8	-335.9	L6	F1	232.5	28	318.4	318.3	318.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 40	1450	-2335	8221	0.36	259516	31.566	Si
SLU 40	1530	-1414	17731	0.22	159947	9.021	Si
SLU 10	1450	-1936	7737	0.3	216805	28.021	Si
SLU 10	1530	-1039	16896	0.16	118398	7.007	Si
SLU 2	1450	-1968	2467	0.3	220314	89.289	Si
SLU 2	1530	-1049	13995	0.16	119589	8.545	Si
SLU 52	1450	-2504	8154	0.38	277328	34.01	Si
SLU 52	1530	-1313	19781	0.2	148807	7.523	Si
SLU 31	1450	-2240	6815	0.34	249382	36.591	Si
SLU 31	1530	-1337	17818	0.21	151483	8.502	Si
SLU 61	1450	-2599	9560	0.4	287352	30.056	Si
SLU 61	1530	-1389	19693	0.21	157279	7.986	Si
SLU 19	1450	-2031	9143	0.31	227066	24.834	Si
SLU 19	1530	-1116	16809	0.17	126962	7.553	Si
SLU 82	1450	-2903	8638	0.45	319044	36.933	Si
SLU 82	1530	-1687	20615	0.26	189906	9.212	Si
SLU 73	1450	-2808	7232	0.43	309148	42.745	Si
SLU 73	1530	-1610	20703	0.25	181534	8.769	Si
SLU 44	1450	-2536	2884	0.39	280756	97.335	Si
SLU 44	1530	-1323	16880	0.2	149985	8.885	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 13	1450	-1909	-63262	0.29	216595	3.424	Si
SLV 13	1530	-1270	46334	0.2	145323	3.136	Si
SLV 9	1450	-2261	-56318	0.35	255341	4.534	Si
SLV 9	1530	-1265	78408	0.19	144774	1.846	Si
SLV 6	1450	-2520	-25018	0.39	283632	11.337	Si
SLV 6	1530	-1294	68795	0.2	148020	2.152	Si
SLV 10	1450	-2261	-56318	0.35	255341	4.534	Si
SLV 10	1530	-1265	78408	0.19	144774	1.846	Si
SLV 14	1450	-1909	-63262	0.29	216595	3.424	Si
SLV 14	1530	-1270	46334	0.2	145323	3.136	Si
SLV 5	1450	-2520	-25018	0.39	283632	11.337	Si
SLV 5	1530	-1294	68795	0.2	148020	2.152	Si
SLV 7	1450	-2378	59475	0.37	268150	4.509	Si
SLV 7	1530	-1404	-54886	0.22	160387	2.922	Si
SLV 11	1450	-2119	28175	0.33	239752	8.509	Si
SLV 11	1530	-1376	-45274	0.21	157150	3.471	Si
SLV 12	1450	-2119	28175	0.33	239752	8.509	Si
SLV 12	1530	-1376	-45274	0.21	157150	3.471	Si
SLV 8	1450	-2378	59475	0.37	268150	4.509	Si
SLV 8	1530	-1404	-54886	0.22	160387	2.922	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 13	1450	-2419	-147	-5278		0.37	232.5	0.61	3939			26.71	Si
SLU 13	1530	-1511	-32	7283		0.23	232.5	0.59	3818			118.47	Si
SLU 26	1450	-2756	-178	-11470		0.42	232.5	0.61	3984			22.32	Si
SLU 26	1530	-1819	-38	5304		0.28	232.5	0.59	3859			100.74	Si
SLU 68	1450	-3324	-165	-11053		0.51	232.5	0.62	4060			24.63	Si
SLU 68	1530	-2093	-42	8188		0.32	232.5	0.6	3896			93.62	Si
SLU 38	1450	-3316	-155	-20068		0.51	232.5	0.62	4059			26.15	Si
SLU 38	1530	-2362	25	-2740		0.36	232.5	0.6	3932			156.34	Si
SLU 76	1450	-3291	-166	-5783		0.51	232.5	0.62	4056			24.36	Si
SLU 76	1530	-2083	-56	11089		0.32	232.5	0.6	3894			69.42	Si
SLU 30	1450	-3349	-154	-25338		0.51	232.5	0.62	4063			26.45	Si
SLU 30	1530	-2373	40	-5640		0.36	232.5	0.6	3933			99.23	Si
SLU 31	1450	-2240	-154	6815		0.34	232.5	0.6	3915			25.45	Si
SLU 31	1530	-1337	-113	17818		0.21	232.5	0.58	3795			33.51	Si
SLU 23	1450	-2272	-152	1545		0.35	232.5	0.6	3920			25.74	Si
SLU 23	1530	-1347	-99	14917		0.21	232.5	0.58	3796			38.43	Si
SLU 5	1450	-2452	-146	-10548		0.38	232.5	0.61	3944			27.03	Si
SLU 5	1530	-1522	-18	4382		0.23	232.5	0.59	3820			215.31	Si
SLU 34	1450	-2723	-180	-6200		0.42	232.5	0.61	3980			22.1	Si
SLU 34	1530	-1809	-53	8205		0.28	232.5	0.59	3858			73.07	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	1450	-2261	-2118	-56318		0.35	232.5	0.9	5877			2.77	Si
SLV 10	1530	-1265	-1371	78408		0.28	162.88	0.89	4054			2.96	Si
SLV 15	1450	-1866	-1134	-37914		0.29	232.5	0.89	5798			5.11	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	1530	-1303	-601	9229		0.2	232.5	0.87	5686			9.46	Si
SLV 3	1450	-2729	2109	66419		0.42	232.5	0.92	5971			2.83	Si
SLV 3	1530	-1400	1150	-22812		0.21	232.5	0.88	5705			4.96	Si
SLV 8	1450	-2378	2115	59475		0.37	232.5	0.91	5901			2.79	Si
SLV 8	1530	-1404	1282	-54886		0.22	231.51	0.88	5683			4.43	Si
SLV 14	1450	-1909	-2112	-63262		0.29	232.5	0.89	5807			2.75	Si
SLV 14	1530	-1270	-1239	46334		0.2	232.5	0.87	5679			4.58	Si
SLV 7	1450	-2378	2115	59475		0.37	232.5	0.91	5901			2.79	Si
SLV 7	1530	-1404	1282	-54886		0.22	231.51	0.88	5683			4.43	Si
SLV 16	1450	-1866	-1134	-37914		0.29	232.5	0.89	5798			5.11	Si
SLV 16	1530	-1303	-601	9229		0.2	232.5	0.87	5686			9.46	Si
SLV 9	1450	-2261	-2118	-56318		0.35	232.5	0.9	5877			2.77	Si
SLV 9	1530	-1265	-1371	78408		0.28	162.88	0.89	4054			2.96	Si
SLV 13	1450	-1909	-2112	-63262		0.29	232.5	0.89	5807			2.75	Si
SLV 13	1530	-1270	-1239	46334		0.2	232.5	0.87	5679			4.58	Si
SLV 4	1450	-2729	2109	66419		0.42	232.5	0.92	5971			2.83	Si
SLV 4	1530	-1400	1150	-22812		0.21	232.5	0.88	5705			4.96	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1409.2 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0.34	-2245	26824	30549	1.14	Si
SLV 8	14	0.53	0.34	-2245	26824	30549	1.14	Si
SLV 3	14	0.53	0.36	-2346	26824	31873	1.19	Si
SLV 4	14	0.53	0.36	-2346	26824	31873	1.19	Si
SLV 11	14	0.53	0.37	-2413	26824	32753	1.22	Si
SLV 12	14	0.53	0.37	-2413	26824	32753	1.22	Si
SLV 1	14	0.53	0.4	-2599	26824	35197	1.31	Si
SLV 2	14	0.53	0.4	-2599	26824	35197	1.31	Si
SLV 15	14	0.53	0.45	-2903	26824	39161	1.46	Si
SLV 16	14	0.53	0.45	-2903	26824	39161	1.46	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1409.2 Wa = 0.05 Ta = 0.0605

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-1061	-2588	335	0	4.379	0.896	0	1958.801	No
SLV 8	-1078	-2581	335	0	4.392	0.896	0	1958.801	No
SLV 10	-488	-4649	-251	0	3.974	0.924	0	1958.801	No
SLV 11	-1061	-2588	335	0	4.379	0.896	0	1958.801	No
SLV 5	-505	-4643	-250	0	3.984	0.923	0	1958.801	No
SLV 7	-1078	-2581	335	0	4.392	0.896	0	1958.801	No
SLV 9	-488	-4649	-251	0	3.974	0.924	0	1958.801	No
SLV 6	-505	-4643	-250	0	3.984	0.923	0	1958.801	No
SLV 3	-897	-3295	131	0.026	4.251	0.901	42.24	993.194	No
SLV 4	-897	-3295	131	0.026	4.251	0.901	42.24	993.194	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.007	SLU 10	Si
V_SLU	22.098	SLU 34	Si
PF_SLV	1.846	SLV 9	Si
V_SLV	2.75	SLV 13	Si
PFFP_SLV	1.139	SLV 7	Si
R_SLV	0	SLV 5	No

Maschio 231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	-335.9	-228.3	-335.9	L6	F1	216	28	318.2	318.1	318.2			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 19	1340	-2531	-93623	0.42	259351	2.77	Si
SLU 19	1520	-1622	24278	0.27	169379	6.977	Si
SLU 13	1340	-3103	-106235	0.51	313975	2.955	Si
SLU 13	1520	-2250	29320	0.37	231860	7.908	Si
SLU 39	1340	-2811	-97071	0.46	286245	2.949	Si
SLU 39	1520	-2051	39710	0.34	212259	5.345	Si
SLU 82	1340	-3517	-121544	0.58	352731	2.902	Si
SLU 82	1520	-2363	39385	0.39	243006	6.17	Si
SLU 34	1340	-3300	-127041	0.55	332544	2.618	Si
SLU 34	1520	-2648	37150	0.44	270576	7.283	Si
SLU 10	1340	-2549	-96565	0.42	261033	2.703	Si
SLU 10	1520	-1585	19607	0.26	165714	8.452	Si
SLU 40	1340	-2729	-114429	0.45	278414	2.433	Si
SLU 40	1520	-2020	32108	0.33	209191	6.515	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 42	1340	-3283	-124100	0.54	330919	2.667	Si
SLU 42	1520	-2684	41821	0.44	274071	6.553	Si
SLU 73	1340	-3534	-124486	0.58	354338	2.846	Si
SLU 73	1520	-2327	34714	0.38	239460	6.898	Si
SLU 31	1340	-2746	-117371	0.45	280081	2.386	Si
SLU 31	1520	-1983	27438	0.33	205590	7.493	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	1340	-3429	-198475	0.57	353148	1.779	Si
SLV 10	1520	-1991	-35443	0.33	209233	5.903	Si
SLV 13	1340	-2751	-162271	0.45	286019	1.763	Si
SLV 13	1520	-2116	65628	0.35	221952	3.382	Si
SLV 7	1340	-2293	80088	0.38	239999	2.997	Si
SLV 7	1520	-1458	105796	0.24	154398	1.459	Si
SLV 12	1340	-2108	39675	0.35	221193	5.575	Si
SLV 12	1520	-1664	139843	0.28	175616	1.256	Si
SLV 15	1340	-2354	-90826	0.39	246183	2.71	Si
SLV 15	1520	-2017	118214	0.33	211936	1.793	Si
SLV 11	1340	-2108	39675	0.35	221193	5.575	Si
SLV 11	1520	-1664	139843	0.28	175616	1.256	Si
SLV 9	1340	-3429	-198475	0.57	353148	1.779	Si
SLV 9	1520	-1991	-35443	0.33	209233	5.903	Si
SLV 16	1340	-2354	-90826	0.39	246183	2.71	Si
SLV 16	1520	-2017	118214	0.33	211936	1.793	Si
SLV 14	1340	-2751	-162271	0.45	286019	1.763	Si
SLV 14	1520	-2116	65628	0.35	221952	3.382	Si
SLV 8	1340	-2293	80088	0.38	239999	2.997	Si
SLV 8	1520	-1458	105796	0.24	154398	1.459	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	1340	-4397	-1939	-116662	0.73	216	0.65	3946				2.04	Si
SLU 75	1520	-3336	-1847	58444	0.55	216	0.63	3805				2.06	Si
SLU 76	1340	-4088	-1946	-134156	0.68	216	0.65	3905				2.01	Si
SLU 76	1520	-2991	-1835	44427	0.49	216	0.62	3759				2.05	Si
SLU 80	1340	-4696	-2068	-132255	0.78	216	0.66	3986				1.93	Si
SLU 80	1520	-3676	-1935	59207	0.61	216	0.64	3850				1.99	Si
SLU 38	1340	-3908	-1901	-125140	0.65	216	0.64	3881				2.04	Si
SLU 38	1520	-3332	-1770	51930	0.55	216	0.63	3804				2.15	Si
SLU 79	1340	-4778	-1972	-114896	0.79	216	0.66	3997				2.03	Si
SLU 79	1520	-3707	-1860	66809	0.61	216	0.64	3854				2.07	Si
SLU 42	1340	-3283	-1813	-124100	0.56	210.59	0.63	3714				2.05	Si
SLU 42	1520	-2684	-1718	41821	0.44	216	0.61	3718				2.16	Si
SLU 78	1340	-4950	-2125	-126333	0.82	216	0.66	4020				1.89	Si
SLU 78	1520	-4000	-1998	68156	0.66	216	0.64	3893				1.95	Si
SLU 77	1340	-5032	-2028	-108974	0.83	216	0.67	4031				1.99	Si
SLU 77	1520	-4031	-1923	75758	0.67	216	0.64	3897				2.03	Si
SLU 36	1340	-4162	-1958	-119218	0.69	216	0.65	3915				2	Si
SLU 36	1520	-3656	-1833	60880	0.6	216	0.64	3848				2.1	Si
SLU 84	1340	-4071	-1980	-131215	0.67	216	0.65	3903				1.97	Si
SLU 84	1520	-3028	-1883	49097	0.5	216	0.62	3764				2	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	1340	-3429	-1510	-198475	0.81	150.36	1	4194				2.78	Si
SLV 9	1520	-1991	-459	-35443	0.33	216	0.9	5438				11.84	Si
SLV 11	1340	-2108	-1413	39675	0.35	216	0.9	5462				3.87	Si
SLV 11	1520	-1664	-1579	139843	0.83	71.81	1	2008				1.27	Si
SLV 7	1340	-2293	-596	80088	0.38	216	0.91	5499				9.22	Si
SLV 7	1520	-1458	-1592	105796	0.49	106.37	0.93	2774				1.74	Si
SLV 15	1340	-2354	-2399	-90826	0.4	208.27	0.91	5331				2.22	Si
SLV 15	1520	-2017	-1171	118214	0.49	148.21	0.93	3862				3.3	Si
SLV 12	1340	-2108	-1413	39675	0.35	216	0.9	5462				3.87	Si
SLV 12	1520	-1664	-1579	139843	0.83	71.81	1	2008				1.27	Si
SLV 13	1340	-2751	-2428	-162271	0.67	147.02	0.97	3981				1.64	Si
SLV 13	1520	-2116	-836	65628	0.35	216	0.9	5463				6.54	Si
SLV 16	1340	-2354	-2399	-90826	0.4	208.27	0.91	5331				2.22	Si
SLV 16	1520	-2017	-1171	118214	0.49	148.21	0.93	3862				3.3	Si
SLV 14	1340	-2751	-2428	-162271	0.67	147.02	0.97	3981				1.64	Si
SLV 14	1520	-2116	-836	65628	0.35	216	0.9	5463				6.54	Si
SLV 10	1340	-3429	-1510	-198475	0.81	150.36	1	4194				2.78	Si
SLV 10	1520	-1991	-459	-35443	0.33	216	0.9	5438				11.84	Si
SLV 8	1340	-2293	-596	80088	0.38	216	0.91	5499				9.22	Si
SLV 8	1520	-1458	-1592	105796	0.49	106.37	0.93	2774				1.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1409 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.53	0.36	-2177	24882	29585	1.19	Si
SLV 11	14	0.53	0.36	-2177	24882	29585	1.19	Si
SLV 7	14	0.53	0.37	-2237	24882	30366	1.22	Si
SLV 8	14	0.53	0.37	-2237	24882	30366	1.22	Si
SLV 16	14	0.53	0.38	-2277	24882	30899	1.24	Si
SLV 15	14	0.53	0.38	-2277	24882	30899	1.24	Si
SLV 14	14	0.53	0.4	-2422	24882	32801	1.32	Si
SLV 13	14	0.53	0.4	-2422	24882	32801	1.32	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.53	0.41	-2475	24882	33492	1.35	Si
SLV 4	14	0.53	0.41	-2475	24882	33492	1.35	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1409 $W_a = 0.05$ $T_a = 0.0604$

Comb.	N top	N base	V orto	σ_0	M*	e*	a0*	aLim	Verifica
SLV 15	-1156	-4195	215	0	4.204	0.893	0	991.801	No
SLV 16	-1156	-4195	215	0	4.204	0.893	0	991.801	No
SLV 6	-359	-5144	-183	0	3.638	0.934	0	1956.046	No
SLV 12	-1252	-2507	251	0	4.285	0.891	0	1956.046	No
SLV 5	-359	-5144	-183	0	3.638	0.934	0	1956.046	No
SLV 11	-1252	-2507	251	0	4.285	0.891	0	1956.046	No
SLV 8	-1110	-2003	175	0.009	4.166	0.894	15.254	1956.046	No
SLV 7	-1110	-2003	175	0.009	4.166	0.894	15.254	1956.046	No
SLV 1	-456	-3456	-147	0.012	3.691	0.924	18.347	991.801	No
SLV 2	-456	-3456	-147	0.012	3.691	0.924	18.347	991.801	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.386	SLU 31	Si
V_SLU	1.892	SLU 78	Si
PF_SLV	1.256	SLV 11	Si
V_SLV	1.272	SLV 11	Si
PFFP_SLV	1.189	SLV 11	Si
R_SLV	0	SLV 5	No

Maschio 234

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1376.3	-485.9	-1314.3	-485.9	L2	Z medio 273 cm	62	30	171	171	171			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 76	102	-6928	15260	3.72	116564	7.638	Si
SLU 76	273	-9160	15876	4.92	112285	7.072	Si
SLU 77	102	-7079	14649	3.81	116918	7.981	Si
SLU 77	273	-9382	16031	5.04	110748	6.909	Si
SLU 75	102	-6934	15010	3.73	116580	7.767	Si
SLU 75	273	-9158	15618	4.92	112300	7.191	Si
SLU 80	102	-7070	15054	3.8	116899	7.765	Si
SLU 80	273	-9381	16376	5.04	110752	6.763	Si
SLU 68	102	-6421	15903	3.45	114693	7.212	Si
SLU 68	273	-8408	14642	4.52	116005	7.923	Si
SLU 78	102	-7069	15113	3.8	116898	7.735	Si
SLU 78	273	-9373	16290	5.04	110811	6.802	Si
SLU 83	102	-7162	14212	3.85	117072	8.237	Si
SLU 83	273	-9497	15972	5.11	109871	6.879	Si
SLU 82	102	-7017	14573	3.77	116783	8.014	Si
SLU 82	273	-9273	15559	4.99	111527	7.168	Si
SLU 84	102	-7152	14676	3.85	117055	7.976	Si
SLU 84	273	-9488	16232	5.1	109937	6.773	Si
SLU 79	102	-7080	14591	3.81	116919	8.013	Si
SLU 79	273	-9390	16116	5.05	110689	6.868	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 7	102	479	-32959	0	0	0	No, Trazione
SLV 7	273	-2087	19112	1.12	58761	3.075	Si
SLV 8	102	479	-32959	0	0	0	No, Trazione
SLV 8	273	-2087	19112	1.12	58761	3.075	Si
SLV 13	102	-9840	68344	5.29	172969	2.531	Si
SLV 13	273	-7060	-29680	3.8	150871	5.083	Si
SLV 14	102	-9840	68344	5.29	172969	2.531	Si
SLV 14	273	-7060	-29680	3.8	150871	5.083	Si
SLV 15	102	-7255	50490	3.9	153112	3.033	Si
SLV 15	273	-4324	-32037	2.32	108534	3.388	Si
SLV 16	102	-7255	50490	3.9	153112	3.033	Si
SLV 16	273	-4324	-32037	2.32	108534	3.388	Si
SLV 2	102	-2582	-27993	1.39	70957	2.535	Si
SLV 2	273	-8530	53241	4.59	165186	3.103	Si
SLV 4	102	3	-45848	0	0	0	No, Trazione
SLV 4	273	-5794	50884	3.12	133826	2.63	Si
SLV 3	102	3	-45848	0	0	0	No, Trazione
SLV 3	273	-5794	50884	3.12	133826	2.63	Si
SLV 1	102	-2582	-27993	1.39	70957	2.535	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 1	273	-8530	53241	4.59	165186	3.103	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLU 79	102	-7080	423	14591		3.81	62	1.06	1977			4.67	Si
SLU 79	273	-9390	-1088	16116		5.05	62	1.08	2015			1.85	Si
SLU 80	102	-7070	439	15054		3.8	62	1.06	1976			4.5	Si
SLU 80	273	-9381	-1096	16376		5.04	62	1.08	2015			1.84	Si
SLU 77	102	-7079	424	14649		3.81	62	1.06	1977			4.66	Si
SLU 77	273	-9382	-1085	16031		5.04	62	1.08	2015			1.86	Si
SLU 76	102	-6928	446	15260		3.72	62	1.05	1957			4.39	Si
SLU 76	273	-9160	-1073	15876		4.92	62	1.08	2015			1.88	Si
SLU 82	102	-7017	439	14573		3.77	62	1.06	1969			4.49	Si
SLU 82	273	-9273	-1076	15559		4.99	62	1.08	2015			1.87	Si
SLU 84	102	-7152	442	14676		3.85	62	1.07	1987			4.49	Si
SLU 84	273	-9488	-1106	16232		5.1	62	1.08	2015			1.82	Si
SLU 75	102	-6934	437	15010		3.73	62	1.05	1958			4.49	Si
SLU 75	273	-9158	-1065	15618		4.92	62	1.08	2015			1.89	Si
SLU 81	102	-7026	422	14109		3.78	62	1.06	1970			4.66	Si
SLU 81	273	-9281	-1068	15300		4.99	62	1.08	2015			1.89	Si
SLU 83	102	-7162	426	14212		3.85	62	1.07	1988			4.66	Si
SLU 83	273	-9497	-1097	15972		5.11	62	1.08	2015			1.84	Si
SLU 78	102	-7069	440	15113		3.8	62	1.06	1976			4.49	Si
SLU 78	273	-9373	-1094	16290		5.04	62	1.08	2015			1.84	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLV 7	102	479	-687	-32959		0	0	0.83	0			0	No, Vu<V
SLV 7	273	-2087	-533	19112		1.12	62	1.06	1967			3.69	Si
SLV 6	102	-8139	1488	26555		4.38	62	1.63	3022			2.03	Si
SLV 6	273	-11208	-2524	26968		6.03	62	1.63	3022			1.2	Si
SLV 4	102	3	292	-45848		0	0	0.83	0			0	No, Vu<V
SLV 4	273	-5794	-3074	50884		3.12	62	1.46	2709			0.88	No, Vu<V
SLV 16	102	-7255	-328	50490		3.9	62	1.61	3001			9.14	Si
SLV 16	273	-4324	2195	-32037		2.32	62	1.3	2415			1.1	Si
SLV 15	102	-7255	-328	50490		3.9	62	1.61	3001			9.14	Si
SLV 15	273	-4324	2195	-32037		2.32	62	1.3	2415			1.1	Si
SLV 3	102	3	292	-45848		0	0	0.83	0			0	No, Vu<V
SLV 3	273	-5794	-3074	50884		3.12	62	1.46	2709			0.88	No, Vu<V
SLV 5	102	-8139	1488	26555		4.38	62	1.63	3022			2.03	Si
SLV 5	273	-11208	-2524	26968		6.03	62	1.63	3022			1.2	Si
SLV 1	102	-2582	944	-27993		1.42	60.48	1.12	2028			2.15	Si
SLV 1	273	-8530	-3671	53241		4.59	62	1.63	3022			0.82	No, Vu<V
SLV 2	102	-2582	944	-27993		1.42	60.48	1.12	2028			2.15	Si
SLV 2	273	-8530	-3671	53241		4.59	62	1.63	3022			0.82	No, Vu<V
SLV 8	102	479	-687	-32959		0	0	0.83	0			0	No, Vu<V
SLV 8	273	-2087	-533	19112		1.12	62	1.06	1967			3.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 187.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.28	0.11	-201	1177	2986	2.54	Si
SLV 8	14	0.28	0.11	-201	1177	2986	2.54	Si
SLV 3	14	0.28	0.88	-1637	1177	22780	19.36	Si
SLV 4	14	0.28	0.88	-1637	1177	22780	19.36	Si
SLV 12	14	0.28	1.06	-1975	1177	27051	22.99	Si
SLV 11	14	0.28	1.06	-1975	1177	27051	22.99	Si
SLV 1	14	0.28	2.5	-4641	1177	55402	47.08	Si
SLV 2	14	0.28	2.5	-4641	1177	55402	47.08	Si
SLV 15	14	0.28	4.06	-7551	1177	75631	64.26	Si
SLV 16	14	0.28	4.06	-7551	1177	75631	64.26	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 187.5 Wa = 0.05 Ta = 0.0163

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 4	-5794	3	-25	0	0	0	0	325.608	No, Trazione
SLV 7	-2087	479	-6	0	0	0	0	391.763	No, Trazione
SLV 3	-5794	3	-25	0	0	0	0	325.608	No, Trazione
SLV 8	-2087	479	-6	0	0	0	0	391.763	No, Trazione
SLV 6	-11208	-8139	-11	0.089	11.865	0.988	130.873	391.763	No
SLV 5	-11208	-8139	-11	0.089	11.865	0.988	130.873	391.763	No
SLV 10	-10767	-10316	4	0.09	11.415	0.988	131.891	391.763	No
SLV 9	-10767	-10316	4	0.09	11.415	0.988	131.891	391.763	No
SLV 12	-1646	-1699	9	0.096	2.127	0.941	148.266	391.763	No
SLV 11	-1646	-1699	9	0.096	2.127	0.941	148.266	391.763	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.763	SLU 80	Si
V_SLU	1.822	SLU 84	Si
PF_SLV	0	SLV 8	No
V_SLV	0	SLV 3	No
PFFP_SLV	2.537	SLV 7	Si
R_SLV	0	SLV 8	No



Maschio 235

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1104.5	-485.9	-1101.3	-485.9	L2	Z medio 273 cm	3.2	30	171	171	171			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 56	102	-354	-4023	0	0	0	No, e>l/2
SLU 56	273	-467	-8291	0	0	0	No, e>l/2
SLU 53	102	-340	-3865	0	0	0	No, e>l/2
SLU 53	273	-450	-8000	0	0	0	No, e>l/2
SLU 59	102	-353	-4052	0	0	0	No, e>l/2
SLU 59	273	-468	-8318	0	0	0	No, e>l/2
SLU 1	102	-234	-2640	0	0	0	No, e>l/2
SLU 1	273	-312	-5536	0	0	0	No, e>l/2
SLU 61	102	-340	-3893	0	0	0	No, e>l/2
SLU 61	273	-450	-8030	0	0	0	No, e>l/2
SLU 57	102	-352	-4036	0	0	0	No, e>l/2
SLU 57	273	-467	-8290	0	0	0	No, e>l/2
SLU 55	102	-339	-3903	0	0	0	No, e>l/2
SLU 55	273	-451	-8025	0	0	0	No, e>l/2
SLU 54	102	-339	-3878	0	0	0	No, e>l/2
SLU 54	273	-449	-7998	0	0	0	No, e>l/2
SLU 60	102	-341	-3880	0	0	0	No, e>l/2
SLU 60	273	-450	-8031	0	0	0	No, e>l/2
SLU 58	102	-355	-4039	0	0	0	No, e>l/2
SLU 58	273	-469	-8320	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 10	102	-441	-6238	0	0	0	No, e>l/2
SLV 10	273	-603	-11905	0	0	0	No, e>l/2
SLV 14	102	-284	-3444	0	0	0	No, e>l/2
SLV 14	273	-496	-12529	0	0	0	No, e>l/2
SLV 12	102	-40	884	0	0	0	No, e>l/2
SLV 12	273	-111	-3013	0	0	0	No, e>l/2
SLV 9	102	-441	-6238	0	0	0	No, e>l/2
SLV 9	273	-603	-11905	0	0	0	No, e>l/2
SLD 1	102	-285	-3447	0	0	0	No, e>l/2
SLD 1	273	-321	-4148	0	0	0	No, e>l/2
SLV 7	102	-55	626	0	0	0	No, e>l/2
SLV 7	273	-56	190	0	0	0	No, e>l/2
SLV 8	102	-55	626	0	0	0	No, e>l/2
SLV 8	273	-56	190	0	0	0	No, e>l/2
SLV 13	102	-284	-3444	0	0	0	No, e>l/2
SLV 13	273	-496	-12529	0	0	0	No, e>l/2
SLV 6	102	-456	-6496	0	0	0	No, e>l/2
SLV 6	273	-548	-8702	0	0	0	No, e>l/2
SLV 11	102	-40	884	0	0	0	No, e>l/2
SLV 11	273	-111	-3013	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 57	102	-352	99	-4036		0	0	0.56	0			0	No, Vu<V
SLU 57	273	-467	52	-8290		0	0	0.56	0			0	No, Vu<V
SLU 56	102	-354	101	-4023		0	0	0.56	0			0	No, Vu<V
SLU 56	273	-467	52	-8291		0	0	0.56	0			0	No, Vu<V
SLU 61	102	-340	96	-3893		0	0	0.56	0			0	No, Vu<V
SLU 61	273	-450	52	-8030		0	0	0.56	0			0	No, Vu<V
SLU 59	102	-353	99	-4052		0	0	0.56	0			0	No, Vu<V
SLU 59	273	-468	52	-8318		0	0	0.56	0			0	No, Vu<V
SLU 60	102	-341	98	-3880		0	0	0.56	0			0	No, Vu<V
SLU 60	273	-450	52	-8031		0	0	0.56	0			0	No, Vu<V
SLU 54	102	-339	96	-3878		0	0	0.56	0			0	No, Vu<V
SLU 54	273	-449	51	-7998		0	0	0.56	0			0	No, Vu<V
SLU 55	102	-339	95	-3903		0	0	0.56	0			0	No, Vu<V
SLU 55	273	-451	51	-8025		0	0	0.56	0			0	No, Vu<V
SLU 1	102	-234	68	-2640		0	0	0.56	0			0	No, Vu<V
SLU 1	273	-312	34	-5536		0	0	0.56	0			0	No, Vu<V
SLU 58	102	-355	101	-4039		0	0	0.56	0			0	No, Vu<V
SLU 58	273	-469	52	-8320		0	0	0.56	0			0	No, Vu<V
SLU 53	102	-340	97	-3865		0	0	0.56	0			0	No, Vu<V
SLU 53	273	-450	50	-8000		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	102	-55	-71	626		0	0	0.83	0			0	No, Vu<V
SLV 8	273	-56	-86	190		0	0	0.83	0			0	No, Vu<V

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Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 1	102	-285	82	-3447		0	0	0.83	0			0	No, Vu<V
SLD 1	273	-321	-37	-4148		0	0	0.83	0			0	No, Vu<V
SLV 9	102	-441	215	-6238		0	0	0.83	0			0	No, Vu<V
SLV 9	273	-603	159	-11905		0	0	0.83	0			0	No, Vu<V
SLV 6	102	-456	204	-6496		0	0	0.83	0			0	No, Vu<V
SLV 6	273	-548	44	-8702		0	0	0.83	0			0	No, Vu<V
SLV 14	102	-284	131	-3444		0	0	0.83	0			0	No, Vu<V
SLV 14	273	-496	249	-12529		0	0	0.83	0			0	No, Vu<V
SLV 7	102	-55	-71	626		0	0	0.83	0			0	No, Vu<V
SLV 7	273	-56	-86	190		0	0	0.83	0			0	No, Vu<V
SLV 12	102	-40	-60	884		0	0	0.83	0			0	No, Vu<V
SLV 12	273	-111	30	-3013		0	0	0.83	0			0	No, Vu<V
SLV 10	102	-441	215	-6238		0	0	0.83	0			0	No, Vu<V
SLV 10	273	-603	159	-11905		0	0	0.83	0			0	No, Vu<V
SLV 11	102	-40	-60	884		0	0	0.83	0			0	No, Vu<V
SLV 11	273	-111	30	-3013		0	0	0.83	0			0	No, Vu<V
SLV 13	102	-284	131	-3444		0	0	0.83	0			0	No, Vu<V
SLV 13	273	-496	249	-12529		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 187.5 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.28	0.76	-74	61	1036	16.99	Si
SLV 8	14	0.28	0.76	-74	61	1036	16.99	Si
SLV 11	14	0.28	1.34	-129	61	1724	28.27	Si
SLV 12	14	0.28	1.34	-129	61	1724	28.27	Si
SLV 4	14	0.28	2.36	-228	61	2757	45.21	Si
SLV 3	14	0.28	2.36	-228	61	2757	45.21	Si
SLV 16	14	0.28	4.28	-413	61	4020	65.93	Si
SLV 15	14	0.28	4.28	-413	61	4020	65.93	Si
SLV 1	14	0.28	4.31	-415	61	4033	66.14	Si
SLV 2	14	0.28	4.31	-415	61	4033	66.14	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 187.5 Wa = 0.05 Ta = 0.0163

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 10	-603	-441	0	0.09	0.638	0.988	131.861	391.763	No
SLV 9	-603	-441	0	0.09	0.638	0.988	131.861	391.763	No
SLV 6	-548	-456	0	0.09	0.581	0.987	132.473	391.763	No
SLV 5	-548	-456	0	0.09	0.581	0.987	132.473	391.763	No
SLV 11	-111	-40	0	0.098	0.136	0.951	149.716	391.763	No
SLV 12	-111	-40	0	0.098	0.136	0.951	149.716	391.763	No
SLV 13	-496	-284	0	0.09	0.528	0.986	132.488	325.608	No
SLV 14	-496	-284	0	0.09	0.528	0.986	132.488	325.608	No
SLV 16	-348	-163	0	0.091	0.378	0.981	134.608	325.608	No
SLV 15	-348	-163	0	0.091	0.378	0.981	134.608	325.608	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLD 1	No
V_SLV	0	SLD 1	No
PFFP_SLV	16.994	SLV 7	Si
R_SLV	0.337	SLV 9	No

Maschio 236

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1314.3	-485.9	Z medio 273 cm	Z medio 372 cm	61	30	99.4	102	96.8			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fV0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 78	273	-10150	-11667	5.55	98782	8.467	Si
SLU 78	352	-10617	43899	5.8	93194	2.123	Si
SLU 76	273	-9924	-11570	5.42	101174	8.744	Si
SLU 76	352	-10376	42902	5.67	96186	2.242	Si
SLU 80	273	-10161	-11655	5.55	98668	8.466	Si
SLU 80	352	-10631	44039	5.81	93007	2.112	Si
SLU 83	273	-10268	-11879	5.61	97458	8.204	Si
SLU 83	352	-10719	43756	5.86	91843	2.099	Si
SLU 79	273	-10159	-11607	5.55	98693	8.503	Si
SLU 79	352	-10612	43582	5.8	93253	2.14	Si
SLU 81	273	-10030	-11762	5.48	100083	8.509	Si
SLU 81	352	-10452	42315	5.71	95269	2.251	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 84	273	-10270	-11928	5.61	97433	8.169	Si
SLU 84	352	-10738	44213	5.87	91589	2.072	Si
SLU 77	273	-10148	-11619	5.55	98806	8.504	Si
SLU 77	352	-10598	43443	5.79	93438	2.151	Si
SLU 75	273	-9912	-11550	5.42	101293	8.77	Si
SLU 75	352	-10349	42458	5.66	96508	2.273	Si
SLU 82	273	-10032	-11810	5.48	100060	8.472	Si
SLU 82	352	-10471	42771	5.72	95036	2.222	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 16	273	-2263	34583	1.24	62027	1.794	Si
SLV 16	352	1572	-42371	0	0	0	No, Trazione
SLV 12	273	-1088	13534	0.59	31582	2.334	Si
SLV 12	352	211	-18176	0	0	0	No, Trazione
SLV 11	273	-1088	13534	0.59	31582	2.334	Si
SLV 11	352	211	-18176	0	0	0	No, Trazione
SLV 13	273	-5200	28713	2.84	121712	4.239	Si
SLV 13	352	-1587	-25376	0.87	44957	1.772	Si
SLV 2	273	-11635	-50997	6.36	170215	3.338	Si
SLV 2	352	-16004	100404	8.75	138762	1.382	Si
SLV 4	273	-8698	-45126	4.75	162093	3.592	Si
SLV 4	352	-12845	83409	7.02	166717	1.999	Si
SLV 1	273	-11635	-50997	6.36	170215	3.338	Si
SLV 1	352	-16004	100404	8.75	138762	1.382	Si
SLV 15	273	-2263	34583	1.24	62027	1.794	Si
SLV 15	352	1572	-42371	0	0	0	No, Trazione
SLV 3	273	-8698	-45126	4.75	162093	3.592	Si
SLV 3	352	-12845	83409	7.02	166717	1.999	Si
SLV 14	273	-5200	28713	2.84	121712	4.239	Si
SLV 14	352	-1587	-25376	0.87	44957	1.772	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	273	-10150	-949	-11667		5.55	61	1.08	1982			2.09	Si
SLU 78	352	-10617	-1296	43899		5.8	61	1.08	1982			1.53	Si
SLU 79	273	-10159	-942	-11607		5.55	61	1.08	1982			2.1	Si
SLU 79	352	-10612	-1281	43582		5.8	61	1.08	1982			1.55	Si
SLU 63	273	-9781	-915	-11466		5.34	61	1.08	1982			2.17	Si
SLU 63	352	-10222	-1251	42085		5.59	61	1.08	1982			1.58	Si
SLU 76	273	-9924	-930	-11570		5.42	61	1.08	1982			2.13	Si
SLU 76	352	-10376	-1273	42902		5.67	61	1.08	1982			1.56	Si
SLU 84	273	-10270	-957	-11928		5.61	61	1.08	1982			2.07	Si
SLU 84	352	-10738	-1308	44213		5.87	61	1.08	1982			1.52	Si
SLU 77	273	-10148	-939	-11619		5.55	61	1.08	1982			2.11	Si
SLU 77	352	-10598	-1277	43443		5.79	61	1.08	1982			1.55	Si
SLU 75	273	-9912	-921	-11550		5.42	61	1.08	1982			2.15	Si
SLU 75	352	-10349	-1257	42458		5.66	61	1.08	1982			1.58	Si
SLU 82	273	-10032	-929	-11810		5.48	61	1.08	1982			2.13	Si
SLU 82	352	-10471	-1269	42771		5.72	61	1.08	1982			1.56	Si
SLU 83	273	-10268	-947	-11879		5.61	61	1.08	1982			2.09	Si
SLU 83	352	-10719	-1289	43756		5.86	61	1.08	1982			1.54	Si
SLU 80	273	-10161	-952	-11655		5.55	61	1.08	1982			2.08	Si
SLU 80	352	-10631	-1300	44039		5.81	61	1.08	1982			1.53	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	273	-2263	2234	34583		1.65	45.65	1.16	1594			0.71	No, Vu<V
SLV 15	352	1572	2675	-42371		0	0	0.83	0			0	No, Vu<V
SLV 13	273	-5200	1716	28713		2.84	61	1.4	2565			1.49	Si
SLV 13	352	-1587	2099	-25376		1.22	43.52	1.08	1405			0.67	No, Vu<V
SLV 12	273	-1088	1012	13534		0.67	54.2	0.97	1573			1.55	Si
SLV 12	352	211	1074	-18176		0	0	0.83	0			0	No, Vu<V
SLV 4	273	-8698	-2983	-45126		4.75	61	1.63	2974			1	No, Vu<V
SLV 4	352	-12845	-3818	83409		7.02	61	1.63	2974			0.78	No, Vu<V
SLV 11	273	-1088	1012	13534		0.67	54.2	0.97	1573			1.55	Si
SLV 11	352	211	1074	-18176		0	0	0.83	0			0	No, Vu<V
SLV 14	273	-5200	1716	28713		2.84	61	1.4	2565			1.49	Si
SLV 14	352	-1587	2099	-25376		1.22	43.52	1.08	1405			0.67	No, Vu<V
SLV 16	273	-2263	2234	34583		1.65	45.65	1.16	1594			0.71	No, Vu<V
SLV 16	352	1572	2675	-42371		0	0	0.83	0			0	No, Vu<V
SLV 3	273	-8698	-2983	-45126		4.75	61	1.63	2974			1	No, Vu<V
SLV 3	352	-12845	-3818	83409		7.02	61	1.63	2974			0.78	No, Vu<V
SLV 2	273	-11635	-3500	-50997		6.36	61	1.63	2974			0.85	No, Vu<V
SLV 2	352	-16004	-4394	100404		8.75	61	1.63	2974			0.68	No, Vu<V
SLV 1	273	-11635	-3500	-50997		6.36	61	1.63	2974			0.85	No, Vu<V
SLV 1	352	-16004	-4394	100404		8.75	61	1.63	2974			0.68	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 321.4 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.31	0.31	-562	428	8213	19.17	Si
SLV 12	14	0.31	0.31	-562	428	8213	19.17	Si
SLV 16	14	0.31	0.41	-757	428	10970	25.6	Si
SLV 15	14	0.31	0.41	-757	428	10970	25.6	Si
SLV 8	14	0.31	1.91	-3495	428	44229	103.22	Si
SLV 7	14	0.31	1.91	-3495	428	44229	103.22	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.31	2.11	-3858	428	47882	111.75	Si
SLV 13	14	0.31	2.11	-3858	428	47882	111.75	Si
SLV 5	14	0.31	7.56	-13831	428	79139	184.7	Si
SLV 6	14	0.31	7.56	-13831	428	79139	184.7	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 321.4 Wa = 0.05 Ta = 0.0055

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 15	1327	-2263	-1	0	0	0	0	302.189	No, Trazione
SLV 12	195	-1088	0	0	0	0	0	320.345	No, Trazione
SLV 16	1327	-2263	-1	0	0	0	0	302.189	No, Trazione
SLV 11	195	-1088	0	0	0	0	0	320.345	No, Trazione
SLV 5	-12604	-12809	0	0.153	13.099	0.994	223.594	320.345	No
SLV 6	-12604	-12809	0	0.153	13.099	0.994	223.594	320.345	No
SLV 9	-8904	-10879	0	0.154	9.327	0.991	225.293	320.345	No
SLV 10	-8904	-10879	0	0.154	9.327	0.991	225.293	320.345	No
SLV 8	-3506	-3019	0	0.158	3.826	0.979	234.028	320.345	No
SLV 7	-3506	-3019	0	0.158	3.826	0.979	234.028	320.345	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.072	SLU 84	Si
V_SLU	1.516	SLU 84	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 11	No
PFFP_SLV	19.167	SLV 11	Si
R_SLV	0	SLV 16	No

Maschio 237

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1114.3	-485.9	-1106.7	-485.9	Z medio 374 cm	Z medio 618 cm	7.5	30	243.8	244.1	243.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 55	374	-896	-6702	0	0	0	No, e>l/2
SLU 55	618	-793	1481	3.5	1707	1.152	Si
SLU 57	374	-926	-6904	0	0	0	No, e>l/2
SLU 57	618	-827	1493	3.65	1722	1.153	Si
SLU 1	374	-625	-4744	0	0	0	No, e>l/2
SLU 1	618	-543	1038	2.4	1446	1.393	Si
SLU 54	374	-893	-6671	0	0	0	No, e>l/2
SLU 54	618	-788	1472	3.48	1704	1.157	Si
SLU 53	374	-894	-6655	0	0	0	No, e>l/2
SLU 53	618	-789	1448	3.48	1704	1.177	Si
SLU 56	374	-927	-6888	0	0	0	No, e>l/2
SLU 56	618	-827	1469	3.65	1722	1.173	Si
SLU 58	374	-930	-6907	0	0	0	No, e>l/2
SLU 58	618	-832	1462	3.68	1724	1.18	Si
SLU 60	374	-893	-6609	0	0	0	No, e>l/2
SLU 60	618	-785	1462	3.47	1702	1.164	Si
SLU 61	374	-893	-6625	0	0	0	No, e>l/2
SLU 61	618	-784	1487	3.46	1702	1.145	Si
SLU 59	374	-929	-6924	0	0	0	No, e>l/2
SLU 59	618	-832	1486	3.67	1724	1.16	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 14	374	-1029	267	4.54	2439	9.124	Si
SLV 14	618	-699	3805	0	0	0	No, e>l/2
SLV 4	374	-288	-10169	0	0	0	No, e>l/2
SLV 4	618	-451	-1623	1.99	1424	0.877	No, M>Mu
SLV 9	374	-1178	-6440	0	0	0	No, e>l/2
SLV 9	618	-971	3134	4.29	2379	0.759	No, M>Mu
SLV 6	374	-1036	-10175	0	0	0	No, e>l/2
SLV 6	618	-967	1749	4.27	2375	1.358	Si
SLV 7	374	-139	-3462	0	0	0	No, e>l/2
SLV 7	618	-179	-952	0	0	0	No, e>l/2
SLV 10	374	-1178	-6440	0	0	0	No, e>l/2
SLV 10	618	-971	3134	4.29	2379	0.759	No, M>Mu
SLV 13	374	-1029	267	4.54	2439	9.124	Si
SLV 13	618	-699	3805	0	0	0	No, e>l/2
SLV 8	374	-139	-3462	0	0	0	No, e>l/2
SLV 8	618	-179	-952	0	0	0	No, e>l/2
SLV 5	374	-1036	-10175	0	0	0	No, e>l/2



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 5	618	-967	1749	4.27	2375	1.358	Si
SLD 1	374	-615	-8030	0	0	0	No, $e > l/2$
SLD 1	618	-623	276	2.75	1821	6.602	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 58	374	-930	4	-6907	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 58	618	-832	-34	1462	4.58	6.06	1.08	1.08	197	0	0	5.83	Si
SLU 53	374	-894	3	-6655	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 53	618	-789	-37	1448	4.52	5.82	1.08	1.08	189	0	0	5.07	Si
SLU 57	374	-926	3	-6904	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 57	618	-827	-37	1493	4.67	5.9	1.08	1.08	192	0	0	5.23	Si
SLU 55	374	-896	2	-6702	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 55	618	-793	-39	1481	4.62	5.72	1.08	1.08	186	0	0	4.73	Si
SLU 1	374	-625	-1	-4744	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 1	618	-543	-30	1038	3.24	5.59	0.99	0.99	165	0	0	5.57	Si
SLU 54	374	-893	3	-6671	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 54	618	-788	-39	1472	4.59	5.72	1.08	1.08	186	0	0	4.75	Si
SLU 59	374	-929	3	-6924	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 59	618	-832	-36	1486	4.65	5.96	1.08	1.08	194	0	0	5.44	Si
SLU 60	374	-893	5	-6609	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 60	618	-785	-39	1462	4.56	5.73	1.08	1.08	186	0	0	4.79	Si
SLU 61	374	-893	4	-6625	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 61	618	-784	-41	1487	4.64	5.64	1.08	1.08	183	0	0	4.49	Si
SLU 56	374	-927	4	-6888	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 56	618	-827	-35	1469	4.6	6	1.08	1.08	195	0	0	5.59	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	374	-1029	257	267	4.54	7.55	1.63	1.63	368	0	0	1.43	Si
SLV 14	618	-699	-88	3805	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 13	374	-1029	257	267	4.54	7.55	1.63	1.63	368	0	0	1.43	Si
SLV 13	618	-699	-88	3805	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 8	374	-139	-9	-3462	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 8	618	-179	144	-952	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 6	374	-1036	-158	-10175	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 6	618	-967	-201	1749	5.46	5.9	1.63	1.63	288	0	0	1.43	Si
SLV 7	374	-139	-9	-3462	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 7	618	-179	144	-952	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 4	374	-288	-256	-10169	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 4	618	-451	28	-1623	29.05	0.52	1.63	1.63	25	0	0	0.91	No, Vu<V
SLD 1	374	-615	-128	-8030	0	0	0.83	0	0	0	0	0	No, Vu<V
SLD 1	618	-623	-49	276	2.75	7.55	1.38	1.38	313	0	0	6.36	Si
SLV 10	374	-1178	10	-6440	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 10	618	-971	-205	3134	19.72	1.64	1.63	1.63	80	0	0	0.39	No, Vu<V
SLV 5	374	-1036	-158	-10175	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 5	618	-967	-201	1749	5.46	5.9	1.63	1.63	288	0	0	1.43	Si
SLV 9	374	-1178	10	-6440	0	0	0.83	0	0	0	0	0	No, Vu<V
SLV 9	618	-971	-205	3134	19.72	1.64	1.63	1.63	80	0	0	0.39	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 496.2 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.34	0.4	-91	356	1318	3.7	Si
SLV 8	14	0.34	0.4	-91	356	1318	3.7	Si
SLV 3	14	0.34	0.95	-214	356	2965	8.33	Si
SLV 4	14	0.34	0.95	-214	356	2965	8.33	Si
SLV 12	14	0.34	1.07	-242	356	3308	9.3	Si
SLV 11	14	0.34	1.07	-242	356	3308	9.3	Si
SLV 2	14	0.34	2.08	-471	356	5861	16.47	Si
SLV 1	14	0.34	2.08	-471	356	5861	16.47	Si
SLV 16	14	0.34	3.17	-717	356	7967	22.4	Si
SLV 15	14	0.34	3.17	-717	356	7967	22.4	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 496.2 Wa = 0.05 Ta = 0.0331

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-182	-281	-15	0.008	0.265	0.922	13.189	713.576	No
SLV 12	-182	-281	-15	0.008	0.265	0.922	13.189	713.576	No
SLV 16	-462	-759	-22	0.025	0.549	0.958	38.227	473.619	No
SLV 15	-462	-759	-22	0.025	0.549	0.958	38.227	473.619	No
SLV 6	-967	-1036	15	0.05	1.063	0.977	74.068	713.576	No
SLV 5	-967	-1036	15	0.05	1.063	0.977	74.068	713.576	No
SLV 2	-687	-557	21	0.037	0.777	0.97	55.209	473.619	No
SLV 1	-687	-557	21	0.037	0.777	0.97	55.209	473.619	No
SLV 4	-451	-288	15	0.037	0.537	0.957	55.671	473.619	No
SLV 3	-451	-288	15	0.037	0.537	0.957	55.671	473.619	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLD 1	No
V_SLV	0	SLD 1	No
PFFP_SLV	3.705	SLV 7	Si
R_SLV	0.018	SLV 11	No



Maschio 238

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1104.5	-485.9	-1100.3	-485.9	Z medio 273 cm	Z medio 618 cm	4.2	30	345	345	345			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 54	273	-586	-8627	0	0	0	No, e>l/2
SLU 54	618	-440	-2751	0	0	0	No, e>l/2
SLU 55	273	-588	-8652	0	0	0	No, e>l/2
SLU 55	618	-443	-2768	0	0	0	No, e>l/2
SLU 58	273	-611	-9013	0	0	0	No, e>l/2
SLU 58	618	-465	-2956	0	0	0	No, e>l/2
SLU 59	273	-610	-9000	0	0	0	No, e>l/2
SLU 59	618	-464	-2940	0	0	0	No, e>l/2
SLU 60	273	-588	-8625	0	0	0	No, e>l/2
SLU 60	618	-438	-2740	0	0	0	No, e>l/2
SLU 1	273	-407	-6015	0	0	0	No, e>l/2
SLU 1	618	-303	-1879	0	0	0	No, e>l/2
SLU 53	273	-587	-8640	0	0	0	No, e>l/2
SLU 53	618	-440	-2767	0	0	0	No, e>l/2
SLU 56	273	-609	-8980	0	0	0	No, e>l/2
SLU 56	618	-462	-2928	0	0	0	No, e>l/2
SLU 57	273	-608	-8967	0	0	0	No, e>l/2
SLU 57	618	-461	-2911	0	0	0	No, e>l/2
SLU 61	273	-587	-8612	0	0	0	No, e>l/2
SLU 61	618	-438	-2723	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 11	273	-170	-1328	0	0	0	No, e>l/2
SLV 11	618	-102	-583	0	0	0	No, e>l/2
SLV 14	273	-683	-4802	0	0	0	No, e>l/2
SLV 14	618	-390	-1044	0	0	0	No, e>l/2
SLV 7	273	-73	-3005	0	0	0	No, e>l/2
SLV 7	618	-100	-1340	0	0	0	No, e>l/2
SLV 12	273	-170	-1328	0	0	0	No, e>l/2
SLV 12	618	-102	-583	0	0	0	No, e>l/2
SLV 10	273	-787	-9683	0	0	0	No, e>l/2
SLV 10	618	-542	-2651	0	0	0	No, e>l/2
SLD 1	273	-400	-8066	0	0	0	No, e>l/2
SLD 1	618	-347	-2667	0	0	0	No, e>l/2
SLV 9	273	-787	-9683	0	0	0	No, e>l/2
SLV 9	618	-542	-2651	0	0	0	No, e>l/2
SLV 6	273	-690	-11360	0	0	0	No, e>l/2
SLV 6	618	-540	-3407	0	0	0	No, e>l/2
SLV 13	273	-683	-4802	0	0	0	No, e>l/2
SLV 13	618	-390	-1044	0	0	0	No, e>l/2
SLV 8	273	-73	-3005	0	0	0	No, e>l/2
SLV 8	618	-100	-1340	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 1	273	-407	41	-6015		0	0	0.56	0			0	No, Vu<V
SLU 1	618	-303	-17	-1879		0	0	0.56	0			0	No, Vu<V
SLU 53	273	-587	60	-8640		0	0	0.56	0			0	No, Vu<V
SLU 53	618	-440	-21	-2767		0	0	0.56	0			0	No, Vu<V
SLU 58	273	-611	61	-9013		0	0	0.56	0			0	No, Vu<V
SLU 58	618	-465	-19	-2956		0	0	0.56	0			0	No, Vu<V
SLU 54	273	-586	61	-8627		0	0	0.56	0			0	No, Vu<V
SLU 54	618	-440	-22	-2751		0	0	0.56	0			0	No, Vu<V
SLU 60	273	-588	62	-8625		0	0	0.56	0			0	No, Vu<V
SLU 60	618	-438	-22	-2740		0	0	0.56	0			0	No, Vu<V
SLU 61	273	-587	63	-8612		0	0	0.56	0			0	No, Vu<V
SLU 61	618	-438	-23	-2723		0	0	0.56	0			0	No, Vu<V
SLU 55	273	-588	61	-8652		0	0	0.56	0			0	No, Vu<V
SLU 55	618	-443	-22	-2768		0	0	0.56	0			0	No, Vu<V
SLU 57	273	-608	62	-8967		0	0	0.56	0			0	No, Vu<V
SLU 57	618	-461	-20	-2911		0	0	0.56	0			0	No, Vu<V
SLU 59	273	-610	62	-9000		0	0	0.56	0			0	No, Vu<V
SLU 59	618	-464	-20	-2940		0	0	0.56	0			0	No, Vu<V
SLU 56	273	-609	61	-8980		0	0	0.56	0			0	No, Vu<V
SLU 56	618	-462	-19	-2928		0	0	0.56	0			0	No, Vu<V



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	l'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 13	273	-683	322	-4802		0	0	0.83	0			0	No, Vu<V
SLV 13	618	-390	-49	-1044		0	0	0.83	0			0	No, Vu<V
SLV 9	273	-787	202	-9683		0	0	0.83	0			0	No, Vu<V
SLV 9	618	-542	-114	-2651		0	0	0.83	0			0	No, Vu<V
SLV 6	273	-690	51	-11360		0	0	0.83	0			0	No, Vu<V
SLV 6	618	-540	-112	-3407		0	0	0.83	0			0	No, Vu<V
SLV 10	273	-787	202	-9683		0	0	0.83	0			0	No, Vu<V
SLV 10	618	-542	-114	-2651		0	0	0.83	0			0	No, Vu<V
SLD 1	273	-400	-53	-8066		0	0	0.83	0			0	No, Vu<V
SLD 1	618	-347	-27	-2667		0	0	0.83	0			0	No, Vu<V
SLV 12	273	-170	37	-1328		0	0	0.83	0			0	No, Vu<V
SLV 12	618	-102	78	-583		0	0	0.83	0			0	No, Vu<V
SLV 11	273	-170	37	-1328		0	0	0.83	0			0	No, Vu<V
SLV 11	618	-102	78	-583		0	0	0.83	0			0	No, Vu<V
SLV 7	273	-73	-115	-3005		0	0	0.83	0			0	No, Vu<V
SLV 7	618	-100	80	-1340		0	0	0.83	0			0	No, Vu<V
SLV 14	273	-683	322	-4802		0	0	0.83	0			0	No, Vu<V
SLV 14	618	-390	-49	-1044		0	0	0.83	0			0	No, Vu<V
SLV 8	273	-73	-115	-3005		0	0	0.83	0			0	No, Vu<V
SLV 8	618	-100	80	-1340		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 445.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.33	0.24	-30	386	441	1.14	Si
SLV 7	14	0.33	0.24	-30	386	441	1.14	Si
SLV 4	14	0.33	0.49	-62	386	888	2.3	Si
SLV 3	14	0.33	0.49	-62	386	888	2.3	Si
SLV 11	14	0.33	1.23	-156	386	2104	5.46	Si
SLV 12	14	0.33	1.23	-156	386	2104	5.46	Si
SLV 1	14	0.33	1.7	-215	386	2775	7.19	Si
SLV 2	14	0.33	1.7	-215	386	2775	7.19	Si
SLV 15	14	0.33	3.81	-482	386	4973	12.89	Si
SLV 16	14	0.33	3.81	-482	386	4973	12.89	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 445.5 Wa = 0.05 Ta = 0.0663

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-102	-170	-9	0	0.167	0.909	0	1467.184	No
SLV 11	-102	-170	-9	0	0.167	0.909	0	1467.184	No
SLV 15	-258	-498	-12	0.009	0.324	0.946	13.155	760.885	No
SLV 16	-258	-498	-12	0.009	0.324	0.946	13.155	760.885	No
SLV 6	-540	-690	8	0.032	0.611	0.969	47.969	1467.184	No
SLV 5	-540	-690	8	0.032	0.611	0.969	47.969	1467.184	No
SLV 2	-383	-361	12	0.019	0.452	0.96	29.47	760.885	No
SLV 1	-383	-361	12	0.019	0.452	0.96	29.47	760.885	No
SLV 3	-251	-176	9	0.02	0.318	0.945	30.157	760.885	No
SLV 4	-251	-176	9	0.02	0.318	0.945	30.157	760.885	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLD 1	No
V_SLV	0	SLD 1	No
PFFP_SLV	1.144	SLV 7	Si
R_SLV	0	SLV 11	No

Maschio 239

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-478.4	-1376.3	-478.4	L1	L2	275	45	198	198	198			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv _{lim}	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 38	-96	-30430	-27149	2.46	2921035	107.594	Si
SLU 38	102	-18408	-87288	1.49	2068867	23.702	Si
SLU 36	-96	-30374	-23822	2.45	2918012	122.494	Si
SLU 36	102	-18369	-83207	1.48	2065488	24.823	Si
SLU 16	-96	-28806	-23094	2.33	2828968	122.498	Si
SLU 16	102	-17256	-77557	1.39	1966523	25.356	Si
SLU 37	-96	-30541	-28174	2.47	2927106	103.895	Si
SLU 37	102	-18432	-86531	1.49	2070947	23.933	Si
SLU 29	-96	-27310	-30680	2.21	2737757	89.237	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 29	102	-15903	-70647	1.29	1841694	26.069	Si
SLU 35	-96	-30486	-24847	2.46	2924100	117.685	Si
SLU 35	102	-18393	-82451	1.49	2067570	25.076	Si
SLU 17	-96	-28694	-22069	2.32	2822368	127.889	Si
SLU 17	102	-17232	-78313	1.39	1964367	25.084	Si
SLU 30	-96	-27198	-29654	2.2	2730701	92.084	Si
SLU 30	102	-15879	-71403	1.28	1839450	25.761	Si
SLU 15	-96	-28639	-18742	2.31	2819082	150.416	Si
SLU 15	102	-17193	-74233	1.39	1960863	26.415	Si
SLU 80	-96	-36948	-21600	2.99	3218250	148.991	Si
SLU 80	102	-22064	-89128	1.78	2369779	26.589	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 7	-96	-8803	19810	0.71	1139916	57.543	Si
SLV 7	102	-3568	-59278	0.29	479087	8.082	Si
SLV 3	-96	-26693	115939	2.16	3022343	26.068	Si
SLV 3	102	-14994	-274785	1.21	1857238	6.759	Si
SLV 12	-96	-4543	-47198	0.37	605932	12.838	Si
SLV 12	102	-1122	99331	0.09	153146	1.542	Si
SLV 8	-96	-8803	19810	0.71	1139916	57.543	Si
SLV 8	102	-3568	-59278	0.29	479087	8.082	Si
SLV 11	-96	-4543	-47198	0.37	605932	12.838	Si
SLV 11	102	-1122	99331	0.09	153146	1.542	Si
SLV 14	-96	-23569	-92032	1.9	2735629	29.725	Si
SLV 14	102	-14186	227799	1.15	1767620	7.76	Si
SLV 16	-96	-12495	-107420	1.01	1576036	14.672	Si
SLV 16	102	-6839	253911	0.55	897887	3.536	Si
SLV 13	-96	-23569	-92032	1.9	2735629	29.725	Si
SLV 13	102	-14186	227799	1.15	1767620	7.76	Si
SLV 4	-96	-26693	115939	2.16	3022343	26.068	Si
SLV 4	102	-14994	-274785	1.21	1857238	6.759	Si
SLV 15	-96	-12495	-107420	1.01	1576036	14.672	Si
SLV 15	102	-6839	253911	0.55	897887	3.536	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 61	-96	-34735	-395	22842		2.81	275	0.93	11506			29.11	Si
SLU 61	102	-20777	-591	-41679		1.68	275	0.78	9645			16.32	Si
SLU 60	-96	-34847	-415	21817		2.82	275	0.93	11521			27.79	Si
SLU 60	102	-20801	-606	-40923		1.68	275	0.78	9648			15.93	Si
SLU 62	-96	-35778	-323	2673		2.89	275	0.94	11645			36.02	Si
SLU 62	102	-21398	-535	-63564		1.73	275	0.79	9728			18.2	Si
SLU 81	-96	-36583	-398	16737		2.96	275	0.95	11753			29.51	Si
SLU 81	102	-21976	-607	-49898		1.78	275	0.79	9805			16.15	Si
SLU 64	-96	-31966	-357	13157		2.58	275	0.9	11137			31.22	Si
SLU 64	102	-18364	-513	-27205		1.48	275	0.75	9324			18.16	Si
SLU 53	-96	-34338	-328	4926		2.77	275	0.93	11453			34.96	Si
SLU 53	102	-20276	-520	-52675		1.64	275	0.77	9578			18.41	Si
SLU 73	-96	-35011	-354	17372		2.83	275	0.93	11543			32.65	Si
SLU 73	102	-20853	-555	-44351		1.69	275	0.78	9655			17.4	Si
SLU 52	-96	-33276	-370	22452		2.69	275	0.91	11312			30.58	Si
SLU 52	102	-19677	-553	-35376		1.59	275	0.77	9499			17.17	Si
SLU 82	-96	-36471	-379	17762		2.95	275	0.95	11738			30.98	Si
SLU 82	102	-21952	-593	-50654		1.77	275	0.79	9802			16.54	Si
SLU 43	-96	-30230	-373	18237		2.44	275	0.88	10906			29.23	Si
SLU 43	102	-17188	-512	-18231		1.39	275	0.74	9167			17.91	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	-96	-23569	-6175	-92032		1.9	275	1.21	15026			2.43	Si
SLV 13	102	-14186	-1562	227799		1.15	275	1.06	13150			8.42	Si
SLV 16	-96	-12495	-6037	-107420		1.01	275	1.04	12811			2.12	Si
SLV 16	102	-6839	-1129	253911		0.55	275	0.94	11680			10.34	Si
SLD 16	-96	-19758	-2748	-38746		1.6	275	1.15	14264			5.19	Si
SLD 16	102	-11296	-722	95338		0.91	275	1.02	12572			17.42	Si
SLV 1	-96	-37768	5464	131327		3.05	275	1.44	17866			3.27	Si
SLV 1	102	-22341	302	-300897		1.81	275	1.19	14781			48.88	Si
SLD 15	-96	-19758	-2748	-38746		1.6	275	1.15	14264			5.19	Si
SLD 15	102	-11296	-722	95338		0.91	275	1.02	12572			17.42	Si
SLV 14	-96	-23569	-6175	-92032		1.9	275	1.21	15026			2.43	Si
SLV 14	102	-14186	-1562	227799		1.15	275	1.06	13150			8.42	Si
SLV 3	-96	-26693	5602	115939		2.16	275	1.26	15651			2.79	Si
SLV 3	102	-14994	735	-274785		1.21	275	1.08	13311			18.1	Si
SLV 15	-96	-12495	-6037	-107420		1.01	275	1.04	12811			2.12	Si
SLV 15	102	-6839	-1129	253911		0.55	275	0.94	11680			10.34	Si
SLV 4	-96	-26693	5602	115939		2.16	275	1.26	15651			2.79	Si
SLV 4	102	-14994	735	-274785		1.21	275	1.08	13311			18.1	Si
SLV 2	-96	-37768	5464	131327		3.05	275	1.44	17866			3.27	Si
SLV 2	102	-22341	302	-300897		1.81	275	1.19	14781			48.88	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.24	0.25	-3107	8912	68473	7.68	Si
SLV 11	14	0.24	0.25	-3107	8912	68473	7.68	Si
SLV 8	14	0.24	0.47	-5797	8912	125436	14.08	Si



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.24	0.47	-5797	8912	125436	14.08	Si
SLV 15	14	0.24	0.88	-10897	8912	227521	25.53	Si
SLV 16	14	0.24	0.88	-10897	8912	227521	25.53	Si
SLV 4	14	0.24	1.61	-19864	8912	388231	43.56	Si
SLV 3	14	0.24	1.61	-19864	8912	388231	43.56	Si
SLV 13	14	0.24	1.64	-20265	8912	394852	44.31	Si
SLV 14	14	0.24	1.64	-20265	8912	394852	44.31	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 3 Wa = 0.08 Ta = 0.0145

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	-25612	-41459	-1545	0.067	29.526	0.965	101.105	340.238	No
SLV 9	-25612	-41459	-1545	0.067	29.526	0.965	101.105	340.238	No
SLV 5	-28058	-45719	-1592	0.069	32.016	0.967	104.127	340.238	No
SLV 6	-28058	-45719	-1592	0.069	32.016	0.967	104.127	340.238	No
SLV 12	-1122	-4543	373	0.077	5.073	0.899	124.053	340.238	No
SLV 11	-1122	-4543	373	0.077	5.073	0.899	124.053	340.238	No
SLV 13	-14186	-23569	-818	0.079	17.914	0.945	121.543	288.895	No
SLV 14	-14186	-23569	-818	0.079	17.914	0.945	121.543	288.895	No
SLV 2	-22341	-37768	-976	0.084	26.198	0.961	127.17	288.895	No
SLV 1	-22341	-37768	-976	0.084	26.198	0.961	127.17	288.895	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	23.702	SLU 38	Si
V_SLU	15.932	SLU 60	Si
PF_SLV	1.542	SLV 11	Si
V_SLV	2.122	SLV 15	Si
PFFP_SLV	7.683	SLV 11	Si
R_SLV	0.297	SLV 9	No

Maschio 240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1293.3	-485.9	Z medio 1068 cm	F1	82	30	431.3	427.8	434.7			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	μ	ϕ	fv,lim	E	G	FC	
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 63	1072	-3843	10951	1.56	127347	11.629	Si
SLU 63	1265	-2670	11160	1.09	94900	8.503	Si
SLU 78	1072	-4440	11723	1.8	141719	12.089	Si
SLU 78	1265	-3199	12990	1.3	110234	8.486	Si
SLU 76	1072	-4034	11567	1.64	132107	11.421	Si
SLU 76	1265	-2857	11851	1.16	100451	8.476	Si
SLU 57	1072	-4193	10879	1.7	135947	12.497	Si
SLU 57	1265	-2986	12280	1.21	104181	8.484	Si
SLU 59	1072	-4283	10793	1.74	138079	12.794	Si
SLU 59	1265	-3056	12633	1.24	106194	8.406	Si
SLU 51	1072	-4205	9872	1.71	136244	13.801	Si
SLU 51	1265	-3013	12378	1.22	104965	8.48	Si
SLU 80	1072	-4530	11636	1.84	143761	12.354	Si
SLU 80	1265	-3269	13343	1.33	112186	8.408	Si
SLU 72	1072	-4453	10716	1.81	142005	13.251	Si
SLU 72	1265	-3226	13088	1.31	110994	8.48	Si
SLU 79	1072	-4564	11387	1.86	144527	12.693	Si
SLU 79	1265	-3282	13209	1.33	112522	8.518	Si
SLU 55	1072	-3787	10723	1.54	125923	11.743	Si
SLU 55	1265	-2644	11140	1.07	94099	8.447	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 8	1072	73	-9546	0	0	0	No, Trazione
SLD 8	1265	-974	17525	0.4	38652	2.206	Si
SLV 11	1072	3104	14634	0	0	0	No, Trazione
SLV 11	1265	1599	-4695	0	0	0	No, Trazione
SLV 14	1072	-5694	91846	2.31	189246	2.06	Si
SLV 14	1265	-311	-53814	0	0	0	No, e> /2
SLV 16	1072	-2008	81742	0.82	76843	0.94	No, M>Mu
SLV 16	1265	1327	-50382	0	0	0	No, Trazione
SLD 7	1072	73	-9546	0	0	0	No, Trazione
SLD 7	1265	-974	17525	0.4	38652	2.206	Si
SLV 8	1072	3800	-32784	0	0	0	No, Trazione
SLV 8	1265	194	31033	0	0	0	No, Trazione
SLV 4	1072	313	-76316	0	0	0	No, Trazione
SLV 4	1265	-3358	68711	1.37	122320	1.78	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	1072	-5694	91846	2.31	189246	2.06	Si
SLV 13	1265	-311	-53814	0	0	0	No, $e>I/2$
SLV 7	1072	3800	-32784	0	0	0	No, Trazione
SLV 7	1265	194	31033	0	0	0	No, Trazione
SLV 12	1072	3104	14634	0	0	0	No, Trazione
SLV 12	1265	1599	-4695	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 47	1072	-3709	125	9803		1.51	82	0.76	1861			14.95	Si
SLU 47	1265	-2601	-131	10886		1.06	82	0.7	1714			13.11	Si
SLU 23	1072	-2788	112	8521		1.13	82	0.71	1739			15.48	Si
SLU 23	1265	-1955	-118	8106		0.79	82	0.66	1627			13.74	Si
SLU 44	1072	-3235	142	9566		1.32	82	0.73	1798			12.68	Si
SLU 44	1265	-2197	-165	9304		0.89	82	0.67	1660			10.08	Si
SLU 82	1072	-3617	139	11558		1.47	82	0.75	1849			13.35	Si
SLU 82	1265	-2480	-112	10289		1.01	82	0.69	1697			15.17	Si
SLU 61	1072	-3369	140	10714		1.37	82	0.74	1816			12.94	Si
SLU 61	1265	-2266	-128	9579		0.92	82	0.68	1669			13.06	Si
SLU 2	1072	-2541	114	7677		1.03	82	0.69	1706			14.95	Si
SLU 2	1265	-1741	-134	7396		0.71	82	0.65	1599			11.9	Si
SLU 65	1072	-3483	140	10410		1.42	82	0.74	1831			13.08	Si
SLU 65	1265	-2410	-149	10014		0.98	82	0.69	1688			11.35	Si
SLU 52	1072	-3313	147	10487		1.35	82	0.74	1808			12.27	Si
SLU 52	1265	-2240	-153	9559		0.91	82	0.68	1665			10.86	Si
SLU 73	1072	-3560	146	11330		1.45	82	0.75	1841			12.65	Si
SLU 73	1265	-2453	-137	10269		1	82	0.69	1694			12.33	Si
SLU 10	1072	-2619	120	8598		1.06	82	0.7	1716			14.34	Si
SLU 10	1265	-1784	-123	7651		0.73	82	0.65	1605			13.04	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1072	313	-2469	-76316		0	0	0.83	0			0	No, Vu<V
SLV 3	1265	-3358	-1468	68711		1.82	61.63	1.2	2212			1.51	Si
SLV 4	1072	313	-2469	-76316		0	0	0.83	0			0	No, Vu<V
SLV 4	1265	-3358	-1468	68711		1.82	61.63	1.2	2212			1.51	Si
SLD 7	1072	73	-622	-9546		0	0	0.83	0			0	No, Vu<V
SLD 7	1265	-974	-731	17525		0.47	69.04	0.93	1921			2.63	Si
SLD 11	1072	-224	-43	10693		0	0	0.83	0			0	No, Vu<V
SLD 11	1265	-374	-470	2259		0.15	82	0.86	2125			4.53	Si
SLV 8	1072	3800	-1581	-32784		0	0	0.83	0			0	No, Vu<V
SLV 8	1265	194	-1624	31033		0	0	0.83	0			0	No, Vu<V
SLV 16	1072	-2008	2055	81742		74.42	0.9	1.63	44			0.02	No, Vu<V
SLV 16	1265	1327	573	-50382		0	0	0.83	0			0	No, Vu<V
SLD 12	1072	-224	-43	10693		0	0	0.83	0			0	No, Vu<V
SLD 12	1265	-374	-470	2259		0.15	82	0.86	2125			4.53	Si
SLV 12	1072	3104	-224	14634		0	0	0.83	0			0	No, Vu<V
SLV 12	1265	1599	-1012	-4695		0	0	0.83	0			0	No, Vu<V
SLV 11	1072	3104	-224	14634		0	0	0.83	0			0	No, Vu<V
SLV 11	1265	1599	-1012	-4695		0	0	0.83	0			0	No, Vu<V
SLV 15	1072	-2008	2055	81742		74.42	0.9	1.63	44			0.02	No, Vu<V
SLV 15	1265	1327	573	-50382		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1285.9 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.5	0	1556	17694	0	0	No, Trazione
SLV 8	14	0.5	0	688	17694	0	0	No, Trazione
SLV 11	14	0.5	0	1556	17694	0	0	No, Trazione
SLV 16	14	0.5	0	804	17694	0	0	No, Trazione
SLV 14	14	0.5	0	-707	17694	0	0	No, $e>t/2$
SLV 15	14	0.5	0	804	17694	0	0	No, Trazione
SLV 13	14	0.5	0	-707	17694	0	0	No, $e>t/2$
SLV 7	14	0.5	0	688	17694	0	0	No, Trazione
SLV 3	14	0.5	0.85	-2088	17694	29140	1.65	Si
SLV 4	14	0.5	0.85	-2088	17694	29140	1.65	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1285.9 Wa = 0.05 Ta = 0.1035

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	463	313	-33	0	0	0	0	1757.029	No, Trazione
SLV 7	450	3800	-107	0	0	0	0	2048.779	No, Trazione
SLV 4	463	313	-33	0	0	0	0	1757.029	No, Trazione
SLV 8	450	3800	-107	0	0	0	0	2048.779	No, Trazione
SLV 16	-412	-2008	-84	0	2.141	0.905	0	1757.029	No
SLV 11	188	3104	-123	0	0	0	0	2048.779	No, Trazione
SLV 1	212	-3373	16	0	0	0	0	1757.029	No, Trazione
SLV 12	188	3104	-123	0	0	0	0	2048.779	No, Trazione
SLV 15	-412	-2008	-84	0	2.141	0.905	0	1757.029	No
SLV 2	212	-3373	16	0	0	0	0	1757.029	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.406	SLU 59	Si
V_SLU	10.082	SLU 44	Si
PF_SLV	0	SLV 16	No



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLD 7	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 12	No

Maschio 241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1193.3	-485.9	-1114.3	-485.9	Z medio 1068 cm	F1	79	30	431.1	434.6	427.6			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 80	1072	-4088	-8897	1.73	127281	14.306	Si
SLU 80	1265	-3165	-16659	1.34	104517	6.274	Si
SLU 71	1072	-3971	-8478	1.68	124589	14.696	Si
SLU 71	1265	-3107	-16487	1.31	102976	6.246	Si
SLU 58	1072	-3860	-8053	1.63	121970	15.147	Si
SLU 58	1265	-2974	-15702	1.25	99360	6.328	Si
SLU 72	1072	-3979	-8917	1.68	124778	13.993	Si
SLU 72	1265	-3099	-16230	1.31	102765	6.332	Si
SLU 69	1072	-3912	-8289	1.65	123206	14.863	Si
SLU 69	1265	-3052	-16184	1.29	101479	6.27	Si
SLU 77	1072	-4021	-8269	1.7	125739	15.205	Si
SLU 77	1265	-3117	-16613	1.32	103244	6.215	Si
SLU 79	1072	-4080	-8458	1.72	127096	15.027	Si
SLU 79	1265	-3173	-16917	1.34	104726	6.191	Si
SLU 78	1072	-4029	-8709	1.7	125926	14.459	Si
SLU 78	1265	-3109	-16356	1.31	103034	6.3	Si
SLU 37	1072	-3421	-7108	1.44	111183	15.642	Si
SLU 37	1265	-2707	-14622	1.14	91939	6.288	Si
SLU 35	1072	-3362	-6920	1.42	109666	15.848	Si
SLU 35	1265	-2652	-14318	1.12	90351	6.31	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	1072	210	81926	0	0	0	No, Trazione
SLV 16	1265	-3177	-60156	1.34	111728	1.857	Si
SLV 12	1072	128	31606	0	0	0	No, Trazione
SLV 12	1265	-189	-7241	0.08	7428	1.026	Si
SLV 14	1072	-1006	74952	0	0	0	No, e>1/2
SLV 14	1265	-4537	-71668	1.91	151135	2.109	Si
SLV 3	1072	-4079	-85095	1.72	138406	1.626	Si
SLV 3	1265	826	52655	0	0	0	No, Trazione
SLV 4	1072	-4079	-85095	1.72	138406	1.626	Si
SLV 4	1265	826	52655	0	0	0	No, Trazione
SLV 8	1072	-1159	-18501	0.49	43936	2.375	Si
SLV 8	1265	1012	26602	0	0	0	No, Trazione
SLV 11	1072	128	31606	0	0	0	No, Trazione
SLV 11	1265	-189	-7241	0.08	7428	1.026	Si
SLV 2	1072	-5295	-92070	2.23	170893	1.856	Si
SLV 2	1265	-534	41143	0	0	0	No, e>1/2
SLV 7	1072	-1159	-18501	0.49	43936	2.375	Si
SLV 7	1265	1012	26602	0	0	0	No, Trazione
SLV 13	1072	-1006	74952	0	0	0	No, e>1/2
SLV 13	1265	-4537	-71668	1.91	151135	2.109	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 55	1072	-3552	-71	-7905		1.5	79	0.76	1790			25.16	Si
SLU 55	1265	-2629	166	-13303		1.11	79	0.7	1667			10.06	Si
SLU 52	1072	-3230	-92	-7024		1.36	79	0.74	1747			18.92	Si
SLU 52	1265	-2298	182	-11332		0.97	79	0.68	1623			8.92	Si
SLU 44	1072	-3121	-97	-7044		1.32	79	0.73	1733			17.79	Si
SLU 44	1265	-2232	196	-10903		0.94	79	0.68	1614			8.25	Si
SLU 68	1072	-3663	-67	-8330		1.55	79	0.76	1805			27.02	Si
SLU 68	1265	-2763	174	-14088		1.17	79	0.71	1685			9.69	Si
SLU 46	1072	-3378	-62	-7443		1.43	79	0.75	1767			28.49	Si
SLU 46	1265	-2513	169	-12741		1.06	79	0.7	1652			9.76	Si
SLU 73	1072	-3450	-83	-7429		1.46	79	0.75	1777			21.41	Si
SLU 73	1265	-2497	176	-12547		1.05	79	0.7	1650			9.35	Si
SLU 61	1072	-3271	-73	-6723		1.38	79	0.74	1753			23.9	Si
SLU 61	1265	-2331	160	-11688		0.98	79	0.69	1627			10.16	Si
SLU 65	1072	-3341	-88	-7449		1.41	79	0.74	1762			20.02	Si
SLU 65	1265	-2432	190	-12118		1.03	79	0.69	1641			8.63	Si
SLU 47	1072	-3443	-76	-7925		1.45	79	0.75	1776			23.31	Si
SLU 47	1265	-2564	180	-12873		1.08	79	0.7	1658			9.24	Si
SLU 2	1072	-2462	-82	-5694		1.04	79	0.69	1645			20.02	Si

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Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1265	-1767	158	-8608		0.75	79	0.65	1552			9.8	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	1072	-1006	2207	74952		0	0	0.83	0			0	No, Vu<V
SLV 14	1265	-4537	1383	-71668		2.13	71.11	1.26	2685			1.94	Si
SLV 2	1072	-5295	-2724	-92070		2.66	66.33	1.37	2717			1	No, Vu<V
SLV 2	1265	-534	-1193	41143		0	0	0.83	0			0	No, Vu<V
SLV 13	1072	-1006	2207	74952		0	0	0.83	0			0	No, Vu<V
SLV 13	1265	-4537	1383	-71668		2.13	71.11	1.26	2685			1.94	Si
SLV 11	1072	128	1446	31606		0	0	0.83	0			0	No, Vu<V
SLV 11	1265	-189	560	-7241		1.69	3.73	1.17	131			0.23	No, Vu<V
SLV 4	1072	-4079	-2279	-85095		2.43	55.9	1.32	2213			0.97	No, Vu<V
SLV 4	1265	826	-1157	52655		0	0	0.83	0			0	No, Vu<V
SLV 8	1072	-1159	-34	-18501		0.55	70.59	0.94	1997			59.02	Si
SLV 8	1265	1012	-213	26602		0	0	0.83	0			0	No, Vu<V
SLV 12	1072	128	1446	31606		0	0	0.83	0			0	No, Vu<V
SLV 12	1265	-189	560	-7241		1.69	3.73	1.17	131			0.23	No, Vu<V
SLV 16	1072	210	2653	81926		0	0	0.83	0			0	No, Vu<V
SLV 16	1265	-3177	1419	-60156		1.72	61.7	1.18	2178			1.53	Si
SLV 3	1072	-4079	-2279	-85095		2.43	55.9	1.32	2213			0.97	No, Vu<V
SLV 3	1265	826	-1157	52655		0	0	0.83	0			0	No, Vu<V
SLV 7	1072	-1159	-34	-18501		0.55	70.59	0.94	1997			59.02	Si
SLV 7	1265	1012	-213	26602		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1285.8 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.5	0	-770	17034	0	0	No, e>t/2
SLV 12	14	0.5	0	-9	17034	0	0	No, e>t/2
SLV 1	14	0.5	0	-1117	17034	0	0	No, e>t/2
SLV 2	14	0.5	0	-1117	17034	0	0	No, e>t/2
SLV 8	14	0.5	0	61	17034	0	0	No, Trazione
SLV 4	14	0.5	0	-536	17034	0	0	No, e>t/2
SLV 15	14	0.5	0	-770	17034	0	0	No, e>t/2
SLV 7	14	0.5	0	61	17034	0	0	No, Trazione
SLV 3	14	0.5	0	-536	17034	0	0	No, e>t/2
SLV 11	14	0.5	0	-9	17034	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1285.8 Wa = 0.05 Ta = 0.1035

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	-560	-4079	-127	0	2.188	0.895	0	1755.768	No
SLV 15	523	210	37	0	0	0	0	1755.768	No, Trazione
SLV 7	1	-1159	-118	0	0	0	0	2048.734	No, Trazione
SLV 12	325	128	-69	0	0	0	0	2048.734	No, Trazione
SLV 11	325	128	-69	0	0	0	0	2048.734	No, Trazione
SLV 13	367	-1006	79	0	0	0	0	1755.768	No, Trazione
SLV 14	367	-1006	79	0	0	0	0	1755.768	No, Trazione
SLV 16	523	210	37	0	0	0	0	1755.768	No, Trazione
SLV 4	-560	-4079	-127	0	2.188	0.895	0	1755.768	No
SLV 8	1	-1159	-118	0	0	0	0	2048.734	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.191	SLU 79	Si
V_SLU	8.245	SLU 44	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 8	No
R_SLV	0	SLV 16	No

Maschio 242

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1705.3	-500.9	-1705.3	-486.2	L3	F1	14.7	30	1323.5	1320.1	1326.9			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fV0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 40	1250	-143	885	0.33	1011	1.141	Si
SLU 40	1462	-191	1414	0	0	0	No, e>l/2
SLU 49	1250	-167	1036	0.38	1171	1.13	Si
SLU 49	1462	-61	690	0	0	0	No, e>l/2
SLU 38	1250	-127	809	0.29	897	1.11	Si
SLU 38	1462	-18	843	0	0	0	No, e>l/2

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 36	1250	-127	809	0.29	899	1.111	Si
SLU 36	1462	-33	916	0	0	0	No, e>1/2
SLU 42	1250	-136	852	0.31	957	1.124	Si
SLU 42	1462	-109	1178	0	0	0	No, e>1/2
SLU 48	1250	-157	993	0.36	1102	1.109	Si
SLU 48	1462	23	5	0	0	0	No, Trazione
SLU 83	1250	-166	1055	0.38	1160	1.1	Si
SLU 83	1462	-58	567	0	0	0	No, e>1/2
SLU 50	1250	-157	993	0.36	1101	1.108	Si
SLU 50	1462	38	-68	0	0	0	No, Trazione
SLU 41	1250	-125	809	0.28	888	1.097	Si
SLU 41	1462	-25	492	0	0	0	No, e>1/2
SLU 37	1250	-116	766	0.26	827	1.08	Si
SLU 37	1462	67	158	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 13	1250	-125	703	0.28	899	1.279	Si
SLV 13	1462	-498	-10666	0	0	0	No, e>1/2
SLV 12	1250	-617	2715	1.4	4012	1.478	Si
SLV 12	1462	532	21884	0	0	0	No, Trazione
SLV 10	1250	277	-825	0	0	0	No, Trazione
SLV 10	1462	-839	-23606	0	0	0	No, e>1/2
SLV 9	1250	277	-825	0	0	0	No, Trazione
SLV 9	1462	-839	-23606	0	0	0	No, e>1/2
SLD 1	1250	-23	427	0	0	0	No, e>1/2
SLD 1	1462	-93	-509	0.21	668	1.312	Si
SLV 6	1250	353	-1073	0	0	0	No, Trazione
SLV 6	1462	-720	-21051	0	0	0	No, e>1/2
SLV 14	1250	-125	703	0.28	899	1.279	Si
SLV 14	1462	-498	-10666	0	0	0	No, e>1/2
SLV 11	1250	-617	2715	1.4	4012	1.478	Si
SLV 11	1462	532	21884	0	0	0	No, Trazione
SLV 8	1250	-541	2467	1.23	3572	1.448	Si
SLV 8	1462	651	24440	0	0	0	No, Trazione
SLV 7	1250	-541	2467	1.23	3572	1.448	Si
SLV 7	1462	651	24440	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 50	1250	-157	14	993		1.73	3.02	0.79	71			4.93	Si
SLU 50	1462	38	-20	-68		0	0	0.56	0			0	No, Vu<V
SLU 37	1250	-116	9	766		1.69	2.3	0.78	54			5.68	Si
SLU 37	1462	67	-5	158		0	0	0.56	0			0	No, Vu<V
SLU 38	1250	-127	8	809		1.47	2.88	0.75	65			7.84	Si
SLU 38	1462	-18	34	843		0	0	0.56	0			0	No, Vu<V
SLU 83	1250	-166	13	1055		1.89	2.92	0.81	71			5.46	Si
SLU 83	1462	-58	21	567		0	0	0.56	0			0	No, Vu<V
SLU 36	1250	-127	8	809		1.46	2.91	0.75	65			8.11	Si
SLU 36	1462	-33	39	916		0	0	0.56	0			0	No, Vu<V
SLU 49	1250	-167	13	1036		1.62	3.44	0.77	80			6.11	Si
SLU 49	1462	-61	24	690		0	0	0.56	0			0	No, Vu<V
SLU 41	1250	-125	9	809		1.58	2.65	0.77	61			6.5	Si
SLU 41	1462	-25	19	492		0	0	0.56	0			0	No, Vu<V
SLU 48	1250	-157	14	993		1.72	3.04	0.79	72			5.03	Si
SLU 48	1462	23	-15	5		0	0	0.56	0			0	No, Vu<V
SLU 42	1250	-136	8	852		1.42	3.17	0.75	71			8.68	Si
SLU 42	1462	-109	58	1178		0	0	0.56	0			0	No, Vu<V
SLU 40	1250	-143	8	885		1.37	3.5	0.74	77			9.23	Si
SLU 40	1462	-191	75	1414		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1250	-541	80	2467		2.16	8.34	1.27	317			3.96	Si
SLV 7	1462	651	341	24440		0	0	0.83	0			0	No, Vu<V
SLV 14	1250	-125	5	703		0.8	5.21	0.99	155			32.46	Si
SLV 14	1462	-498	-92	-10666		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	277	-58	-825		0	0	0.83	0			0	No, Vu<V
SLV 9	1462	-839	-305	-23606		0	0	0.83	0			0	No, Vu<V
SLD 1	1250	-23	-6	427		0	0	0.83	0			0	No, Vu<V
SLD 1	1462	-93	-13	-509		0.56	5.53	0.95	157			12.47	Si
SLV 8	1250	-541	80	2467		2.16	8.34	1.27	317			3.96	Si
SLV 8	1462	651	341	24440		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	277	-58	-825		0	0	0.83	0			0	No, Vu<V
SLV 10	1462	-839	-305	-23606		0	0	0.83	0			0	No, Vu<V
SLV 11	1250	-617	90	2715		2.33	8.83	1.3	344			3.84	Si
SLV 11	1462	532	332	21884		0	0	0.83	0			0	No, Vu<V
SLV 13	1250	-125	5	703		0.8	5.21	0.99	155			32.46	Si
SLV 13	1462	-498	-92	-10666		0	0	0.83	0			0	No, Vu<V
SLV 12	1250	-617	90	2715		2.33	8.83	1.3	344			3.84	Si
SLV 12	1462	532	332	21884		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	353	-68	-1073		0	0	0.83	0			0	No, Vu<V
SLV 6	1462	-720	-296	-21051		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 833 Wa 0.05 denominatore 8 $\gamma_M = 2$



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.41	0	-377	23884	0	0	No, e>t/2
SLV 6	14	0.41	0	-172	23884	0	0	No, e>t/2
SLV 3	14	0.41	0	-377	23884	0	0	No, e>t/2
SLV 9	14	0.41	0	-169	23884	0	0	No, e>t/2
SLV 8	14	0.41	0	-482	23884	0	0	No, e>t/2
SLV 7	14	0.41	0	-482	23884	0	0	No, e>t/2
SLV 5	14	0.41	0	-172	23884	0	0	No, e>t/2
SLV 10	14	0.41	0	-169	23884	0	0	No, e>t/2
SLV 1	14	0.41	0	-284	23884	0	0	No, e>t/2
SLV 2	14	0.41	0	-284	23884	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 833 Wa = 0.05 Ta = 0.975

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	153	1161	-21	0	0	0	0	239.674	No, Trazione
SLV 7	-104	804	31	0	0	0	0	239.674	No, Trazione
SLV 8	-104	804	31	0	0	0	0	239.674	No, Trazione
SLV 1	417	1674	-74	0	0	0	0	239.674	No, Trazione
SLV 4	282	1462	-46	0	0	0	0	239.674	No, Trazione
SLV 2	417	1674	-74	0	0	0	0	239.674	No, Trazione
SLV 5	348	1512	-60	0	0	0	0	239.674	No, Trazione
SLV 9	153	1161	-21	0	0	0	0	239.674	No, Trazione
SLV 3	282	1462	-46	0	0	0	0	239.674	No, Trazione
SLV 6	348	1512	-60	0	0	0	0	239.674	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 79	No
V_SLU	0	SLU 4	No
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

Maschio 243

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1705.3	-377.2	-1705.3	-349.9	L3	F1	27.3	30	1383.5	1377.3	1389.8			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 40	1250	-660	-7532	0.81	8101	1.076	Si
SLU 40	1462	319	3338	0	0	0	No, Trazione
SLU 38	1250	-819	-5669	1	9785	1.726	Si
SLU 38	1462	137	2767	0	0	0	No, Trazione
SLU 42	1250	-736	-6848	0.9	8918	1.302	Si
SLU 42	1462	248	3149	0	0	0	No, Trazione
SLU 44	1250	-897	-8050	1.1	10578	1.314	Si
SLU 44	1462	268	3530	0	0	0	No, Trazione
SLU 47	1250	-973	-7366	1.19	11321	1.537	Si
SLU 47	1462	197	3342	0	0	0	No, Trazione
SLU 39	1250	-528	-3376	0.65	6618	1.96	Si
SLU 39	1462	50	1815	0	0	0	No, Trazione
SLU 46	1250	-914	-4853	1.12	10749	2.215	Si
SLU 46	1462	1	2489	0	0	0	No, Trazione
SLU 49	1250	-990	-4170	1.21	11487	2.755	Si
SLU 49	1462	-69	2301	0	0	0	No, e>l/2
SLU 83	1250	-753	-2773	0.92	9100	3.282	Si
SLU 83	1462	-73	1772	0	0	0	No, e>l/2
SLU 41	1250	-603	-2693	0.74	7477	2.777	Si
SLU 41	1462	-21	1627	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 1	1250	-580	1701	0.71	7442	4.376	Si
SLD 1	1462	40	4823	0	0	0	No, Trazione
SLV 2	1250	-587	6993	0.72	7526	1.076	Si
SLV 2	1462	261	10684	0	0	0	No, Trazione
SLV 13	1250	1612	10910	0	0	0	No, Trazione
SLV 13	1462	1139	9862	0	0	0	No, Trazione
SLV 9	1250	3272	34084	0	0	0	No, Trazione
SLV 9	1462	2672	31627	0	0	0	No, Trazione
SLV 14	1250	1612	10910	0	0	0	No, Trazione
SLV 14	1462	1139	9862	0	0	0	No, Trazione
SLV 15	1250	-471	-10129	0	0	0	No, e>l/2
SLV 15	1462	-438	-8547	0	0	0	No, e>l/2



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 6	1250	2613	32909	0	0	0	No, Trazione
SLV 6	1462	2408	31874	0	0	0	No, Trazione
SLV 1	1250	-587	6993	0.72	7526	1.076	Si
SLV 1	1462	261	10684	0	0	0	No, Trazione
SLV 10	1250	3272	34084	0	0	0	No, Trazione
SLV 10	1462	2672	31627	0	0	0	No, Trazione
SLV 5	1250	2613	32909	0	0	0	No, Trazione
SLV 5	1462	2408	31874	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 44	1250	-897	-264	-8050	2.14	13.96	0.84	0.84	352			1.34	Si
SLU 44	1462	268	263	3530	0	0	0.56	0	0			0	No, Vu<V
SLU 41	1250	-603	-107	-2693	0.74	27.25	0.65	0.65	535			5.01	Si
SLU 41	1462	-21	41	1627	0	0	0.56	0	0			0	No, Vu<V
SLU 40	1250	-660	-265	-7532	3.31	6.64	1	1	199			0.75	No, Vu<V
SLU 40	1462	319	236	3338	0	0	0.56	0	0			0	No, Vu<V
SLU 38	1250	-819	-205	-5669	1.36	20.11	0.74	0.74	444			2.16	Si
SLU 38	1462	137	71	2767	0	0	0.56	0	0			0	No, Vu<V
SLU 49	1250	-990	-139	-4170	1.21	27.25	0.72	0.72	586			4.23	Si
SLU 49	1462	-69	52	2301	0	0	0.56	0	0			0	No, Vu<V
SLU 47	1250	-973	-243	-7366	1.79	18.17	0.79	0.79	433			1.78	Si
SLU 47	1462	197	190	3342	0	0	0.56	0	0			0	No, Vu<V
SLU 83	1250	-753	-107	-2773	0.92	27.25	0.68	0.68	555			5.2	Si
SLU 83	1462	-73	54	1772	0	0	0.56	0	0			0	No, Vu<V
SLU 39	1250	-528	-127	-3376	0.81	21.68	0.66	0.66	432			3.4	Si
SLU 39	1462	50	114	1815	0	0	0.56	0	0			0	No, Vu<V
SLU 42	1250	-736	-245	-6848	1.89	12.95	0.81	0.81	314			1.28	Si
SLU 42	1462	248	163	3149	0	0	0.56	0	0			0	No, Vu<V
SLU 46	1250	-914	-159	-4853	1.22	24.95	0.72	0.72	538			3.38	Si
SLU 46	1462	1	125	2489	0	0	0.56	0	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	1250	2613	-923	32909	0	0	0	0.83	0			0	No, Vu<V
SLV 5	1462	2408	2177	31874	0	0	0	0.83	0			0	No, Vu<V
SLV 6	1250	2613	-923	32909	0	0	0	0.83	0			0	No, Vu<V
SLV 6	1462	2408	2177	31874	0	0	0	0.83	0			0	No, Vu<V
SLV 15	1250	-471	162	-10129	0	0	0	0.83	0			0	No, Vu<V
SLV 15	1462	-438	-680	-8547	0	0	0	0.83	0			0	No, Vu<V
SLV 9	1250	3272	-952	34084	0	0	0	0.83	0			0	No, Vu<V
SLV 9	1462	2672	2107	31627	0	0	0	0.83	0			0	No, Vu<V
SLV 13	1250	1612	-368	10910	0	0	0	0.83	0			0	No, Vu<V
SLV 13	1462	1139	568	9862	0	0	0	0.83	0			0	No, Vu<V
SLV 14	1250	1612	-368	10910	0	0	0	0.83	0			0	No, Vu<V
SLV 14	1462	1139	568	9862	0	0	0	0.83	0			0	No, Vu<V
SLV 1	1250	-587	-270	6993	3.82	5.12	1.6	1.6	245			0.91	No, Vu<V
SLV 1	1462	261	804	10684	0	0	0	0.83	0			0	No, Vu<V
SLV 2	1250	-587	-270	6993	3.82	5.12	1.6	1.6	245			0.91	No, Vu<V
SLV 2	1462	261	804	10684	0	0	0	0.83	0			0	No, Vu<V
SLD 1	1250	-580	-140	1701	0.71	27.25	0.98	0.98	797			5.7	Si
SLD 1	1462	40	355	4823	0	0	0	0.83	0			0	No, Vu<V
SLV 10	1250	3272	-952	34084	0	0	0	0.83	0			0	No, Vu<V
SLV 10	1462	2672	2107	31627	0	0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 861.6 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.42	0	-1806	49127	0	0	No, e>t/2
SLV 8	14	0.42	0	-2460	49127	0	0	No, e>t/2
SLV 2	14	0.42	0	-1173	49127	0	0	No, e>t/2
SLV 7	14	0.42	0	-2460	49127	0	0	No, e>t/2
SLV 9	14	0.42	0	-277	49127	0	0	No, e>t/2
SLV 5	14	0.42	0	-350	49127	0	0	No, e>t/2
SLV 10	14	0.42	0	-277	49127	0	0	No, e>t/2
SLV 6	14	0.42	0	-350	49127	0	0	No, e>t/2
SLV 1	14	0.42	0	-1173	49127	0	0	No, e>t/2
SLV 4	14	0.42	0	-1806	49127	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 861.6 Wa = 0.05 Ta = 1.0655

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	527	-20868	34	0	0	0	0	239.674	No, Trazione
SLV 1	593	-10019	-12	0	0	0	0	239.674	No, Trazione
SLV 8	-25	7803	-25	0	0	0	0	239.674	No, Trazione
SLV 5	670	-20420	20	0	0	0	0	239.674	No, Trazione
SLV 3	385	-1552	-26	0	0	0	0	239.674	No, Trazione
SLV 10	527	-20868	34	0	0	0	0	239.674	No, Trazione
SLV 7	-25	7803	-25	0	0	0	0	239.674	No, Trazione
SLV 2	593	-10019	-12	0	0	0	0	239.674	No, Trazione
SLV 4	385	-1552	-26	0	0	0	0	239.674	No, Trazione
SLV 6	670	-20420	20	0	0	0	0	239.674	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No



Stato limite	Coeff.s.	Comb.	Verifica
V_SLU	0	SLU 2	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 14	No

Maschio 244

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-335.9	-1389.3	-335.9	L4	L6	14	28	704	704	704			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 54	546	-1317	12903	0	0	0	No, e>/2
SLU 54	1250	-530	8953	0	0	0	No, e>/2
SLU 57	546	-1329	13329	0	0	0	No, e>/2
SLU 57	1250	-519	9197	0	0	0	No, e>/2
SLU 56	546	-1319	13337	0	0	0	No, e>/2
SLU 56	1250	-514	9169	0	0	0	No, e>/2
SLU 58	546	-1309	13314	0	0	0	No, e>/2
SLU 58	1250	-489	8829	0	0	0	No, e>/2
SLU 55	546	-1314	12874	0	0	0	No, e>/2
SLU 55	1250	-509	8632	0	0	0	No, e>/2
SLU 61	546	-1346	12764	0	0	0	No, e>/2
SLU 61	1250	-532	8765	0	0	0	No, e>/2
SLU 53	546	-1307	12911	0	0	0	No, e>/2
SLU 53	1250	-524	8926	0	0	0	No, e>/2
SLU 1	546	-919	9118	0	0	0	No, e>/2
SLU 1	1250	-376	6017	0	0	0	No, e>/2
SLU 59	546	-1319	13306	0	0	0	No, e>/2
SLU 59	1250	-494	8857	0	0	0	No, e>/2
SLU 60	546	-1336	12772	0	0	0	No, e>/2
SLU 60	1250	-526	8738	0	0	0	No, e>/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 11	546	-1034	2890	2.64	5677	1.964	Si
SLV 11	1250	-1376	13929	0	0	0	No, e>/2
SLV 10	546	-1043	11212	0	0	0	No, e>/2
SLV 10	1250	453	414	0	0	0	No, Trazione
SLD 1	546	-890	13316	0	0	0	No, e>/2
SLD 1	1250	-196	4951	0	0	0	No, e>/2
SLV 8	546	-911	7634	0	0	0	No, e>/2
SLV 8	1250	-1253	12815	0	0	0	No, e>/2
SLV 12	546	-1034	2890	2.64	5677	1.964	Si
SLV 12	1250	-1376	13929	0	0	0	No, e>/2
SLV 6	546	-920	15957	0	0	0	No, e>/2
SLV 6	1250	575	-700	0	0	0	No, Trazione
SLV 13	546	-1184	2764	3.02	6241	2.258	Si
SLV 13	1250	-331	6444	0	0	0	No, e>/2
SLV 7	546	-911	7634	0	0	0	No, e>/2
SLV 7	1250	-1253	12815	0	0	0	No, e>/2
SLV 9	546	-1043	11212	0	0	0	No, e>/2
SLV 9	1250	453	414	0	0	0	No, Trazione
SLV 14	546	-1184	2764	3.02	6241	2.258	Si
SLV 14	1250	-331	6444	0	0	0	No, e>/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 58	546	-1309	-243	13314		0	0	0.56	0			0	No, Vu<V
SLU 58	1250	-489	-92	8829		0	0	0.56	0			0	No, Vu<V
SLU 59	546	-1319	-251	13306		0	0	0.56	0			0	No, Vu<V
SLU 59	1250	-494	-90	8857		0	0	0.56	0			0	No, Vu<V
SLU 56	546	-1319	-250	13337		0	0	0.56	0			0	No, Vu<V
SLU 56	1250	-514	-93	9169		0	0	0.56	0			0	No, Vu<V
SLU 55	546	-1314	-272	12874		0	0	0.56	0			0	No, Vu<V
SLU 55	1250	-509	-73	8632		0	0	0.56	0			0	No, Vu<V
SLU 60	546	-1336	-291	12772		0	0	0.56	0			0	No, Vu<V
SLU 60	1250	-526	-66	8738		0	0	0.56	0			0	No, Vu<V
SLU 61	546	-1346	-300	12764		0	0	0.56	0			0	No, Vu<V
SLU 61	1250	-532	-64	8765		0	0	0.56	0			0	No, Vu<V
SLU 53	546	-1307	-265	12911		0	0	0.56	0			0	No, Vu<V
SLU 53	1250	-524	-77	8926		0	0	0.56	0			0	No, Vu<V
SLU 1	546	-919	-189	9118		0	0	0.56	0			0	No, Vu<V
SLU 1	1250	-376	-40	6017		0	0	0.56	0			0	No, Vu<V
SLU 54	546	-1317	-274	12903		0	0	0.56	0			0	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 54	1250	-530	-75	8953		0	0	0.56	0			0	No, Vu<V
SLU 57	546	-1329	-258	13329		0	0	0.56	0			0	No, Vu<V
SLU 57	1250	-519	-91	9197		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	546	-911	-272	7634		0	0	0.83	0			0	No, Vu<V
SLV 8	1250	-1253	194	12815		0	0	0.83	0			0	No, Vu<V
SLV 12	546	-1034	-513	2890		2.93	12.62	1.42	501			0.98	No, Vu<V
SLV 12	1250	-1376	163	13929		0	0	0.83	0			0	No, Vu<V
SLV 6	546	-920	88	15957		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	575	-264	-700		0	0	0.83	0			0	No, Vu<V
SLV 11	546	-1034	-513	2890		2.93	12.62	1.42	501			0.98	No, Vu<V
SLV 11	1250	-1376	163	13929		0	0	0.83	0			0	No, Vu<V
SLV 14	546	-1184	-559	2764		3.02	14	1.44	564			1.01	Si
SLV 14	1250	-331	-170	6444		0	0	0.83	0			0	No, Vu<V
SLV 7	546	-911	-272	7634		0	0	0.83	0			0	No, Vu<V
SLV 7	1250	-1253	194	12815		0	0	0.83	0			0	No, Vu<V
SLV 9	546	-1043	-153	11212		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	453	-294	414		0	0	0.83	0			0	No, Vu<V
SLV 10	546	-1043	-153	11212		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	453	-294	414		0	0	0.83	0			0	No, Vu<V
SLV 13	546	-1184	-559	2764		3.02	14	1.44	564			1.01	Si
SLV 13	1250	-331	-170	6444		0	0	0.83	0			0	No, Vu<V
SLD 1	546	-890	-18	13316		0	0	0.83	0			0	No, Vu<V
SLD 1	1250	-196	-57	4951		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 898 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.43	0	30	6354	0	0	No, Trazione
SLV 9	14	0.43	0	30	6354	0	0	No, Trazione
SLV 5	14	0.43	0	125	6354	0	0	No, Trazione
SLV 6	14	0.43	0	125	6354	0	0	No, Trazione
SLV 1	14	0.43	1.28	-500	6354	6270	0.99	No, M>Mu
SLV 2	14	0.43	1.28	-500	6354	6270	0.99	No, M>Mu
SLV 13	14	0.43	2.08	-815	6354	9470	1.49	Si
SLV 14	14	0.43	2.08	-815	6354	9470	1.49	Si
SLV 3	14	0.43	2.88	-1130	6354	12090	1.9	Si
SLV 4	14	0.43	2.88	-1130	6354	12090	1.9	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 898 Wa = 0.05 Ta = 0.2956

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 6	575	-920	10	0	0	0	0	239.674	No, Trazione
SLV 1	79	-772	3	0	0	0	0	1320.147	No, Trazione
SLV 9	453	-1043	10	0	0	0	0	239.674	No, Trazione
SLV 10	453	-1043	10	0	0	0	0	239.674	No, Trazione
SLV 5	575	-920	10	0	0	0	0	239.674	No, Trazione
SLV 2	79	-772	3	0	0	0	0	1320.147	No, Trazione
SLV 16	-880	-1182	-2	0.022	1.292	0.921	35.324	1320.147	No
SLV 15	-880	-1182	-2	0.022	1.292	0.921	35.324	1320.147	No
SLV 13	-331	-1184	3	0.022	0.752	0.891	36.618	1320.147	No
SLV 14	-331	-1184	3	0.022	0.752	0.891	36.618	1320.147	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 10	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 10	No

Maschio 245

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1627.8	-485.9	-1705.3	-485.9	L3	F1	77.5	30	1327	1327	1327			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 10	1250	-2109	-5330	0.91	72574	13.616	Si
SLU 10	1462	-669	8722	0.29	24981	2.864	Si
SLU 2	1250	-1976	-5816	0.85	68541	11.784	Si
SLU 2	1462	-620	9067	0.27	23235	2.563	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 65	1250	-2467	-5401	1.06	83077	15.383	Si
SLU 65	1462	-758	9512	0.33	28182	2.963	Si
SLU 47	1250	-2340	-3594	1.01	79431	22.1	Si
SLU 47	1462	-715	8045	0.31	26645	3.312	Si
SLU 31	1250	-2174	-4595	0.94	74531	16.219	Si
SLU 31	1462	-703	8249	0.3	26201	3.176	Si
SLU 52	1250	-2534	-5649	1.09	85000	15.047	Si
SLU 52	1462	-772	9640	0.33	28694	2.977	Si
SLU 5	1250	-1915	-3275	0.82	66668	20.355	Si
SLU 5	1462	-611	7127	0.26	22908	3.214	Si
SLU 73	1250	-2599	-4914	1.12	86843	17.672	Si
SLU 73	1462	-806	9167	0.35	29900	3.262	Si
SLU 23	1250	-2042	-5082	0.88	70534	13.88	Si
SLU 23	1462	-654	8594	0.28	24462	2.846	Si
SLU 44	1250	-2401	-6135	1.03	81198	13.235	Si
SLU 44	1462	-724	9985	0.31	26969	2.701	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 16	1250	-999	-25224	0.43	37338	1.48	Si
SLD 16	1462	-246	22825	0	0	0	No, e>l/2
SLV 8	1250	-797	-70704	0	0	0	No, e>l/2
SLV 8	1462	117	15330	0	0	0	No, Trazione
SLV 2	1250	-2846	61304	1.22	99165	1.618	Si
SLV 2	1462	-802	-46201	0	0	0	No, e>l/2
SLV 14	1250	-879	-11962	0.38	32992	2.758	Si
SLV 14	1462	-369	35586	0	0	0	No, e>l/2
SLV 3	1250	-2218	12213	0.95	79177	6.483	Si
SLV 3	1462	-448	-31014	0	0	0	No, e>l/2
SLV 7	1250	-797	-70704	0	0	0	No, e>l/2
SLV 7	1462	117	15330	0	0	0	No, Trazione
SLV 13	1250	-879	-11962	0.38	32992	2.758	Si
SLV 13	1462	-369	35586	0	0	0	No, e>l/2
SLV 12	1250	-206	-92683	0	0	0	No, e>l/2
SLV 12	1462	247	39866	0	0	0	No, Trazione
SLV 11	1250	-206	-92683	0	0	0	No, e>l/2
SLV 11	1462	247	39866	0	0	0	No, Trazione
SLV 4	1250	-2218	12213	0.95	79177	6.483	Si
SLV 4	1462	-448	-31014	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 34	1250	-2113	-48	-2054	0.91	77.45	0.68	1573				32.75	Si
SLU 34	1462	-694	-205	6309	0.3	77.45	0.6	1383				6.75	Si
SLU 36	1250	-1877	54	2210	0.81	77.45	0.66	1541				28.67	Si
SLU 36	1462	-595	-218	2103	0.26	77.45	0.59	1370				6.29	Si
SLU 37	1250	-1568	137	6079	0.67	77.45	0.65	1500				10.93	Si
SLU 37	1462	-449	-190	-2178	0.19	77.45	0.58	1351				7.13	Si
SLU 38	1250	-1859	66	2724	0.8	77.45	0.66	1539				23.34	Si
SLU 38	1462	-590	-223	1751	0.25	77.45	0.59	1370				6.15	Si
SLU 35	1250	-1586	125	5566	0.68	77.45	0.65	1502				12.01	Si
SLU 35	1462	-454	-185	-1825	0.2	77.45	0.58	1351				7.31	Si
SLU 80	1250	-2284	50	2405	0.98	77.45	0.69	1595				31.85	Si
SLU 80	1462	-694	-212	2669	0.3	77.45	0.6	1383				6.52	Si
SLU 78	1250	-2302	38	1891	0.99	77.45	0.69	1598				42.14	Si
SLU 78	1462	-699	-207	3021	0.3	77.45	0.6	1384				6.67	Si
SLU 84	1250	-2402	-12	72	1.03	77.45	0.69	1611				129.83	Si
SLU 84	1462	-724	-195	4461	0.31	77.45	0.6	1387				7.1	Si
SLU 76	1250	-2539	-64	-2373	1.09	77.45	0.7	1629				25.51	Si
SLU 76	1462	-797	-194	7227	0.34	77.45	0.6	1397				7.19	Si
SLU 42	1250	-1977	3	391	0.85	77.45	0.67	1554				452.6	Si
SLU 42	1462	-620	-206	3543	0.27	77.45	0.59	1374				6.67	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	1250	-206	-931	-92683	0	0	0.83	0				0	No, Vu<V
SLV 11	1462	247	1303	39866	0	0	0.83	0				0	No, Vu<V
SLV 2	1250	-2846	965	61304	1.84	51.56	1.2	1858				1.93	Si
SLV 2	1462	-802	-904	-46201	0	0	0.83	0				0	No, Vu<V
SLD 16	1250	-999	-433	-25224	0.82	40.46	1	1211				2.79	Si
SLD 16	1462	-246	320	22825	0	0	0.83	0				0	No, Vu<V
SLV 7	1250	-797	-464	-70704	0	0	0.83	0				0	No, Vu<V
SLV 7	1462	117	1000	15330	0	0	0.83	0				0	No, Vu<V
SLV 3	1250	-2218	557	12213	0.95	77.45	1.02	2380				4.27	Si
SLV 3	1462	-448	-188	-31014	0	0	0.83	0				0	No, Vu<V
SLV 13	1250	-879	-594	-11962	0.39	75.36	0.91	2060				3.47	Si
SLV 13	1462	-369	105	35586	0	0	0.83	0				0	No, Vu<V
SLV 4	1250	-2218	557	12213	0.95	77.45	1.02	2380				4.27	Si
SLV 4	1462	-448	-188	-31014	0	0	0.83	0				0	No, Vu<V
SLV 14	1250	-879	-594	-11962	0.39	75.36	0.91	2060				3.47	Si
SLV 14	1462	-369	105	35586	0	0	0.83	0				0	No, Vu<V
SLV 12	1250	-206	-931	-92683	0	0	0.83	0				0	No, Vu<V
SLV 12	1462	247	1303	39866	0	0	0.83	0				0	No, Vu<V
SLV 8	1250	-797	-464	-70704	0	0	0.83	0				0	No, Vu<V
SLV 8	1462	117	1000	15330	0	0	0.83	0				0	No, Vu<V



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 836.5 Wa 0.05 denominatore $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.41	0	-470	126893	0	0	No, $e > t/2$
SLV 6	14	0.41	0	-8329	126893	0	0	No, $e > t/2$
SLV 8	14	0.41	0	-470	126893	0	0	No, $e > t/2$
SLV 4	14	0.41	0	-4455	126893	0	0	No, $e > t/2$
SLV 9	14	0.41	0	-7271	126893	0	0	No, $e > t/2$
SLV 3	14	0.41	0	-4455	126893	0	0	No, $e > t/2$
SLV 2	14	0.41	0	-6813	126893	0	0	No, $e > t/2$
SLV 10	14	0.41	0	-7271	126893	0	0	No, $e > t/2$
SLV 5	14	0.41	0	-8329	126893	0	0	No, $e > t/2$
SLV 1	14	0.41	0	-6813	126893	0	0	No, $e > t/2$

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 836.5 Wa = 0.05 Ta = 0.9802

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 13	608	-5958	-29	0	0	0	0	239.674	No, Trazione
SLV 6	1234	-14265	-23	0	0	0	0	239.674	No, Trazione
SLV 9	1441	-11851	-34	0	0	0	0	239.674	No, Trazione
SLV 5	1234	-14265	-23	0	0	0	0	239.674	No, Trazione
SLV 10	1441	-11851	-34	0	0	0	0	239.674	No, Trazione
SLV 14	608	-5958	-29	0	0	0	0	239.674	No, Trazione
SLV 7	-1832	-5475	23	0.013	6.72	0.893	21.329	239.674	No
SLV 8	-1832	-5475	23	0.013	6.72	0.893	21.329	239.674	No
SLV 3	-1000	-11369	19	0.015	6.085	0.911	23.285	239.674	No
SLV 4	-1000	-11369	19	0.015	6.085	0.911	23.285	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.563	SLU 2	Si
V_SLU	6.152	SLU 38	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 11	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 14	No

Maschio 246

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1443.8	-485.9	L3	F1	68.5	30	1326.8	1326.8	1326.8			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 1	1250	-1265	-4654	0.62	40094	8.616	Si
SLU 1	1462	-291	5424	0.14	9789	1.805	Si
SLU 10	1250	-1305	-3743	0.63	41253	11.022	Si
SLU 10	1462	-293	5949	0.14	9861	1.658	Si
SLU 23	1250	-1421	-4089	0.69	44583	10.904	Si
SLU 23	1462	-310	6278	0.15	10418	1.66	Si
SLU 46	1250	-1825	-5573	0.89	55735	10	Si
SLU 46	1462	-402	7276	0.2	13441	1.847	Si
SLU 2	1250	-1260	-4870	0.61	39927	8.198	Si
SLU 2	1462	-287	7185	0.14	9664	1.345	Si
SLU 52	1250	-1630	-5407	0.79	50417	9.325	Si
SLU 52	1462	-372	7888	0.18	12474	1.581	Si
SLU 43	1250	-1590	-6318	0.77	49311	7.805	Si
SLU 43	1462	-370	7362	0.18	12403	1.685	Si
SLU 65	1250	-1746	-5753	0.85	53593	9.316	Si
SLU 65	1462	-389	8216	0.19	13025	1.585	Si
SLU 47	1250	-1870	-5466	0.91	56941	10.418	Si
SLU 47	1462	-407	7762	0.2	13606	1.753	Si
SLU 44	1250	-1584	-6534	0.77	49151	7.522	Si
SLU 44	1462	-366	9123	0.18	12279	1.346	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 6	1250	-4273	19300	2.08	121541	6.297	Si
SLV 6	1462	-550	-28795	0	0	0	No, $e > l/2$
SLV 11	1250	1623	-27517	0	0	0	No, Trazione
SLV 11	1462	-48	38418	0	0	0	No, $e > l/2$
SLV 13	1250	-4030	12473	1.96	115959	9.297	Si
SLV 13	1462	-524	28477	0	0	0	No, $e > l/2$
SLV 4	1250	1380	-20690	0	0	0	No, Trazione
SLV 4	1462	-74	-18854	0	0	0	No, $e > l/2$
SLV 12	1250	1623	-27517	0	0	0	No, Trazione

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	1462	-48	38418	0	0	0	No, e>l/2
SLV 14	1250	-4030	12473	1.96	115959	9.297	Si
SLV 14	1462	-524	28477	0	0	0	No, e>l/2
SLV 5	1250	-4273	19300	2.08	121541	6.297	Si
SLV 5	1462	-550	-28795	0	0	0	No, e>l/2
SLV 8	1250	2625	-32779	0	0	0	No, Trazione
SLV 8	1462	34	19841	0	0	0	No, Trazione
SLD 1	1250	-1054	-4528	0.51	34594	7.64	Si
SLD 1	1462	-277	-11431	0	0	0	No, e>l/2
SLV 7	1250	2625	-32779	0	0	0	No, Trazione
SLV 7	1462	34	19841	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 23	1250	-1421	-102	-4089	0.69	68.55	0.65	1332				13.08	Si
SLU 23	1462	-310	128	6278	0.25	42.01	0.59	741				5.79	Si
SLU 52	1250	-1630	-144	-5407	0.79	68.55	0.66	1360				9.44	Si
SLU 52	1462	-372	156	7888	0.32	39.25	0.6	704				4.51	Si
SLU 46	1250	-1825	-140	-5573	0.89	68.55	0.67	1386				9.91	Si
SLU 46	1462	-402	129	7276	0.28	48.5	0.59	862				6.68	Si
SLU 10	1250	-1305	-99	-3743	0.63	68.55	0.64	1316				13.31	Si
SLU 10	1462	-293	122	5949	0.23	41.87	0.59	737				6.03	Si
SLU 47	1250	-1870	-135	-5466	0.91	68.55	0.68	1392				10.32	Si
SLU 47	1462	-407	146	7762	0.3	45.59	0.6	814				5.58	Si
SLU 65	1250	-1746	-147	-5753	0.85	68.55	0.67	1375				9.35	Si
SLU 65	1462	-389	162	8216	0.33	39.47	0.6	710				4.39	Si
SLU 44	1250	-1584	-172	-6534	0.77	68.55	0.66	1354				7.89	Si
SLU 44	1462	-366	180	9123	0.43	28.09	0.61	517				2.87	Si
SLU 2	1250	-1260	-126	-4870	0.61	68.55	0.64	1310				10.37	Si
SLU 2	1462	-287	147	7185	0.35	27.68	0.6	500				3.41	Si
SLU 73	1250	-1791	-120	-4625	0.87	68.55	0.67	1381				11.55	Si
SLU 73	1462	-395	138	6980	0.26	49.81	0.59	883				6.42	Si
SLU 43	1250	-1590	-168	-6318	0.77	68.55	0.66	1354				8.07	Si
SLU 43	1462	-370	125	7362	0.29	43.14	0.59	768				6.12	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	1250	-4030	-265	12473	1.96	68.55	1.23	2520				9.52	Si
SLV 14	1462	-524	627	28477	0	0	0.83	0				0	No, Vu<V
SLV 5	1250	-4273	744	19300	2.08	68.55	1.25	2568				3.45	Si
SLV 5	1462	-550	-470	-28795	0	0	0.83	0				0	No, Vu<V
SLV 12	1250	1623	-959	-27517	0	0	0.83	0				0	No, Vu<V
SLV 12	1462	-48	629	38418	0	0	0.83	0				0	No, Vu<V
SLV 13	1250	-4030	-265	12473	1.96	68.55	1.23	2520				9.52	Si
SLV 13	1462	-524	627	28477	0	0	0.83	0				0	No, Vu<V
SLD 1	1250	-1054	147	-4528	0.51	68.55	0.94	1924				13.06	Si
SLD 1	1462	-277	-242	-11431	0	0	0.83	0				0	No, Vu<V
SLV 7	1250	2625	-732	-32779	0	0	0.83	0				0	No, Vu<V
SLV 7	1462	34	237	19841	0	0	0.83	0				0	No, Vu<V
SLV 4	1250	1380	49	-20690	0	0	0.83	0				0	No, Vu<V
SLV 4	1462	-74	-469	-18854	0	0	0.83	0				0	No, Vu<V
SLV 11	1250	1623	-959	-27517	0	0	0.83	0				0	No, Vu<V
SLV 11	1462	-48	629	38418	0	0	0.83	0				0	No, Vu<V
SLV 6	1250	-4273	744	19300	2.08	68.55	1.25	2568				3.45	Si
SLV 6	1462	-550	-470	-28795	0	0	0.83	0				0	No, Vu<V
SLV 8	1250	2625	-732	-32779	0	0	0.83	0				0	No, Vu<V
SLV 8	1462	34	237	19841	0	0	0.83	0				0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 836.4 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.41	0	1356	112263	0	0	No, Trazione
SLV 3	14	0.41	0	-1246	112263	0	0	No, e>t/2
SLV 4	14	0.41	0	-1246	112263	0	0	No, e>t/2
SLV 8	14	0.41	0	1356	112263	0	0	No, Trazione
SLV 13	14	0.41	0	-5954	112263	0	0	No, e>t/2
SLV 11	14	0.41	0	784	112263	0	0	No, Trazione
SLV 2	14	0.41	0	-4048	112263	0	0	No, e>t/2
SLV 1	14	0.41	0	-4048	112263	0	0	No, e>t/2
SLV 14	14	0.41	0	-5954	112263	0	0	No, e>t/2
SLV 12	14	0.41	0	784	112263	0	0	No, Trazione

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 836.4 Wa = 0.05 Ta = 0.9799

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 4	190	-13170	-7	0	0	0	0	239.674	No, Trazione
SLV 7	244	-3347	-20	0	0	0	0	239.674	No, Trazione
SLV 12	112	1622	-18	0	0	0	0	239.674	No, Trazione
SLV 2	13	-16622	6	0	0	0	0	239.674	No, Trazione
SLV 3	190	-13170	-7	0	0	0	0	239.674	No, Trazione
SLV 16	-249	3391	1	0	0	0	0	239.674	No, Trazione
SLV 1	13	-16622	6	0	0	0	0	239.674	No, Trazione
SLV 8	244	-3347	-20	0	0	0	0	239.674	No, Trazione
SLV 15	-249	3391	1	0	0	0	0	239.674	No, Trazione
SLV 11	112	1622	-18	0	0	0	0	239.674	No, Trazione



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.345	SLU 2	Si
V_SLU	2.865	SLU 44	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 16	No

Maschio 247

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1375.3	-349.9	Z medio 375 cm	F1	135.9	28	1156.2	1124.8	1187.6			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 52	375	-16536	-988	4.34	524447	530.823	Si
SLU 52	1500	-454	6660	0.12	30415	4.567	Si
SLU 1	375	-11802	-600	3.1	496792	827.365	Si
SLU 1	1500	-329	5410	0.09	22109	4.087	Si
SLU 18	375	-13984	-1918	3.67	521744	272.013	Si
SLU 18	1500	-396	5480	0.1	26557	4.846	Si
SLU 43	375	-14998	-1187	3.94	526236	443.336	Si
SLU 43	1500	-406	7329	0.11	27210	3.713	Si
SLU 61	375	-17186	-1832	4.52	520571	284.182	Si
SLU 61	1500	-474	6969	0.12	31698	4.549	Si
SLU 64	375	-16004	-2	4.2	526238	1000	Si
SLU 64	1500	-469	6464	0.12	31402	4.858	Si
SLU 2	375	-11813	521	3.1	496959	954.043	Si
SLU 2	1500	-330	4691	0.09	22215	4.736	Si
SLU 19	375	-13990	-1245	3.68	521785	419.011	Si
SLU 19	1500	-397	5049	0.1	26620	5.272	Si
SLU 60	375	-17180	-2505	4.51	520616	207.862	Si
SLU 60	1500	-473	7400	0.12	31635	4.275	Si
SLU 44	375	-15009	-66	3.94	526259	1000	Si
SLU 44	1500	-407	6610	0.11	27316	4.132	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 8	375	-7914	63526	2.08	446352	7.026	Si
SLV 8	1500	696	-14900	0	0	0	No, Trazione
SLD 12	375	-8977	33898	2.36	492362	14.525	Si
SLD 12	1500	-61	-7704	0	0	0	No, e>l/2
SLD 11	375	-8977	33898	2.36	492362	14.525	Si
SLD 11	1500	-61	-7704	0	0	0	No, e>l/2
SLV 7	375	-7914	63526	2.08	446352	7.026	Si
SLV 7	1500	696	-14900	0	0	0	No, Trazione
SLD 1	375	-16028	-22481	4.21	713906	31.755	Si
SLD 1	1500	-223	15795	0	0	0	No, e>l/2
SLD 7	375	-10584	26230	2.78	555636	21.183	Si
SLD 7	1500	89	-3251	0	0	0	No, Trazione
SLV 4	375	-16864	-8518	4.43	730547	85.766	Si
SLV 4	1500	491	15014	0	0	0	No, Trazione
SLV 3	375	-16864	-8518	4.43	730547	85.766	Si
SLV 3	1500	491	15014	0	0	0	No, Trazione
SLV 1	375	-20764	-52330	5.46	781133	14.927	Si
SLV 1	1500	-37	30198	0	0	0	No, e>l/2
SLV 11	375	-4141	81465	1.09	256411	3.148	Si
SLV 11	1500	343	-25358	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	375	-15015	-633	-1633	3.95	135.93	1.08	4116				6.5	Si
SLU 37	1500	-537	-879	-2748	0.14	135.93	0.57	2186				2.49	Si
SLU 78	375	-18244	-668	-951	4.79	135.93	1.08	4123				6.18	Si
SLU 78	1500	-635	-878	249	0.17	135.93	0.58	2199				2.5	Si
SLU 79	375	-18211	-690	-2219	4.78	135.93	1.08	4123				5.98	Si
SLU 79	1500	-614	-888	-828	0.16	135.93	0.58	2196				2.47	Si
SLU 80	375	-18217	-658	-1547	4.79	135.93	1.08	4123				6.27	Si
SLU 80	1500	-615	-895	-1260	0.16	135.93	0.58	2197				2.46	Si
SLU 77	375	-18237	-700	-1624	4.79	135.93	1.08	4123				5.89	Si
SLU 77	1500	-634	-872	680	0.17	135.93	0.58	2199				2.52	Si
SLU 30	375	-13494	-339	-38	3.55	135.93	1.03	3914				11.55	Si
SLU 30	1500	-491	-758	-3228	0.13	135.93	0.57	2180				2.88	Si
SLU 35	375	-15042	-643	-1037	3.95	135.93	1.08	4120				6.41	Si
SLU 35	1500	-558	-863	-1239	0.15	135.93	0.58	2189				2.54	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 36	375	-15048	-611	-365		3.95	135.93	1.08	4121			6.74	Si
SLU 36	1500	-558	-869	-1670		0.15	135.93	0.58	2189			2.52	Si
SLU 72	375	-16690	-396	-624		4.39	135.93	1.08	4123			10.42	Si
SLU 72	1500	-568	-767	-1309		0.15	135.93	0.58	2190			2.86	Si
SLU 38	375	-15021	-601	-960		3.95	135.93	1.08	4117			6.85	Si
SLU 38	1500	-538	-886	-3179		0.14	135.93	0.57	2186			2.47	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	375	-4141	1444	81465		1.09	135.93	1.05	4000			2.77	Si
SLV 12	1500	343	1755	-25358		0	0	0.83	0			0	No, Vu<V
SLV 11	375	-4141	1444	81465		1.09	135.93	1.05	4000			2.77	Si
SLV 11	1500	343	1755	-25358		0	0	0.83	0			0	No, Vu<V
SLD 1	375	-16028	63	-22481		4.21	135.93	1.63	6185			98.67	Si
SLD 1	1500	-223	-264	15795		0	0	0.83	0			0	No, Vu<V
SLD 12	375	-8977	363	33898		2.36	135.93	1.31	4967			13.68	Si
SLD 12	1500	-61	590	-7704		0	0	0.83	0			0	No, Vu<V
SLD 7	375	-10584	833	26230		2.78	135.93	1.39	5289			6.35	Si
SLD 7	1500	89	770	-3251		0	0	0.83	0			0	No, Vu<V
SLV 2	375	-20764	696	-52330		5.46	135.93	1.63	6185			8.88	Si
SLV 2	1500	-37	-245	30198		0	0	0.83	0			0	No, Vu<V
SLD 11	375	-8977	363	33898		2.36	135.93	1.31	4967			13.68	Si
SLD 11	1500	-61	590	-7704		0	0	0.83	0			0	No, Vu<V
SLV 1	375	-20764	696	-52330		5.46	135.93	1.63	6185			8.88	Si
SLV 1	1500	-37	-245	30198		0	0	0.83	0			0	No, Vu<V
SLV 3	375	-16864	2143	-8518		4.43	135.93	1.63	6185			2.89	Si
SLV 3	1500	491	1102	15014		0	0	0.83	0			0	No, Vu<V
SLV 4	375	-16864	2143	-8518		4.43	135.93	1.63	6185			2.89	Si
SLV 4	1500	491	1102	15014		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 937.4 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.43	0	-7173	173470	0	0	No, e>t/2
SLV 8	14	0.43	0	-4907	173470	0	0	No, e>t/2
SLV 9	14	0.43	0	-7550	173470	0	0	No, e>t/2
SLV 7	14	0.43	0	-4907	173470	0	0	No, e>t/2
SLV 3	14	0.43	0	-5260	173470	0	0	No, e>t/2
SLV 2	14	0.43	0	-5939	173470	0	0	No, e>t/2
SLV 1	14	0.43	0	-5939	173470	0	0	No, e>t/2
SLV 5	14	0.43	0	-7173	173470	0	0	No, e>t/2
SLV 10	14	0.43	0	-7550	173470	0	0	No, e>t/2
SLV 4	14	0.43	0	-5260	173470	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 937.4 Wa = 0.05 Ta = 0.7973

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 8	696	-7914	-55	0	0	0	0	239.674	No, Trazione
SLV 12	343	-4141	-83	0	0	0	0	239.674	No, Trazione
SLV 4	491	-16864	32	0	0	0	0	239.674	No, Trazione
SLV 11	343	-4141	-83	0	0	0	0	239.674	No, Trazione
SLV 7	696	-7914	-55	0	0	0	0	239.674	No, Trazione
SLV 3	491	-16864	32	0	0	0	0	239.674	No, Trazione
SLV 5	-1064	-20911	100	0.002	8.454	0.923	2.658	239.674	No
SLV 6	-1064	-20911	100	0.002	8.454	0.923	2.658	239.674	No
SLV 1	-37	-20764	79	0.004	8.075	0.995	6.483	239.674	No
SLV 2	-37	-20764	79	0.004	8.075	0.995	6.483	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.713	SLU 43	Si
V_SLU	2.455	SLU 80	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 12	No

Maschio 248

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-349.9	-1375.3	-331.4	L4	L7	18.6	28	1020	1020	1020			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 56	546	-1933	24488	0	0	0	No, e>/2
SLU 56	1566	117	906	0	0	0	No, Trazione
SLU 1	546	-1324	16916	0	0	0	No, e>/2
SLU 1	1566	19	391	0	0	0	No, Trazione
SLU 61	546	-1965	25434	0	0	0	No, e>/2
SLU 61	1566	18	503	0	0	0	No, Trazione
SLU 60	546	-1957	25160	0	0	0	No, e>/2
SLU 60	1566	17	503	0	0	0	No, Trazione
SLU 54	546	-1917	24622	0	0	0	No, e>/2
SLU 54	1566	60	687	0	0	0	No, Trazione
SLU 59	546	-1931	24566	0	0	0	No, e>/2
SLU 59	1566	132	926	0	0	0	No, Trazione
SLU 57	546	-1942	24763	0	0	0	No, e>/2
SLU 57	1566	117	905	0	0	0	No, Trazione
SLU 58	546	-1922	24292	0	0	0	No, e>/2
SLU 58	1566	131	927	0	0	0	No, Trazione
SLU 55	546	-1912	24609	0	0	0	No, e>/2
SLU 55	1566	76	707	0	0	0	No, Trazione
SLU 53	546	-1909	24347	0	0	0	No, e>/2
SLU 53	1566	60	688	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 54	546	-1917	140	24622	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 54	1566	60	0	687	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 59	546	-1931	127	24566	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 59	1566	132	-1	926	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 60	546	-1957	139	25160	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 60	1566	17	0	503	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 61	546	-1965	151	25434	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 61	1566	18	0	503	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 58	546	-1922	116	24292	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 58	1566	131	-1	927	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 56	546	-1933	120	24488	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 56	1566	117	-1	906	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 53	546	-1909	128	24347	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 53	1566	60	0	688	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 1	546	-1324	97	16916	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 1	1566	19	0	391	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 55	546	-1912	144	24609	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 55	1566	76	0	707	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 57	546	-1942	132	24763	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 57	1566	117	-1	905	0	0	0	0.56	0	0	0	0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1056 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.46	0	-1022	19460	0	0	No, e>t/2
SLV 5	14	0.46	0	897	19460	0	0	No, Trazione
SLV 6	14	0.46	0	897	19460	0	0	No, Trazione
SLV 4	14	0.46	0	-1022	19460	0	0	No, e>t/2
SLV 10	14	0.46	0	666	19460	0	0	No, Trazione
SLV 2	14	0.46	0	-12	19460	0	0	No, e>t/2
SLV 1	14	0.46	0	-12	19460	0	0	No, e>t/2
SLV 13	14	0.46	0	-782	19460	0	0	No, e>t/2
SLV 9	14	0.46	0	666	19460	0	0	No, Trazione
SLV 14	14	0.46	0	-782	19460	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1056 Wa = 0.05 Ta = 0.6205

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 4	27	-1289	3	0	0	0	0	239.674	No, Trazione
SLV 2	-14	-1430	23	0	0.974	0.986	0	239.674	No
SLV 9	-38	-1667	36	0	0.978	0.967	0	239.674	No
SLV 10	-38	-1667	36	0	0.978	0.967	0	239.674	No
SLV 3	27	-1289	3	0	0	0	0	239.674	No, Trazione
SLV 8	87	-1164	-27	0	0	0	0	239.674	No, Trazione
SLV 5	-49	-1633	41	0	0.981	0.96	0	239.674	No
SLV 6	-49	-1633	41	0	0.981	0.96	0	239.674	No
SLV 7	87	-1164	-27	0	0	0	0	239.674	No, Trazione
SLV 1	-14	-1430	23	0	0.974	0.986	0	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0	SLV 84	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 16	No

Maschio 249

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1375.3	-331.4	-1375.3	-35.4	Z medio 633 cm	Z medio 985 cm	296	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	720	-28462	477195	3.43	2436519	5.106	Si
SLU 84	898	-19637	-29081	2.37	2060939	70.869	Si
SLU 39	720	-23282	426197	2.81	2257469	5.297	Si
SLU 39	898	-16163	-26246	1.95	1819463	69.323	Si
SLU 77	720	-28035	463776	3.38	2426192	5.231	Si
SLU 77	898	-18918	-16007	2.28	2015308	125.901	Si
SLU 41	720	-23583	457512	2.85	2271061	4.964	Si
SLU 41	898	-16078	-198	1.94	1812833	1000	Si
SLU 79	720	-27795	462292	3.35	2420054	5.235	Si
SLU 79	898	-18745	-4642	2.26	2003951	431.727	Si
SLU 81	720	-28103	458537	3.39	2427912	5.295	Si
SLU 81	898	-19616	-42629	2.37	2059631	48.315	Si
SLU 42	720	-23641	444856	2.85	2273657	5.111	Si
SLU 42	898	-16185	-12698	1.95	1821090	143.413	Si
SLU 83	720	-28404	489852	3.43	2435156	4.971	Si
SLU 83	898	-19530	-16581	2.36	2054300	123.896	Si
SLU 37	720	-22974	429953	2.77	2243088	5.217	Si
SLU 37	898	-15292	11741	1.85	1750595	149.1	Si
SLU 35	720	-23213	431437	2.8	2254291	5.225	Si
SLU 35	898	-15466	376	1.87	1764578	1000	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 12	720	-20698	-325631	2.5	2437212	7.485	Si
SLV 12	898	-19779	-818225	2.39	2355522	2.879	Si
SLV 6	720	-18230	782594	2.2	2212360	2.827	Si
SLV 6	898	-7268	702928	0.88	998401	1.42	Si
SLV 8	720	-20773	-205676	2.51	2443767	11.882	Si
SLV 8	898	-18908	-696981	2.28	2275891	3.265	Si
SLV 10	720	-18155	662639	2.19	2205248	3.328	Si
SLV 10	898	-8138	581685	0.98	1107655	1.904	Si
SLV 11	720	-20698	-325631	2.5	2437212	7.485	Si
SLV 11	898	-19779	-818225	2.39	2355522	2.879	Si
SLV 2	720	-19208	576648	2.32	2303553	3.995	Si
SLV 2	898	-10326	354410	1.25	1372407	3.872	Si
SLV 7	720	-20773	-205676	2.51	2443767	11.882	Si
SLV 7	898	-18908	-696981	2.28	2275891	3.265	Si
SLV 1	720	-19208	576648	2.32	2303553	3.995	Si
SLV 1	898	-10326	354410	1.25	1372407	3.872	Si
SLV 9	720	-18155	662639	2.19	2205248	3.328	Si
SLV 9	898	-8138	581685	0.98	1107655	1.904	Si
SLV 5	720	-18230	782594	2.2	2212360	2.827	Si
SLV 5	898	-7268	702928	0.88	998401	1.42	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 65	720	-25170	813	241194		3.04	296	0.96	7960			9.79	Si
SLU 65	898	-17461	867	-110493		2.11	296	0.84	6933			8	Si
SLU 10	720	-20519	1053	289225		2.48	296	0.89	7340			6.97	Si
SLU 10	898	-14558	607	-52478		1.76	296	0.79	6545			10.78	Si
SLU 82	720	-28162	1160	445880		3.4	296	1.01	8359			7.21	Si
SLU 82	898	-19723	656	-55129		2.38	296	0.87	7234			11.03	Si
SLU 73	720	-27292	1151	378568		3.29	296	0.99	8243			7.16	Si
SLU 73	898	-19094	793	-77572		2.3	296	0.86	7150			9.02	Si
SLU 52	720	-25340	1175	321565		3.06	296	0.96	7983			6.79	Si
SLU 52	898	-18010	702	-68860		2.17	296	0.85	7006			9.98	Si
SLU 61	720	-26211	1184	388877		3.16	296	0.98	8099			6.84	Si
SLU 61	898	-18639	565	-46418		2.25	296	0.86	7090			12.54	Si
SLU 31	720	-22470	1029	346228		2.71	296	0.92	7600			7.39	Si
SLU 31	898	-15642	698	-61189		1.89	296	0.81	6690			9.59	Si
SLU 40	720	-23341	1038	413540		2.82	296	0.93	7717			7.43	Si
SLU 40	898	-16270	561	-38747		1.96	296	0.82	6774			12.07	Si
SLU 60	720	-26152	981	401534		3.16	296	0.98	8091			8.25	Si
SLU 60	898	-18532	408	-33918		2.24	296	0.85	7075			17.36	Si
SLU 19	720	-21390	1062	356537		2.58	296	0.9	7456			7.02	Si
SLU 19	898	-15186	471	-30035		1.83	296	0.8	6629			14.09	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	720	-20773	11321	-205676		2.51	296	1.33	11061			0.98	No, Vu<V
SLV 7	898	-18908	9444	-696981		2.28	296	1.29	10688			1.13	Si
SLV 5	720	-18230	-12871	782594		2.2	296	1.27	10553			0.82	No, Vu<V
SLV 5	898	-7268	-11097	702928		1.69	153.83	1.17	5043			0.45	No, Vu<V
SLV 2	720	-19208	-7301	576648		2.32	296	1.3	10748			1.47	Si
SLV 2	898	-10326	-6824	354410		1.25	296	1.08	8972			1.31	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	720	-20698	13805	-325631		2.5	296	1.33	11046			0.8	No, Vu<V
SLV 12	898	-19779	11944	-818225		2.39	296	1.31	10862			0.91	No, Vu<V
SLV 6	720	-18230	-12871	782594		2.2	296	1.27	10553			0.82	No, Vu<V
SLV 6	898	-7268	-11097	702928		1.69	153.83	1.17	5043			0.45	No, Vu<V
SLV 10	720	-18155	-10388	662639		2.19	296	1.27	10538			1.01	Si
SLV 10	898	-8138	-8596	581685		1.27	229.57	1.09	6984			0.81	No, Vu<V
SLV 8	720	-20773	11321	-205676		2.51	296	1.33	11061			0.98	No, Vu<V
SLV 8	898	-18908	9444	-696981		2.28	296	1.29	10688			1.13	Si
SLV 1	720	-19208	-7301	576648		2.32	296	1.3	10748			1.47	Si
SLV 1	898	-10326	-6824	354410		1.25	296	1.08	8972			1.31	Si
SLV 11	720	-20698	13805	-325631		2.5	296	1.33	11046			0.8	No, Vu<V
SLV 11	898	-19779	11944	-818225		2.39	296	1.31	10862			0.91	No, Vu<V
SLV 9	720	-18155	-10388	662639		2.19	296	1.27	10538			1.01	Si
SLV 9	898	-8138	-8596	581685		1.27	229.57	1.09	6984			0.81	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 809 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.41	1.44	-11912	32915	147149	4.47	Si
SLV 5	14	0.41	1.44	-11912	32915	147149	4.47	Si
SLV 9	14	0.41	1.51	-12508	32915	153480	4.66	Si
SLV 10	14	0.41	1.51	-12508	32915	153480	4.66	Si
SLV 2	14	0.41	1.68	-13915	32915	168042	5.11	Si
SLV 1	14	0.41	1.68	-13915	32915	168042	5.11	Si
SLV 14	14	0.41	1.92	-15902	32915	187664	5.7	Si
SLV 13	14	0.41	1.92	-15902	32915	187664	5.7	Si
SLV 3	14	0.41	1.96	-16228	32915	190785	5.8	Si
SLV 4	14	0.41	1.96	-16228	32915	190785	5.8	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 809 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	-8138	-18155	154	0.035	12.496	0.916	55.882	1733.409	No
SLV 10	-8138	-18155	154	0.035	12.496	0.916	55.882	1733.409	No
SLV 5	-7268	-18230	127	0.038	11.628	0.911	59.829	1733.409	No
SLV 6	-7268	-18230	127	0.038	11.628	0.911	59.829	1733.409	No
SLV 8	-18908	-20773	-89	0.04	23.376	0.949	62.004	1733.409	No
SLV 7	-18908	-20773	-89	0.04	23.376	0.949	62.004	1733.409	No
SLV 11	-19779	-20698	-62	0.042	24.26	0.951	63.682	1733.409	No
SLV 12	-19779	-20698	-62	0.042	24.26	0.951	63.682	1733.409	No
SLV 13	-13228	-18958	109	0.039	17.62	0.935	61.314	993.13	No
SLV 14	-13228	-18958	109	0.039	17.62	0.935	61.314	993.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.964	SLU 41	Si
V_SLU	6.794	SLU 52	Si
PF_SLV	1.42	SLV 5	Si
V_SLV	4.654	SLV 5	No
PFFP_SLV	4.471	SLV 5	Si
R_SLV	0.032	SLV 9	No

Maschio 250

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Maschio considerato membratura sismica secondaria

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-331.4	-1375.3	-35.4	Z medio 985 cm	L7	296	28	581	494	668			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 53	1072	-10936	113565	1.32	1356339	11.943	Si
SLU 53	1566	116	5162	0	0	0	No, Trazione
SLU 55	1072	-10881	105607	1.31	1350824	12.791	Si
SLU 55	1566	126	7864	0	0	0	No, Trazione
SLU 59	1072	-11107	133578	1.34	1373374	10.281	Si
SLU 59	1566	185	15784	0	0	0	No, Trazione
SLU 58	1072	-11152	139179	1.35	1377827	9.9	Si
SLU 58	1566	186	15315	0	0	0	No, Trazione
SLU 61	1072	-10937	84062	1.32	1356405	16.136	Si
SLU 61	1566	71	-891	0	0	0	No, Trazione
SLU 56	1072	-11132	137802	1.34	1375868	9.984	Si
SLU 56	1566	174	13395	0	0	0	No, Trazione
SLU 1	1072	-7993	76836	0.96	1042953	13.574	Si
SLU 1	1566	54	260	0	0	0	No, Trazione



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 60	1072	-10981	89663	1.32	1360892	15.178	Si
SLU 60	1566	73	-1360	0	0	0	No, Trazione
SLU 57	1072	-11087	132201	1.34	1371411	10.374	Si
SLU 57	1566	172	13864	0	0	0	No, Trazione
SLU 54	1072	-10891	107964	1.31	1351843	12.521	Si
SLU 54	1566	114	5631	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 1	1072	-7993	-80	76836	0.96	296	0.68	5670				70.5	Si
SLU 1	1566	54	0	260	0	0	0.56	0				0	No, Vu<V
SLU 56	1072	-11132	-151	137802	1.34	296	0.73	6089				40.39	Si
SLU 56	1566	174	4	13395	0	0	0.56	0				0	No, Vu<V
SLU 55	1072	-10881	-67	105607	1.31	296	0.73	6055				89.85	Si
SLU 55	1566	126	1	7864	0	0	0.56	0				0	No, Vu<V
SLU 58	1072	-11152	-147	139179	1.35	296	0.73	6091				41.31	Si
SLU 58	1566	186	4	15315	0	0	0.56	0				0	No, Vu<V
SLU 54	1072	-10891	-76	107964	1.31	296	0.73	6057				79.19	Si
SLU 54	1566	114	1	5631	0	0	0.56	0				0	No, Vu<V
SLU 61	1072	-10937	23	84062	1.32	296	0.73	6063				263.77	Si
SLU 61	1566	71	-2	-891	0	0	0.56	0				0	No, Vu<V
SLU 60	1072	-10981	14	89663	1.32	296	0.73	6069				424.27	Si
SLU 60	1566	73	-2	-1360	0	0	0.56	0				0	No, Vu<V
SLU 53	1072	-10936	-85	113565	1.32	296	0.73	6063				71.19	Si
SLU 53	1566	116	1	5162	0	0	0.56	0				0	No, Vu<V
SLU 59	1072	-11107	-139	133578	1.34	296	0.73	6085				43.85	Si
SLU 59	1566	185	4	15784	0	0	0.56	0				0	No, Vu<V
SLU 57	1072	-11087	-142	132201	1.34	296	0.73	6083				42.81	Si
SLU 57	1566	172	4	13864	0	0	0.56	0				0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1319 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.51	0	-4512	112346	0	0	No, e>t/2
SLV 1	14	0.51	0	-4173	112346	0	0	No, e>t/2
SLV 9	14	0.51	0	-4578	112346	0	0	No, e>t/2
SLV 6	14	0.51	0	-4512	112346	0	0	No, e>t/2
SLV 8	14	0.51	0	-3766	112346	0	0	No, e>t/2
SLV 10	14	0.51	0	-4578	112346	0	0	No, e>t/2
SLV 4	14	0.51	0	-3949	112346	0	0	No, e>t/2
SLV 3	14	0.51	0	-3949	112346	0	0	No, e>t/2
SLV 7	14	0.51	0	-3766	112346	0	0	No, e>t/2
SLV 2	14	0.51	0	-4173	112346	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1319 Wa = 0.05 Ta = 0.2013

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	131	-11488	35	0	0	0	0	814.118	No, Trazione
SLV 10	131	-11488	35	0	0	0	0	814.118	No, Trazione
SLV 2	128	-10363	-8	0	0	0	0	2070.702	No, Trazione
SLV 4	79	-8243	-24	0	0	0	0	2070.702	No, Trazione
SLV 3	79	-8243	-24	0	0	0	0	2070.702	No, Trazione
SLV 14	44	-8289	30	0	0	0	0	2070.702	No, Trazione
SLV 5	156	-12110	23	0	0	0	0	814.118	No, Trazione
SLV 13	44	-8289	30	0	0	0	0	2070.702	No, Trazione
SLV 1	128	-10363	-8	0	0	0	0	2070.702	No, Trazione
SLV 6	156	-12110	23	0	0	0	0	814.118	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 14	No

Maschio 251

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1293.3	-485.9	Z medio 371 cm	Z medio 716 cm	82	30	345	345	345			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 59	375	-9779	-50183	3.98	205294	4.091	Si
SLU 59	568	-9721	51961	3.95	205230	3.95	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 77	375	-10235	-52806	4.16	205318	3.888	Si
SLU 77	568	-10168	53276	4.13	205368	3.855	Si
SLU 84	375	-10292	-53438	4.18	205261	3.841	Si
SLU 84	568	-10183	52670	4.14	205359	3.899	Si
SLU 76	375	-10007	-51348	4.07	205413	4	Si
SLU 76	568	-9889	51710	4.02	205378	3.972	Si
SLU 81	375	-9992	-52512	4.06	205411	3.912	Si
SLU 81	568	-9821	49536	3.99	205332	4.145	Si
SLU 78	375	-10256	-52589	4.17	205299	3.904	Si
SLU 78	568	-10188	53701	4.14	205355	3.824	Si
SLU 79	375	-10252	-52851	4.17	205303	3.885	Si
SLU 79	568	-10196	53712	4.14	205349	3.823	Si
SLU 82	375	-10013	-52295	4.07	205413	3.928	Si
SLU 82	568	-9841	49960	4	205348	4.11	Si
SLU 80	375	-10273	-52635	4.18	205282	3.9	Si
SLU 80	568	-10217	54136	4.15	205334	3.793	Si
SLU 83	375	-10272	-53655	4.18	205283	3.826	Si
SLU 83	568	-10162	52245	4.13	205372	3.931	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	375	949	-10434	0	0	0	No, Trazione
SLV 12	568	2746	-94146	0	0	0	No, Trazione
SLV 13	375	-580	14425	0.24	23323	1.617	Si
SLV 13	568	4093	-199506	0	0	0	No, Trazione
SLV 14	375	-580	14425	0.24	23323	1.617	Si
SLV 14	568	4093	-199506	0	0	0	No, Trazione
SLD 16	375	-2856	-12151	1.16	105972	8.722	Si
SLD 16	568	-707	-78786	0	0	0	No, e>1/2
SLV 15	375	2740	20234	0	0	0	No, Trazione
SLV 15	568	7573	-231973	0	0	0	No, Trazione
SLV 1	375	-16760	-92560	6.81	304035	3.285	Si
SLV 1	568	-21300	302511	8.66	254494	0.841	No, M>Mu
SLV 16	375	2740	20234	0	0	0	No, Trazione
SLV 16	568	7573	-231973	0	0	0	No, Trazione
SLV 11	375	949	-10434	0	0	0	No, Trazione
SLV 11	568	2746	-94146	0	0	0	No, Trazione
SLD 15	375	-2856	-12151	1.16	105972	8.722	Si
SLD 15	568	-707	-78786	0	0	0	No, e>1/2
SLV 2	375	-16760	-92560	6.81	304035	3.285	Si
SLV 2	568	-21300	302511	8.66	254494	0.841	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	375	-10235	-882	-52806	4.16	82	1.08	2665				3.02	Si
SLU 77	568	-10168	-841	53276	4.13	82	1.08	2665				3.17	Si
SLU 74	375	-9956	-836	-51664	4.05	82	1.08	2665				3.19	Si
SLU 74	568	-9826	-796	50567	3.99	82	1.08	2665				3.35	Si
SLU 58	375	-9758	-840	-50400	3.97	82	1.08	2665				3.17	Si
SLU 58	568	-9700	-821	51536	3.94	82	1.08	2660				3.24	Si
SLU 59	375	-9779	-838	-50183	3.98	82	1.08	2665				3.18	Si
SLU 59	568	-9721	-823	51961	3.95	82	1.08	2663				3.24	Si
SLU 78	375	-10256	-880	-52589	4.17	82	1.08	2665				3.03	Si
SLU 78	568	-10188	-843	53701	4.14	82	1.08	2665				3.16	Si
SLU 83	375	-10272	-878	-53655	4.18	82	1.08	2665				3.04	Si
SLU 83	568	-10162	-820	52245	4.13	82	1.08	2665				3.25	Si
SLU 79	375	-10252	-888	-52851	4.17	82	1.08	2665				3	Si
SLU 79	568	-10196	-849	53712	4.14	82	1.08	2665				3.14	Si
SLU 84	375	-10292	-876	-53438	4.18	82	1.08	2665				3.04	Si
SLU 84	568	-10183	-822	52670	4.14	82	1.08	2665				3.24	Si
SLU 80	375	-10273	-886	-52635	4.18	82	1.08	2665				3.01	Si
SLU 80	568	-10217	-851	54136	4.15	82	1.08	2665				3.13	Si
SLU 76	375	-10007	-840	-51348	4.07	82	1.08	2665				3.17	Si
SLU 76	568	-9889	-807	51710	4.02	82	1.08	2665				3.3	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	375	949	1274	-10434	0	0	0.83	0	0			0	No, Vu<V
SLV 12	568	2746	1888	-94146	0	0	0.83	0	0			0	No, Vu<V
SLV 13	375	-580	2462	14425	0.4	48.4	0.91	1326				0.54	No, Vu<V
SLV 13	568	4093	3316	-199506	0	0	0.83	0				0	No, Vu<V
SLV 16	375	2740	2974	20234	0	0	0.83	0				0	No, Vu<V
SLV 16	568	7573	4024	-231973	0	0	0.83	0				0	No, Vu<V
SLV 11	375	949	1274	-10434	0	0	0.83	0				0	No, Vu<V
SLV 11	568	2746	1888	-94146	0	0	0.83	0				0	No, Vu<V
SLV 2	375	-16760	-4100	-92560	6.81	82	1.63	3998				0.98	No, Vu<V
SLV 2	568	-21300	-5144	302511	8.83	80.4	1.63	3919				0.76	No, Vu<V
SLD 16	375	-2856	946	-12151	1.16	82	1.07	2621				2.77	Si
SLD 16	568	-707	1396	-78786	0	0	0.83	0				0	No, Vu<V
SLV 14	375	-580	2462	14425	0.4	48.4	0.91	1326				0.54	No, Vu<V
SLV 14	568	4093	3316	-199506	0	0	0.83	0				0	No, Vu<V
SLV 15	375	2740	2974	20234	0	0	0.83	0				0	No, Vu<V
SLV 15	568	7573	4024	-231973	0	0	0.83	0				0	No, Vu<V
SLV 1	375	-16760	-4100	-92560	6.81	82	1.63	3998				0.98	No, Vu<V
SLV 1	568	-21300	-5144	302511	8.83	80.4	1.63	3919				0.76	No, Vu<V
SLD 15	375	-2856	946	-12151	1.16	82	1.07	2621				2.77	Si
SLD 15	568	-707	1396	-78786	0	0	0.83	0				0	No, Vu<V



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 544 Wa 0.05 denominatore $8 \gamma M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.35	0	3816	7954	0	0	No, Trazione
SLV 13	14	0.35	0	3816	7954	0	0	No, Trazione
SLV 16	14	0.35	0	7354	7954	0	0	No, Trazione
SLV 15	14	0.35	0	7354	7954	0	0	No, Trazione
SLV 12	14	0.35	0	2699	7954	0	0	No, Trazione
SLV 11	14	0.35	0	2699	7954	0	0	No, Trazione
SLV 7	14	0.35	1.96	-4830	7954	60807	7.64	Si
SLV 8	14	0.35	1.96	-4830	7954	60807	7.64	Si
SLV 2	14	0.35	8.65	-21281	7954	93222	11.72	Si
SLV 1	14	0.35	8.65	-21281	7954	93222	11.72	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 544 Wa = 0.05 Ta = 0.0663

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 16	-3800	2740	0	0	0	0	0	794.076	No, Trazione
SLV 15	-3800	2740	0	0	0	0	0	794.076	No, Trazione
SLV 12	-901	949	12	0	0	0	0	1531.186	No, Trazione
SLV 11	-901	949	12	0	0	0	0	1531.186	No, Trazione
SLV 9	-8751	-10116	-14	0.045	10.104	0.964	68.539	1531.186	No
SLV 10	-8751	-10116	-14	0.045	10.104	0.964	68.539	1531.186	No
SLV 6	-8620	-14970	-12	0.046	9.972	0.964	68.992	1531.186	No
SLV 5	-8620	-14970	-12	0.046	9.972	0.964	68.992	1531.186	No
SLV 8	-771	-3905	14	0.056	2.083	0.889	91.578	1531.186	No
SLV 7	-771	-3905	14	0.056	2.083	0.889	91.578	1531.186	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.793	SLU 80	Si
V_SLU	3.001	SLU 79	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 15	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 16	No

Maschio 252

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1193.3	-485.9	-1114.3	-485.9	Z medio 371 cm	Z medio 716 cm	79	30	345.5	345	346			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	μ	ϕ	fv,lim	E	G	FC	
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 78	374	-9966	84025	4.21	190426	2.266	Si
SLU 78	568	-8463	-29015	3.57	187733	6.47	Si
SLU 83	374	-9933	84758	4.19	190467	2.247	Si
SLU 83	568	-8495	-30505	3.58	187889	6.159	Si
SLU 76	374	-9663	81194	4.08	190627	2.348	Si
SLU 76	568	-8241	-29761	3.48	186554	6.268	Si
SLU 82	374	-9600	81514	4.05	190622	2.339	Si
SLU 82	568	-8252	-31612	3.48	186618	5.903	Si
SLU 84	374	-9942	84394	4.19	190457	2.257	Si
SLU 84	568	-8503	-30605	3.59	187923	6.14	Si
SLU 79	374	-9990	84681	4.22	190394	2.248	Si
SLU 79	568	-8479	-28586	3.58	187812	6.57	Si
SLU 80	374	-9999	84316	4.22	190382	2.258	Si
SLU 80	568	-8487	-28686	3.58	187847	6.548	Si
SLU 77	374	-9957	84390	4.2	190438	2.257	Si
SLU 77	568	-8456	-28915	3.57	187698	6.491	Si
SLU 74	374	-9616	81510	4.06	190625	2.339	Si
SLU 74	568	-8205	-29923	3.46	186344	6.227	Si
SLU 81	374	-9591	81879	4.05	190620	2.328	Si
SLU 81	568	-8245	-31512	3.48	186576	5.921	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 2	374	-3395	107327	1.43	118386	1.103	Si
SLV 2	568	4182	231744	0	0	0	No, Trazione
SLD 2	374	-5305	78091	2.24	171145	2.192	Si
SLD 2	568	-1509	86069	0	0	0	No, e>/2
SLV 7	374	398	45621	0	0	0	No, Trazione
SLV 7	568	2949	114693	0	0	0	No, Trazione
SLV 3	374	-22	92966	0	0	0	No, e>/2
SLV 3	568	7330	265202	0	0	0	No, Trazione

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 1	374	-5305	78091	2.24	171145	2.192	Si
SLD 1	568	-1509	86069	0	0	0	No, e>1/2
SLD 3	374	-3874	72078	1.63	132559	1.839	Si
SLD 3	568	-173	100346	0	0	0	No, e>1/2
SLD 4	374	-3874	72078	1.63	132559	1.839	Si
SLD 4	568	-173	100346	0	0	0	No, e>1/2
SLV 4	374	-22	92966	0	0	0	No, e>1/2
SLV 4	568	7330	265202	0	0	0	No, Trazione
SLV 8	374	398	45621	0	0	0	No, Trazione
SLV 8	568	2949	114693	0	0	0	No, Trazione
SLV 1	374	-3395	107327	1.43	118386	1.103	Si
SLV 1	568	4182	231744	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 64	374	-8645	427	72021		3.65	79	1.04	2469			5.78	Si
SLU 64	568	-7357	601	-28476		3.1	79	0.97	2298			3.82	Si
SLU 61	374	-9105	491	77297		3.84	79	1.07	2531			5.15	Si
SLU 61	568	-7840	641	-30661		3.31	79	1	2362			3.68	Si
SLU 62	374	-9437	527	80542		3.98	79	1.08	2567			4.87	Si
SLU 62	568	-8083	625	-29553		3.41	79	1.01	2394			3.83	Si
SLU 82	374	-9600	530	81514		4.05	79	1.08	2567			4.85	Si
SLU 82	568	-8252	653	-31612		3.48	79	1.02	2417			3.7	Si
SLU 52	374	-8827	448	74097		3.72	79	1.05	2494			5.56	Si
SLU 52	568	-7579	621	-29817		3.2	79	0.98	2327			3.75	Si
SLU 60	374	-9096	504	77662		3.84	79	1.07	2529			5.02	Si
SLU 60	568	-7833	647	-30561		3.31	79	1	2361			3.65	Si
SLU 43	374	-8150	389	67804		3.44	79	1.01	2403			6.18	Si
SLU 43	568	-6945	590	-27525		2.93	79	0.95	2243			3.8	Si
SLU 81	374	-9591	542	81879		4.05	79	1.08	2567			4.74	Si
SLU 81	568	-8245	658	-31512		3.48	79	1.02	2416			3.67	Si
SLU 73	374	-9322	487	78314		3.93	79	1.08	2560			5.26	Si
SLU 73	568	-7991	633	-30768		3.37	79	1.01	2382			3.77	Si
SLU 53	374	-9121	489	77293		3.85	79	1.07	2533			5.18	Si
SLU 53	568	-7793	613	-28971		3.29	79	0.99	2356			3.85	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	374	-22	-3462	92966		0	0	0.83	0			0	No, Vu<V
SLV 4	568	7330	-4107	265202		0	0	0.83	0			0	No, Vu<V
SLV 8	374	398	-1569	45621		0	0	0.83	0			0	No, Vu<V
SLV 8	568	2949	-1927	114693		0	0	0.83	0			0	No, Vu<V
SLD 4	374	-3874	-1280	72078		2.06	62.69	1.25	2342			1.83	Si
SLD 4	568	-173	-1482	100346		0	0	0.83	0			0	No, Vu<V
SLV 1	374	-3395	-2955	107327		4.78	23.67	1.63	1154			0.39	No, Vu<V
SLV 1	568	4182	-3432	231744		0	0	0.83	0			0	No, Vu<V
SLD 1	374	-5305	-1063	78091		2.38	74.33	1.31	2919			2.75	Si
SLD 1	568	-1509	-1194	86069		0	0	0.83	0			0	No, Vu<V
SLD 2	374	-5305	-1063	78091		2.38	74.33	1.31	2919			2.75	Si
SLD 2	568	-1509	-1194	86069		0	0	0.83	0			0	No, Vu<V
SLD 3	374	-3874	-1280	72078		2.06	62.69	1.25	2342			1.83	Si
SLD 3	568	-173	-1482	100346		0	0	0.83	0			0	No, Vu<V
SLV 2	374	-3395	-2955	107327		4.78	23.67	1.63	1154			0.39	No, Vu<V
SLV 2	568	4182	-3432	231744		0	0	0.83	0			0	No, Vu<V
SLV 3	374	-22	-3462	92966		0	0	0.83	0			0	No, Vu<V
SLV 3	568	7330	-4107	265202		0	0	0.83	0			0	No, Vu<V
SLV 7	374	398	-1569	45621		0	0	0.83	0			0	No, Vu<V
SLV 7	568	2949	-1927	114693		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 543.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.35	0	2989	7684	0	0	No, Trazione
SLV 8	14	0.35	0	2989	7684	0	0	No, Trazione
SLV 1	14	0.35	0	4406	7684	0	0	No, Trazione
SLV 3	14	0.35	0	7609	7684	0	0	No, Trazione
SLV 4	14	0.35	0	7609	7684	0	0	No, Trazione
SLV 2	14	0.35	0	4406	7684	0	0	No, Trazione
SLV 12	14	0.35	1.76	-4173	7684	53574	6.97	Si
SLV 11	14	0.35	1.76	-4173	7684	53574	6.97	Si
SLV 5	14	0.35	3.24	-7685	7684	84683	11.02	Si
SLV 6	14	0.35	3.24	-7685	7684	84683	11.02	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 543.5 Wa = 0.05 Ta = 0.0665

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 8	-1659	398	-36	0	0	0	0	1533.063	No, Trazione
SLV 7	-1659	398	-36	0	0	0	0	1533.063	No, Trazione
SLV 10	-7295	-13859	36	0.043	8.581	0.96	64.989	1533.063	No
SLV 9	-7295	-13859	36	0.043	8.581	0.96	64.989	1533.063	No
SLV 5	-8019	-10846	35	0.043	9.318	0.963	64.995	1533.063	No
SLV 6	-8019	-10846	35	0.043	9.318	0.963	64.995	1533.063	No
SLV 11	-934	-2615	-35	0.042	2.185	0.89	67.829	1533.063	No
SLV 12	-934	-2615	-35	0.042	2.185	0.89	67.829	1533.063	No
SLV 2	-6638	-3395	9	0.046	7.913	0.957	70.61	796.359	No
SLV 1	-6638	-3395	9	0.046	7.913	0.957	70.61	796.359	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.247	SLU 83	Si
V_SLU	3.65	SLU 60	Si
PF_SLV	0	SLV 8	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 8	No
R_SLV	0	SLV 8	No

Maschio 253

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1174.3	-485.9	-1106.7	-485.9	L2	Z medio 372 cm	67.5	30	269.9	267.4	272.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	μ	φ	fv,lim	E	G	FC	
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 83	102	-7349	16109	3.63	137706	8.548	Si
SLU 83	352	-10500	-18841	5.18	129060	6.85	Si
SLU 82	102	-7081	14948	3.49	136570	9.136	Si
SLU 82	352	-10169	-19273	5.02	131880	6.843	Si
SLU 75	102	-7149	12466	3.53	136887	10.981	Si
SLU 75	352	-10111	-18692	4.99	132324	7.079	Si
SLU 79	102	-7443	13608	3.67	138038	10.144	Si
SLU 79	352	-10475	-18215	5.17	129290	7.098	Si
SLU 76	102	-7179	11654	3.54	137020	11.758	Si
SLU 76	352	-10149	-19023	5.01	132035	6.941	Si
SLU 81	102	-7076	16137	3.49	136547	8.462	Si
SLU 81	352	-10161	-18710	5.01	131942	7.052	Si
SLU 77	102	-7417	13627	3.66	137949	10.123	Si
SLU 77	352	-10442	-18260	5.15	129582	7.097	Si
SLU 84	102	-7353	14920	3.63	137724	9.231	Si
SLU 84	352	-10508	-19405	5.19	128986	6.647	Si
SLU 78	102	-7422	12438	3.66	137965	11.092	Si
SLU 78	352	-10450	-18823	5.16	129510	6.88	Si
SLU 80	102	-7448	12419	3.68	138054	11.117	Si
SLU 80	352	-10483	-18779	5.17	129217	6.881	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 8	102	-2074	5147	1.02	64195	12.474	Si
SLV 8	352	154	33439	0	0	0	No, Trazione
SLV 11	102	175	47088	0	0	0	No, Trazione
SLV 11	352	-3398	-9257	1.68	99014	10.696	Si
SLV 4	102	-7553	-56816	3.73	177288	3.12	Si
SLV 4	352	526	65851	0	0	0	No, Trazione
SLV 15	102	-55	82991	0	0	0	No, e>1/2
SLV 15	352	-11312	-76469	5.58	207517	2.714	Si
SLV 3	102	-7553	-56816	3.73	177288	3.12	Si
SLV 3	352	526	65851	0	0	0	No, Trazione
SLV 7	102	-2074	5147	1.02	64195	12.474	Si
SLV 7	352	154	33439	0	0	0	No, Trazione
SLV 16	102	-55	82991	0	0	0	No, e>1/2
SLV 16	352	-11312	-76469	5.58	207517	2.714	Si
SLV 14	102	-2501	71822	1.23	75947	1.057	Si
SLV 14	352	-14545	-91383	7.18	202685	2.218	Si
SLV 13	102	-2501	71822	1.23	75947	1.057	Si
SLV 13	352	-14545	-91383	7.18	202685	2.218	Si
SLV 12	102	175	47088	0	0	0	No, Trazione
SLV 12	352	-3398	-9257	1.68	99014	10.696	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	102	-7076	149	16137	3.49	67.55	1.02	2069				13.85	Si
SLU 81	352	-10161	1027	-18710	5.01	67.55	1.08	2195				2.14	Si
SLU 83	102	-7349	135	16109	3.63	67.55	1.04	2106				15.64	Si
SLU 83	352	-10500	1044	-18841	5.18	67.55	1.08	2195				2.1	Si
SLU 80	102	-7448	70	12419	3.68	67.55	1.05	2119				30.15	Si
SLU 80	352	-10483	1027	-18779	5.17	67.55	1.08	2195				2.14	Si
SLU 84	102	-7353	107	14920	3.63	67.55	1.04	2106				19.66	Si
SLU 84	352	-10508	1056	-19405	5.19	67.55	1.08	2195				2.08	Si
SLU 79	102	-7443	98	13608	3.67	67.55	1.05	2118				21.67	Si
SLU 79	352	-10475	1014	-18215	5.17	67.55	1.08	2195				2.16	Si
SLU 78	102	-7422	73	12438	3.66	67.55	1.04	2115				29.14	Si
SLU 78	352	-10450	1026	-18823	5.16	67.55	1.08	2195				2.14	Si
SLU 77	102	-7417	100	13627	3.66	67.55	1.04	2115				21.13	Si
SLU 77	352	-10442	1014	-18260	5.15	67.55	1.08	2195				2.17	Si

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Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 63	102	-6993	103	13934		3.45	67.55	1.02	2058			19.9	Si
SLU 63	352	-9985	1010	-18542		4.93	67.55	1.08	2195			2.17	Si
SLU 76	102	-7179	67	11654		3.54	67.55	1.03	2083			31.21	Si
SLU 76	352	-10149	1019	-19023		5.01	67.55	1.08	2195			2.16	Si
SLU 82	102	-7081	122	14948		3.49	67.55	1.02	2070			16.98	Si
SLU 82	352	-10169	1039	-19273		5.02	67.55	1.08	2195			2.11	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	102	-10000	548	-67984		4.93	67.55	1.63	3293			6.01	Si
SLV 2	352	-2706	-2436	50937		2.01	44.86	1.24	1663			0.68	No, Vu<V
SLV 15	102	-55	-404	82991		0	0	0.83	0			0	No, Vu<V
SLV 15	352	-11312	3820	-76469		5.58	67.55	1.63	3293			0.86	No, Vu<V
SLV 1	102	-10000	548	-67984		4.93	67.55	1.63	3293			6.01	Si
SLV 1	352	-2706	-2436	50937		2.01	44.86	1.24	1663			0.68	No, Vu<V
SLV 7	102	-2074	-1368	5147		1.02	67.55	1.04	2104			1.54	Si
SLV 7	352	154	-1460	33439		0	0	0.83	0			0	No, Vu<V
SLV 4	102	-7553	-323	-56816		3.73	67.55	1.58	3199			9.9	Si
SLV 4	352	526	-3104	65851		0	0	0.83	0			0	No, Vu<V
SLV 3	102	-7553	-323	-56816		3.73	67.55	1.58	3199			9.9	Si
SLV 3	352	526	-3104	65851		0	0	0.83	0			0	No, Vu<V
SLV 8	102	-2074	-1368	5147		1.02	67.55	1.04	2104			1.54	Si
SLV 8	352	154	-1460	33439		0	0	0.83	0			0	No, Vu<V
SLV 16	102	-55	-404	82991		0	0	0.83	0			0	No, Vu<V
SLV 16	352	-11312	3820	-76469		5.58	67.55	1.63	3293			0.86	No, Vu<V
SLV 11	102	175	-1392	47088		0	0	0.83	0			0	No, Vu<V
SLV 11	352	-3398	617	-9257		1.68	67.55	1.17	2368			3.84	Si
SLV 12	102	175	-1392	47088		0	0	0.83	0			0	No, Vu<V
SLV 12	352	-3398	617	-9257		1.68	67.55	1.17	2368			3.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 235.7 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.29	0.77	-1567	3306	22024	6.66	Si
SLV 12	14	0.29	0.77	-1567	3306	22024	6.66	Si
SLV 8	14	0.29	1.2	-2437	3306	32952	9.97	Si
SLV 7	14	0.29	1.2	-2437	3306	32952	9.97	Si
SLV 15	14	0.29	1.76	-3569	3306	45815	13.86	Si
SLV 16	14	0.29	1.76	-3569	3306	45815	13.86	Si
SLV 14	14	0.29	3.04	-6153	3306	69360	20.98	Si
SLV 13	14	0.29	3.04	-6153	3306	69360	20.98	Si
SLV 4	14	0.29	3.19	-6466	3306	71660	21.68	Si
SLV 3	14	0.29	3.19	-6466	3306	71660	21.68	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 235.7 Wa = 0.05 Ta = 0.0406

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	316	-7553	2	0	0	0	0	468.012	No, Trazione
SLV 4	316	-7553	2	0	0	0	0	468.012	No, Trazione
SLV 8	84	-2074	4	0	0	0	0	780.975	No, Trazione
SLV 7	84	-2074	4	0	0	0	0	780.975	No, Trazione
SLV 11	-2951	175	3	0	0	0	0	780.975	No, Trazione
SLV 12	-2951	175	3	0	0	0	0	780.975	No, Trazione
SLV 9	-12405	-7980	-5	0.057	13.403	0.982	84.803	780.975	No
SLV 10	-12405	-7980	-5	0.057	13.403	0.982	84.803	780.975	No
SLV 6	-9370	-10230	-4	0.058	10.31	0.977	86.139	780.975	No
SLV 5	-9370	-10230	-4	0.058	10.31	0.977	86.139	780.975	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.647	SLU 84	Si
V_SLU	2.078	SLU 84	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 3	No
PFFP_SLV	6.662	SLV 11	Si
R_SLV	0	SLV 12	No

Maschio 254

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1106.7	-485.9	-1104.5	-485.9	L2	Z medio 618 cm	2.2	30	516	516	516			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 56	102	-246	-2132	0	0	0	No, e>1/2
SLU 56	618	-245	-765	0	0	0	No, e>1/2
SLU 58	102	-247	-2140	0	0	0	No, e>1/2
SLU 58	618	-247	-774	0	0	0	No, e>1/2
SLU 55	102	-236	-2075	0	0	0	No, e>1/2
SLU 55	618	-235	-712	0	0	0	No, e>1/2
SLU 1	102	-163	-1394	0	0	0	No, e>1/2
SLU 1	618	-161	-480	0	0	0	No, e>1/2
SLU 53	102	-237	-2047	0	0	0	No, e>1/2
SLU 53	618	-234	-716	0	0	0	No, e>1/2
SLU 59	102	-246	-2152	0	0	0	No, e>1/2
SLU 59	618	-247	-766	0	0	0	No, e>1/2
SLU 54	102	-236	-2059	0	0	0	No, e>1/2
SLU 54	618	-234	-707	0	0	0	No, e>1/2
SLU 61	102	-237	-2067	0	0	0	No, e>1/2
SLU 61	618	-233	-697	0	0	0	No, e>1/2
SLU 57	102	-245	-2144	0	0	0	No, e>1/2
SLU 57	618	-245	-756	0	0	0	No, e>1/2
SLU 60	102	-238	-2055	0	0	0	No, e>1/2
SLU 60	618	-233	-705	0	0	0	No, e>1/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 11	102	-28	693	0	0	0	No, e>1/2
SLV 11	618	-54	-136	0	0	0	No, e>1/2
SLV 14	102	-198	-1861	0	0	0	No, e>1/2
SLV 14	618	-207	114	3.09	173	1.523	Si
SLV 13	102	-198	-1861	0	0	0	No, e>1/2
SLV 13	618	-207	114	3.09	173	1.523	Si
SLV 7	102	-39	541	0	0	0	No, e>1/2
SLV 7	618	-53	-541	0	0	0	No, e>1/2
SLV 8	102	-39	541	0	0	0	No, e>1/2
SLV 8	618	-53	-541	0	0	0	No, e>1/2
SLV 6	102	-318	-3659	0	0	0	No, e>1/2
SLV 6	618	-287	-885	0	0	0	No, e>1/2
SLD 1	102	-198	-1861	0	0	0	No, e>1/2
SLD 1	618	-185	-821	0	0	0	No, e>1/2
SLV 10	102	-308	-3508	0	0	0	No, e>1/2
SLV 10	618	-288	-480	0	0	0	No, e>1/2
SLV 12	102	-28	693	0	0	0	No, e>1/2
SLV 12	618	-54	-136	0	0	0	No, e>1/2
SLV 9	102	-308	-3508	0	0	0	No, e>1/2
SLV 9	618	-288	-480	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 54	102	-236	67	-2059		0	0	0.56	0			0	No, Vu<V
SLU 54	618	-234	-12	-707		0	0	0.56	0			0	No, Vu<V
SLU 56	102	-246	70	-2132		0	0	0.56	0			0	No, Vu<V
SLU 56	618	-245	-10	-765		0	0	0.56	0			0	No, Vu<V
SLU 60	102	-238	68	-2055		0	0	0.56	0			0	No, Vu<V
SLU 60	618	-233	-12	-705		0	0	0.56	0			0	No, Vu<V
SLU 58	102	-247	70	-2140		0	0	0.56	0			0	No, Vu<V
SLU 58	618	-247	-10	-774		0	0	0.56	0			0	No, Vu<V
SLU 53	102	-237	68	-2047		0	0	0.56	0			0	No, Vu<V
SLU 53	618	-234	-11	-716		0	0	0.56	0			0	No, Vu<V
SLU 61	102	-237	67	-2067		0	0	0.56	0			0	No, Vu<V
SLU 61	618	-233	-12	-697		0	0	0.56	0			0	No, Vu<V
SLU 57	102	-245	69	-2144		0	0	0.56	0			0	No, Vu<V
SLU 57	618	-245	-11	-756		0	0	0.56	0			0	No, Vu<V
SLU 1	102	-163	47	-1394		0	0	0.56	0			0	No, Vu<V
SLU 1	618	-161	-9	-480		0	0	0.56	0			0	No, Vu<V
SLU 55	102	-236	66	-2075		0	0	0.56	0			0	No, Vu<V
SLU 55	618	-235	-12	-712		0	0	0.56	0			0	No, Vu<V
SLU 59	102	-246	69	-2152		0	0	0.56	0			0	No, Vu<V
SLU 59	618	-247	-11	-766		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	102	-318	142	-3659		0	0	0.83	0			0	No, Vu<V
SLV 6	618	-287	-60	-885		0	0	0.83	0			0	No, Vu<V
SLV 11	102	-28	-42	693		0	0	0.83	0			0	No, Vu<V
SLV 11	618	-54	42	-136		0	0	0.83	0			0	No, Vu<V
SLV 8	102	-39	-50	541		0	0	0.83	0			0	No, Vu<V
SLV 8	618	-53	43	-541		0	0	0.83	0			0	No, Vu<V
SLV 10	102	-308	150	-3508		0	0	0.83	0			0	No, Vu<V
SLV 10	618	-288	-61	-480		0	0	0.83	0			0	No, Vu<V
SLD 1	102	-198	57	-1861		0	0	0.83	0			0	No, Vu<V
SLD 1	618	-185	-15	-821		0	0	0.83	0			0	No, Vu<V
SLV 14	102	-198	91	-1861		0	0	0.83	0			0	No, Vu<V
SLV 14	618	-207	-26	114		4.04	1.71	1.63	83			3.19	Si
SLV 12	102	-28	-42	693		0	0	0.83	0			0	No, Vu<V
SLV 12	618	-54	42	-136		0	0	0.83	0			0	No, Vu<V
SLV 7	102	-39	-50	541		0	0	0.83	0			0	No, Vu<V
SLV 7	618	-53	43	-541		0	0	0.83	0			0	No, Vu<V
SLV 9	102	-308	150	-3508		0	0	0.83	0			0	No, Vu<V



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	618	-288	-61	-480		0	0	0.83	0			0	No, Vu<V
SLV 13	102	-198	91	-1861		0	0	0.83	0			0	No, Vu<V
SLV 13	618	-207	-26	114		4.04	1.71	1.63	83			3.19	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 360 Wa 0.05 denominatore $8 \gamma M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.32	0.63	-42	435	601	1.38	Si
SLV 7	14	0.32	0.63	-42	435	601	1.38	Si
SLV 12	14	0.32	1.21	-81	435	1099	2.53	Si
SLV 11	14	0.32	1.21	-81	435	1099	2.53	Si
SLV 4	14	0.32	1.48	-99	435	1307	3.01	Si
SLV 3	14	0.32	1.48	-99	435	1307	3.01	Si
SLV 1	14	0.32	2.79	-187	435	2166	4.98	Si
SLV 2	14	0.32	2.79	-187	435	2166	4.98	Si
SLV 15	14	0.32	3.42	-230	435	2480	5.71	Si
SLV 16	14	0.32	3.42	-230	435	2480	5.71	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 360 Wa = 0.05 Ta = 0.1482

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 15	-137	-114	-6	0	0.189	0.93	0	1436.458	No
SLV 11	-54	-28	-5	0	0.106	0.896	0	1249.371	No
SLV 12	-54	-28	-5	0	0.106	0.896	0	1249.371	No
SLV 16	-137	-114	-6	0	0.189	0.93	0	1436.458	No
SLV 2	-204	-232	6	0.006	0.257	0.946	9.385	1436.458	No
SLV 1	-204	-232	6	0.006	0.257	0.946	9.385	1436.458	No
SLV 4	-134	-148	5	0.007	0.186	0.929	10.475	1436.458	No
SLV 3	-134	-148	5	0.007	0.186	0.929	10.475	1436.458	No
SLV 13	-207	-198	-5	0.013	0.26	0.946	20.132	1436.458	No
SLV 14	-207	-198	-5	0.013	0.26	0.946	20.132	1436.458	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLD 1	No
V_SLV	0	SLD 1	No
PFFP_SLV	1.382	SLV 7	Si
R_SLV	0	SLV 11	No

Maschio 255

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1293.3	-485.9	Z medio 716 cm	Z medio 1068 cm	82	30	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	μ	ϕ	fv,lim	E	G	FC	
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 52	720	-7000	22913	2.85	186767	8.151	Si
SLU 52	913	-5413	21571	2.2	161993	7.51	Si
SLU 84	720	-7985	25444	3.25	196950	7.741	Si
SLU 84	913	-6370	23826	2.59	178170	7.478	Si
SLU 76	720	-7768	24327	3.16	195042	8.017	Si
SLU 76	913	-6219	23704	2.53	175865	7.419	Si
SLU 73	720	-7435	24254	3.02	191747	7.906	Si
SLU 73	913	-5760	22466	2.34	168286	7.491	Si
SLU 68	720	-7276	21855	2.96	190018	8.694	Si
SLU 68	913	-5890	22623	2.39	170524	7.538	Si
SLU 78	720	-8080	24549	3.28	197724	8.054	Si
SLU 78	913	-6618	24311	2.69	181748	7.476	Si
SLU 59	720	-7673	23116	3.12	194154	8.399	Si
SLU 59	913	-6342	23705	2.58	177745	7.498	Si
SLU 55	720	-7333	22986	2.98	190654	8.294	Si
SLU 55	913	-5872	22808	2.39	170225	7.463	Si
SLU 80	720	-8108	24457	3.3	197938	8.093	Si
SLU 80	913	-6689	24601	2.72	182719	7.427	Si
SLU 63	720	-7551	24102	3.07	192949	8.005	Si
SLU 63	913	-6024	22931	2.45	172744	7.533	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	720	-1114	47719	0	0	0	No, e>l/2
SLV 12	913	3338	-27358	0	0	0	No, Trazione
SLV 8	720	156	-50855	0	0	0	No, Trazione



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 8	913	-379	49895	0	0	0	No, e>I/2
SLV 4	720	-1805	-152667	0	0	0	No, e>I/2
SLV 4	913	-8702	143269	3.54	253513	1.769	Si
SLV 13	720	-8993	187220	3.66	258420	1.38	Si
SLV 13	913	273	-111456	0	0	0	No, Trazione
SLV 11	720	-1114	47719	0	0	0	No, e>I/2
SLV 11	913	3338	-27358	0	0	0	No, Trazione
SLD 16	720	-5677	84985	2.31	188805	2.222	Si
SLD 16	913	-843	-39639	0	0	0	No, e>I/2
SLV 7	720	156	-50855	0	0	0	No, Trazione
SLV 7	913	-379	49895	0	0	0	No, e>I/2
SLV 14	720	-8993	187220	3.66	258420	1.38	Si
SLV 14	913	273	-111456	0	0	0	No, Trazione
SLV 15	720	-6041	175913	2.46	197913	1.125	Si
SLV 15	913	3689	-114239	0	0	0	No, Trazione
SLV 3	720	-1805	-152667	0	0	0	No, e>I/2
SLV 3	913	-8702	143269	3.54	253513	1.769	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLU 82	720	-7652	339	25370	3.11	82	0.97	2387				7.04	Si
SLU 82	913	-5911	2	22588	2.4	82	0.88	2155				1000	Si
SLU 73	720	-7435	324	24254	3.02	82	0.96	2358				7.27	Si
SLU 73	913	-5760	-25	22466	2.34	82	0.87	2135				86.37	Si
SLU 75	720	-7747	301	24475	3.15	82	0.98	2400				7.97	Si
SLU 75	913	-6159	-34	23073	2.5	82	0.89	2188				64.91	Si
SLU 52	720	-7000	308	22913	2.85	82	0.93	2300				7.46	Si
SLU 52	913	-5413	-45	21571	2.2	82	0.85	2088				46.67	Si
SLU 61	720	-7218	323	24029	2.93	82	0.95	2329				7.22	Si
SLU 61	913	-5564	-18	21693	2.26	82	0.86	2109				117.8	Si
SLU 60	720	-7228	319	24114	2.94	82	0.95	2331				7.31	Si
SLU 60	913	-5579	-2	21182	2.27	82	0.86	2111				902.34	Si
SLU 40	720	-6261	283	20974	2.54	82	0.89	2202				7.79	Si
SLU 40	913	-4823	21	18293	1.96	82	0.82	2010				97.46	Si
SLU 39	720	-6271	279	21060	2.55	82	0.9	2203				7.9	Si
SLU 39	913	-4839	36	17782	1.97	82	0.82	2012				55.6	Si
SLU 84	720	-7985	309	25444	3.25	82	0.99	2431				7.87	Si
SLU 84	913	-6370	-30	23826	2.59	82	0.9	2216				72.9	Si
SLU 81	720	-7663	335	25456	3.11	82	0.97	2388				7.13	Si
SLU 81	913	-5926	18	22077	2.41	82	0.88	2157				121.92	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt_lim	c.s.	Verifica
SLV 4	720	-1805	-4402	-152667	0	0	0	0.83	0			0	No, Vu<V
SLV 4	913	-8702	-3237	143269	3.94	73.62	1.62	3581				1.11	Si
SLV 15	720	-6041	4264	175913	5.65	35.65	1.63	1738				0.41	No, Vu<V
SLV 15	913	3689	3604	-114239	0	0	0.83	0				0	No, Vu<V
SLV 13	720	-8993	4845	187220	4.95	60.55	1.63	2952				0.61	No, Vu<V
SLV 13	913	273	3193	-111456	0	0	0.83	0				0	No, Vu<V
SLV 3	720	-1805	-4402	-152667	0	0	0.83	0				0	No, Vu<V
SLV 3	913	-8702	-3237	143269	3.94	73.62	1.62	3581				1.11	Si
SLV 7	720	156	-2046	-50855	0	0	0.83	0				0	No, Vu<V
SLV 7	913	-379	-364	49895	0	0	0.83	0				0	No, Vu<V
SLV 12	720	-1114	554	47719	0	0	0.83	0				0	No, Vu<V
SLV 12	913	3338	1689	-27358	0	0	0.83	0				0	No, Vu<V
SLV 8	720	156	-2046	-50855	0	0	0.83	0				0	No, Vu<V
SLV 8	913	-379	-364	49895	0	0	0.83	0				0	No, Vu<V
SLV 11	720	-1114	554	47719	0	0	0.83	0				0	No, Vu<V
SLV 11	913	3338	1689	-27358	0	0	0.83	0				0	No, Vu<V
SLV 14	720	-8993	4845	187220	4.95	60.55	1.63	2952				0.61	No, Vu<V
SLV 14	913	273	3193	-111456	0	0	0.83	0				0	No, Vu<V
SLD 16	720	-5677	1946	84985	2.42	78.1	1.32	3088				1.59	Si
SLD 16	913	-843	1525	-39639	0	0	0.83	0				0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 892.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.42	0	-248	9928	0	0	No, e>t/2
SLV 15	14	0.42	0	2059	9928	0	0	No, Trazione
SLV 7	14	0.42	0	-248	9928	0	0	No, e>t/2
SLV 16	14	0.42	0	2059	9928	0	0	No, Trazione
SLV 12	14	0.42	0	2597	9928	0	0	No, Trazione
SLV 11	14	0.42	0	2597	9928	0	0	No, Trazione
SLV 14	14	0.42	0.51	-1247	9928	17924	1.81	Si
SLV 13	14	0.42	0.51	-1247	9928	17924	1.81	Si
SLV 3	14	0.42	3.02	-7425	9928	83863	8.45	Si
SLV 4	14	0.42	3.02	-7425	9928	83863	8.45	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 892.5 Wa = 0.05 Ta = 0.069

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	3325	156	19	0	0	0	0	1783.002	No, Trazione
SLV 11	3214	-1114	-4	0	0	0	0	1783.002	No, Trazione
SLV 12	3214	-1114	-4	0	0	0	0	1783.002	No, Trazione
SLV 8	3325	156	19	0	0	0	0	1783.002	No, Trazione
SLV 9	-8184	-10955	-18	0.044	9.552	0.962	66.954	1783.002	No
SLV 10	-8184	-10955	-18	0.044	9.552	0.962	66.954	1783.002	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-8073	-9684	5	0.046	9.439	0.961	69.289	1783.002	No
SLV 6	-8073	-9684	5	0.046	9.439	0.961	69.289	1783.002	No
SLV 4	-535	-1805	40	0.037	1.905	0.892	60.809	950.387	No
SLV 3	-535	-1805	40	0.037	1.905	0.892	60.809	950.387	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.419	SLU 76	Si
V_SLU	7.042	SLU 82	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 15	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 12	No

Maschio 256

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1193.3	-485.9	-1114.3	-485.9	Z medio 716 cm	Z medio 1068 cm	79	30	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 78	720	-7617	-28424	3.21	182144	6.408	Si
SLU 78	913	-5924	-23034	2.5	162184	7.041	Si
SLU 79	720	-7654	-28360	3.23	182452	6.433	Si
SLU 79	913	-5962	-23065	2.52	162753	7.056	Si
SLU 70	720	-7161	-26852	3.02	177921	6.626	Si
SLU 70	913	-5576	-21678	2.35	156629	7.225	Si
SLU 77	720	-7606	-28145	3.21	182052	6.468	Si
SLU 77	913	-5918	-23064	2.5	162093	7.028	Si
SLU 76	720	-7326	-27139	3.09	179547	6.616	Si
SLU 76	913	-5696	-22440	2.4	158599	7.068	Si
SLU 83	720	-7503	-27347	3.17	181167	6.625	Si
SLU 83	913	-5835	-23072	2.46	160813	6.97	Si
SLU 72	720	-7209	-27067	3.04	178410	6.591	Si
SLU 72	913	-5620	-21679	2.37	157350	7.258	Si
SLU 80	720	-7665	-28639	3.23	182543	6.374	Si
SLU 80	913	-5968	-23035	2.52	162843	7.069	Si
SLU 84	720	-7514	-27626	3.17	181265	6.561	Si
SLU 84	913	-5841	-23042	2.46	160905	6.983	Si
SLU 59	720	-7277	-27120	3.07	179076	6.603	Si
SLU 59	913	-5677	-21950	2.4	158289	7.211	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 11	720	-384	49661	0	0	0	No, e>/2
SLV 11	913	-2040	-15824	0.86	74906	4.734	Si
SLV 16	720	-787	147773	0	0	0	No, e>/2
SLV 16	913	-7532	-128703	3.18	220117	1.71	Si
SLV 13	720	-3019	135893	0	0	0	No, e>/2
SLV 13	913	-9491	-151095	4	251999	1.668	Si
SLV 4	720	-7078	-172147	2.99	211221	1.227	Si
SLV 4	913	1630	119167	0	0	0	No, Trazione
SLV 8	720	-2271	-46315	0.96	82662	1.785	Si
SLV 8	913	709	58537	0	0	0	No, Trazione
SLV 14	720	-3019	135893	0	0	0	No, e>/2
SLV 14	913	-9491	-151095	4	251999	1.668	Si
SLV 7	720	-2271	-46315	0.96	82662	1.785	Si
SLV 7	913	709	58537	0	0	0	No, Trazione
SLV 2	720	-9310	-184027	3.93	249499	1.356	Si
SLV 2	913	-328	96774	0	0	0	No, e>/2
SLV 3	720	-7078	-172147	2.99	211221	1.227	Si
SLV 3	913	1630	119167	0	0	0	No, Trazione
SLV 12	720	-384	49661	0	0	0	No, e>/2
SLV 12	913	-2040	-15824	0.86	74906	4.734	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	720	-7654	-369	-28360		3.23	79	0.99	2337			6.33	Si
SLU 79	913	-5962	-8	-23065		2.52	79	0.89	2111			257.11	Si
SLU 80	720	-7665	-385	-28639		3.23	79	0.99	2339			6.08	Si
SLU 80	913	-5968	5	-23035		2.52	79	0.89	2112			409.07	Si
SLU 73	720	-6979	-355	-25452		2.94	79	0.95	2247			6.33	Si
SLU 73	913	-5421	57	-21866		2.29	79	0.86	2039			35.61	Si
SLU 72	720	-7209	-360	-27067		3.04	79	0.96	2278			6.32	Si
SLU 72	913	-5620	26	-21679		2.37	79	0.87	2066			80.26	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	720	-7606	-368	-28145		3.21	79	0.98	2331			6.33	Si
SLU 77	913	-5918	-5	-23064		2.5	79	0.89	2106			414.23	Si
SLU 84	720	-7514	-375	-27626		3.17	79	0.98	2318			6.18	Si
SLU 84	913	-5841	18	-23042		2.46	79	0.88	2095			116.81	Si
SLU 78	720	-7617	-383	-28424		3.21	79	0.98	2332			6.08	Si
SLU 78	913	-5924	8	-23034		2.5	79	0.89	2106			254.02	Si
SLU 70	720	-7161	-359	-26852		3.02	79	0.96	2271			6.32	Si
SLU 70	913	-5576	29	-21678		2.35	79	0.87	2060			71.36	Si
SLU 76	720	-7326	-375	-27139		3.09	79	0.97	2293			6.12	Si
SLU 76	913	-5696	36	-22440		2.4	79	0.88	2076			58.19	Si
SLU 75	720	-7270	-364	-26737		3.07	79	0.96	2286			6.28	Si
SLU 75	913	-5649	30	-22460		2.38	79	0.87	2070			69.25	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	720	-7078	-4235	-172147		5.18	45.52	1.63	2219			0.52	No, Vu<V
SLV 3	913	1630	-3189	119167		0	0	0.83	0			0	No, Vu<V
SLV 7	720	-2271	-242	-46315		1.32	57.31	1.1	1887			7.8	Si
SLV 7	913	709	-1261	58537		0	0	0.83	0			0	No, Vu<V
SLV 12	720	-384	2393	49661		0	0	0.83	0			0	No, Vu<V
SLV 12	913	-2040	611	-15824		0.86	79	1.01	2383			3.9	Si
SLV 11	720	-384	2393	49661		0	0	0.83	0			0	No, Vu<V
SLV 11	913	-2040	611	-15824		0.86	79	1.01	2383			3.9	Si
SLV 8	720	-2271	-242	-46315		1.32	57.31	1.1	1887			7.8	Si
SLV 8	913	709	-1261	58537		0	0	0.83	0			0	No, Vu<V
SLV 2	720	-9310	-5022	-184027		5.24	59.19	1.63	2886			0.57	No, Vu<V
SLV 2	913	-328	-2970	96774		0	0	0.83	0			0	No, Vu<V
SLV 4	720	-7078	-4235	-172147		5.18	45.52	1.63	2219			0.52	No, Vu<V
SLV 4	913	1630	-3189	119167		0	0	0.83	0			0	No, Vu<V
SLV 16	720	-787	4548	147773		0	0	0.83	0			0	No, Vu<V
SLV 16	913	-7532	3051	-128703		3.73	67.23	1.58	3187			1.04	Si
SLV 13	720	-3019	3761	135893		0	0	0.83	0			0	No, Vu<V
SLV 13	913	-9491	3271	-151095		4.47	70.73	1.63	3448			1.05	Si
SLV 14	720	-3019	3761	135893		0	0	0.83	0			0	No, Vu<V
SLV 14	913	-9491	3271	-151095		4.47	70.73	1.63	3448			1.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 892.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.42	0	1029	9564	0	0	No, Trazione
SLV 4	14	0.42	0	1029	9564	0	0	No, Trazione
SLV 7	14	0.42	0	581	9564	0	0	No, Trazione
SLV 8	14	0.42	0	581	9564	0	0	No, Trazione
SLV 2	14	0.42	0.42	-1006	9564	14569	1.52	Si
SLV 1	14	0.42	0.42	-1006	9564	14569	1.52	Si
SLV 12	14	0.42	0.78	-1839	9564	25833	2.7	Si
SLV 11	14	0.42	0.78	-1839	9564	25833	2.7	Si
SLV 6	14	0.42	2.62	-6205	9564	73127	7.65	Si
SLV 5	14	0.42	2.62	-6205	9564	73127	7.65	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 892.5 Wa = 0.05 Ta = 0.069

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-4453	-9713	6	0.048	5.717	0.942	73.355	1783.002	No
SLV 6	-4453	-9713	6	0.048	5.717	0.942	73.355	1783.002	No
SLV 9	-3436	-7826	-4	0.049	4.688	0.931	76.979	1783.002	No
SLV 10	-3436	-7826	-4	0.049	4.688	0.931	76.979	1783.002	No
SLV 8	-1157	-2271	3	0.058	2.421	0.893	93.986	1783.002	No
SLV 7	-1157	-2271	3	0.058	2.421	0.893	93.986	1783.002	No
SLV 11	-140	-384	-7	0.071	1.569	0.938	109.273	1783.002	No
SLV 12	-140	-384	-7	0.071	1.569	0.938	109.273	1783.002	No
SLV 2	-4486	-9310	17	0.045	5.75	0.942	70.115	950.387	No
SLV 1	-4486	-9310	17	0.045	5.75	0.942	70.115	950.387	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.374	SLU 80	Si
V_SLU	6.081	SLU 78	Si
PF_SLV	0	SLV 8	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 8	No
R_SLV	0.041	SLV 5	No

Maschio 257

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1100.3	-485.9	-1100.3	-470.9	L3	F1	15	28	1330	1326.6	1333.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 58	173	-2879	37961	0	0	0	No, e>1/2
SLU 58	1500	-59	939	0	0	0	No, e>1/2
SLU 1	173	-1901	25310	0	0	0	No, e>1/2
SLU 1	1500	-29	220	0	0	0	No, e>1/2
SLU 55	173	-2760	36762	0	0	0	No, e>1/2
SLU 55	1500	-50	534	0	0	0	No, e>1/2
SLU 57	173	-2862	37875	0	0	0	No, e>1/2
SLU 57	1500	-60	850	0	0	0	No, e>1/2
SLU 56	173	-2870	37853	0	0	0	No, e>1/2
SLU 56	1500	-58	900	0	0	0	No, e>1/2
SLU 61	173	-2766	36914	0	0	0	No, e>1/2
SLU 61	1500	-35	280	0	0	0	No, e>1/2
SLU 59	173	-2871	37982	0	0	0	No, e>1/2
SLU 59	1500	-62	889	0	0	0	No, e>1/2
SLU 53	173	-2763	36619	0	0	0	No, e>1/2
SLU 53	1500	-45	579	0	0	0	No, e>1/2
SLU 54	173	-2756	36640	0	0	0	No, e>1/2
SLU 54	1500	-47	529	0	0	0	No, e>1/2
SLU 60	173	-2774	36892	0	0	0	No, e>1/2
SLU 60	1500	-33	331	0	0	0	No, e>1/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 6	173	-3160	38163	0	0	0	No, e>1/2
SLV 6	1500	-9	2928	0	0	0	No, e>1/2
SLV 9	173	-3897	47711	0	0	0	No, e>1/2
SLV 9	1500	-25	2361	0	0	0	No, e>1/2
SLV 8	173	-139	5906	0	0	0	No, e>1/2
SLV 8	1500	-35	-1763	0	0	0	No, e>1/2
SLV 10	173	-3897	47711	0	0	0	No, e>1/2
SLV 10	1500	-25	2361	0	0	0	No, e>1/2
SLD 1	173	-1687	22083	0	0	0	No, e>1/2
SLD 1	1500	-17	991	0	0	0	No, e>1/2
SLV 14	173	-3700	47560	0	0	0	No, e>1/2
SLV 14	1500	-53	56	0.13	392	6.945	Si
SLV 7	173	-139	5906	0	0	0	No, e>1/2
SLV 7	1500	-35	-1763	0	0	0	No, e>1/2
SLV 11	173	-877	15454	0	0	0	No, e>1/2
SLV 11	1500	-51	-2331	0	0	0	No, e>1/2
SLV 13	173	-3700	47560	0	0	0	No, e>1/2
SLV 13	1500	-53	56	0.13	392	6.945	Si
SLV 12	173	-877	15454	0	0	0	No, e>1/2
SLV 12	1500	-51	-2331	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 54	173	-2756	192	36640		0	0	0.56	0			0	No, Vu<V
SLU 54	1500	-47	-37	529		0	0	0.56	0			0	No, Vu<V
SLU 57	173	-2862	190	37875		0	0	0.56	0			0	No, Vu<V
SLU 57	1500	-60	-68	850		0	0	0.56	0			0	No, Vu<V
SLU 53	173	-2763	183	36619		0	0	0.56	0			0	No, Vu<V
SLU 53	1500	-45	-39	579		0	0	0.56	0			0	No, Vu<V
SLU 60	173	-2774	189	36892		0	0	0.56	0			0	No, Vu<V
SLU 60	1500	-33	-17	331		0	0	0.56	0			0	No, Vu<V
SLU 55	173	-2760	198	36762		0	0	0.56	0			0	No, Vu<V
SLU 55	1500	-50	-39	534		0	0	0.56	0			0	No, Vu<V
SLU 56	173	-2870	182	37853		0	0	0.56	0			0	No, Vu<V
SLU 56	1500	-58	-70	900		0	0	0.56	0			0	No, Vu<V
SLU 58	173	-2879	182	37961		0	0	0.56	0			0	No, Vu<V
SLU 58	1500	-59	-74	939		0	0	0.56	0			0	No, Vu<V
SLU 61	173	-2766	198	36914		0	0	0.56	0			0	No, Vu<V
SLU 61	1500	-35	-15	280		0	0	0.56	0			0	No, Vu<V
SLU 59	173	-2871	191	37982		0	0	0.56	0			0	No, Vu<V
SLU 59	1500	-62	-72	889		0	0	0.56	0			0	No, Vu<V
SLU 1	173	-1901	134	25310		0	0	0.56	0			0	No, Vu<V
SLU 1	1500	-29	-6	220		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	173	-3897	104	47711		0	0	0.83	0			0	No, Vu<V
SLV 9	1500	-25	-336	2361		0	0	0.83	0			0	No, Vu<V
SLV 12	173	-877	229	15454		0	0	0.83	0			0	No, Vu<V
SLV 12	1500	-51	376	-2331		0	0	0.83	0			0	No, Vu<V
SLV 7	173	-139	170	5906		0	0	0.83	0			0	No, Vu<V
SLV 7	1500	-35	305	-1763		0	0	0.83	0			0	No, Vu<V
SLV 10	173	-3897	104	47711		0	0	0.83	0			0	No, Vu<V
SLV 10	1500	-25	-336	2361		0	0	0.83	0			0	No, Vu<V
SLV 8	173	-139	170	5906		0	0	0.83	0			0	No, Vu<V
SLV 8	1500	-35	305	-1763		0	0	0.83	0			0	No, Vu<V
SLV 11	173	-877	229	15454		0	0	0.83	0			0	No, Vu<V
SLV 11	1500	-51	376	-2331		0	0	0.83	0			0	No, Vu<V
SLV 14	173	-3700	216	47560		0	0	0.83	0			0	No, Vu<V
SLV 14	1500	-53	-5	56		0.13	15	0.86	361			79.34	Si



Comb.	Quota	N	V par	M	$\sigma 0$	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	173	-3700	216	47560		0	0	0.83	0			0	No, Vu<V
SLV 13	1500	-53	-5	56		0.13	15	0.86	361			79.34	Si
SLV 6	173	-3160	45	38163		0	0	0.83	0			0	No, Vu<V
SLV 6	1500	-9	-406	2928		0	0	0.83	0			0	No, Vu<V
SLD 1	173	-1687	87	22083		0	0	0.83	0			0	No, Vu<V
SLD 1	1500	-17	-109	991		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 836.3 Wa 0.05 denominatore $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.41	0	-333	24137	0	0	No, e>t/2
SLV 5	14	0.41	0	-1088	24137	0	0	No, e>t/2
SLV 8	14	0.41	0	-333	24137	0	0	No, e>t/2
SLV 9	14	0.41	0	-1067	24137	0	0	No, e>t/2
SLV 1	14	0.41	0	-848	24137	0	0	No, e>t/2
SLV 10	14	0.41	0	-1067	24137	0	0	No, e>t/2
SLV 4	14	0.41	0	-622	24137	0	0	No, e>t/2
SLV 2	14	0.41	0	-848	24137	0	0	No, e>t/2
SLV 6	14	0.41	0	-1088	24137	0	0	No, e>t/2
SLV 3	14	0.41	0	-622	24137	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 836.3 Wa = 0.05 Ta = 1.055

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	-25	-3897	-48	0	1.027	0.978	0	239.674	No
SLV 7	-35	-139	49	0	1.029	0.971	0	239.674	No
SLV 4	-7	-336	45	0	1.025	0.993	0	239.674	No
SLV 6	-9	-3160	-28	0	1.025	0.992	0	239.674	No
SLV 8	-35	-139	49	0	1.029	0.971	0	239.674	No
SLV 5	-9	-3160	-28	0	1.025	0.992	0	239.674	No
SLV 3	-7	-336	45	0	1.025	0.993	0	239.674	No
SLV 1	1	-1242	22	0	0	0	0	239.674	No, Trazione
SLV 2	1	-1242	22	0	0	0	0	239.674	No, Trazione
SLV 10	-25	-3897	-48	0	1.027	0.978	0	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 2	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 2	No

Maschio 258

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1100.3	-470.9	-1100.3	-350.9	Z medio 375 cm	F1	120	28	1159.3	1131.6	1187			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 45	375	-13316	-28176	3.96	410251	14.56	Si
SLU 45	1507	-621	14167	0.18	36435	2.572	Si
SLU 60	375	-14663	-35820	4.36	408452	11.403	Si
SLU 60	1507	-427	9450	0.13	25212	2.668	Si
SLU 64	375	-13768	-27225	4.1	410535	15.079	Si
SLU 64	1507	-528	11807	0.16	31090	2.633	Si
SLU 44	375	-12775	-25406	3.8	408734	16.088	Si
SLU 44	1507	-365	8983	0.11	21634	2.408	Si
SLU 2	375	-10064	-19741	3	381813	19.341	Si
SLU 2	1507	-321	7396	0.1	19057	2.577	Si
SLU 47	375	-13284	-28394	3.95	410197	14.446	Si
SLU 47	1507	-637	13851	0.19	37324	2.695	Si
SLU 52	375	-14062	-32297	4.19	410239	12.702	Si
SLU 52	1507	-405	8944	0.12	23918	2.674	Si
SLU 46	375	-13286	-27835	3.95	410201	14.737	Si
SLU 46	1507	-618	13853	0.18	36248	2.617	Si
SLU 1	375	-10114	-20311	3.01	382594	18.837	Si
SLU 1	1507	-327	7919	0.1	19376	2.447	Si
SLU 43	375	-12824	-25975	3.82	408927	15.743	Si
SLU 43	1507	-371	9507	0.11	21953	2.309	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLD 15	375	-10092	5674	3	456679	80.488	Si
SLD 15	1507	-74	14553	0	0	0	No, $e \geq l/2$
SLV 7	375	-4697	17483	1.4	249579	14.275	Si
SLV 7	1507	1135	-17072	0	0	0	No, Trazione
SLD 16	375	-10092	5674	3	456679	80.488	Si
SLD 16	1507	-74	14553	0	0	0	No, $e \geq l/2$
SLV 11	375	-4843	47517	1.44	256300	5.394	Si
SLV 11	1507	1282	-4929	0	0	0	No, Trazione
SLV 3	375	-8714	-56152	2.59	411858	7.335	Si
SLV 3	1507	-150	-17542	0	0	0	No, $e \geq l/2$
SLD 12	375	-8249	7030	2.46	395508	56.26	Si
SLD 12	1507	325	2813	0	0	0	No, Trazione
SLV 4	375	-8714	-56152	2.59	411858	7.335	Si
SLV 4	1507	-150	-17542	0	0	0	No, $e \geq l/2$
SLV 8	375	-4697	17483	1.4	249579	14.275	Si
SLV 8	1507	1135	-17072	0	0	0	No, Trazione
SLV 15	375	-9200	43961	2.74	428308	9.743	Si
SLV 15	1507	339	22933	0	0	0	No, Trazione
SLV 12	375	-4843	47517	1.44	256300	5.394	Si
SLV 12	1507	1282	-4929	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 36	375	-13315	-1217	-33301		3.96	120	1.08	3640			2.99	Si
SLU 36	1507	-1042	-790	19394		0.31	120	0.6	2006			2.54	Si
SLU 80	375	-16043	-1342	-39752		4.77	120	1.08	3640			2.71	Si
SLU 80	1507	-1107	-805	21189		0.33	120	0.6	2014			2.5	Si
SLU 37	375	-13363	-1254	-34430		3.98	120	1.08	3640			2.9	Si
SLU 37	1507	-1066	-807	19915		0.32	120	0.6	2009			2.49	Si
SLU 38	375	-13333	-1221	-34088		3.97	120	1.08	3640			2.98	Si
SLU 38	1507	-1063	-814	19601		0.32	120	0.6	2008			2.47	Si
SLU 30	375	-12046	-954	-27197		3.59	120	1.03	3473			3.64	Si
SLU 30	1507	-1024	-753	19641		0.3	120	0.6	2003			2.66	Si
SLU 77	375	-16055	-1372	-39307		4.78	120	1.08	3640			2.65	Si
SLU 77	1507	-1089	-773	21295		0.32	120	0.6	2012			2.6	Si
SLU 78	375	-16026	-1338	-38965		4.77	120	1.08	3640			2.72	Si
SLU 78	1507	-1086	-780	20981		0.32	120	0.6	2011			2.58	Si
SLU 83	375	-16116	-1377	-40059		4.8	120	1.08	3640			2.64	Si
SLU 83	1507	-856	-589	16618		0.25	120	0.59	1981			3.36	Si
SLU 79	375	-16073	-1376	-40094		4.78	120	1.08	3640			2.65	Si
SLU 79	1507	-1110	-797	21503		0.33	120	0.6	2015			2.53	Si
SLU 35	375	-13345	-1250	-33642		3.97	120	1.08	3640			2.91	Si
SLU 35	1507	-1045	-782	19708		0.31	120	0.6	2006			2.56	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	375	-8714	-1819	-56152		2.59	120	1.35	4543			2.5	Si
SLV 3	1507	-150	-1317	-17542		0	0	0.83	0			0	No, Vu<V
SLV 11	375	-4843	2219	47517		1.44	120	1.12	3769			1.7	Si
SLV 11	1507	1282	1187	-4929		0	0	0.83	0			0	No, Vu<V
SLD 15	375	-10092	359	5674		3	120	1.43	4818			13.41	Si
SLD 15	1507	-74	528	14553		0	0	0.83	0			0	No, Vu<V
SLD 16	375	-10092	359	5674		3	120	1.43	4818			13.41	Si
SLD 16	1507	-74	528	14553		0	0	0.83	0			0	No, Vu<V
SLV 7	375	-4697	1128	17483		1.4	120	1.11	3739			3.31	Si
SLV 7	1507	1135	339	-17072		0	0	0.83	0			0	No, Vu<V
SLV 8	375	-4697	1128	17483		1.4	120	1.11	3739			3.31	Si
SLV 8	1507	1135	339	-17072		0	0	0.83	0			0	No, Vu<V
SLV 12	375	-4843	2219	47517		1.44	120	1.12	3769			1.7	Si
SLV 12	1507	1282	1187	-4929		0	0	0.83	0			0	No, Vu<V
SLD 12	375	-8249	528	7030		2.46	120	1.32	4450			8.42	Si
SLD 12	1507	325	394	2813		0	0	0.83	0			0	No, Vu<V
SLV 15	375	-9200	1817	43961		2.74	120	1.38	4640			2.55	Si
SLV 15	1507	339	1507	22933		0	0	0.83	0			0	No, Vu<V
SLV 4	375	-8714	-1819	-56152		2.59	120	1.35	4543			2.5	Si
SLV 4	1507	-150	-1317	-17542		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 940.7 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.43	0	-7187	154188	0	0	No, $e > t/2$
SLV 7	14	0.43	0	-3225	154188	0	0	No, $e > t/2$
SLV 2	14	0.43	0	-6217	154188	0	0	No, $e > t/2$
SLV 3	14	0.43	0	-5029	154188	0	0	No, $e > t/2$
SLV 6	14	0.43	0	-7187	154188	0	0	No, $e > t/2$
SLV 9	14	0.43	0	-6830	154188	0	0	No, $e > t/2$
SLV 8	14	0.43	0	-3225	154188	0	0	No, $e > t/2$
SLV 1	14	0.43	0	-6217	154188	0	0	No, $e > t/2$
SLV 10	14	0.43	0	-6830	154188	0	0	No, $e > t/2$
SLV 4	14	0.43	0	-5029	154188	0	0	No, $e > t/2$

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 940.7 Wa = 0.05 Ta = 0.8015

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	1282	-4843	30	0	0	0	0	239.674	No, Trazione



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	1135	-4697	31	0	0	0	0	239.674	No, Trazione
SLV 15	339	-9200	5	0	0	0	0	239.674	No, Trazione
SLV 7	1135	-4697	31	0	0	0	0	239.674	No, Trazione
SLV 16	339	-9200	5	0	0	0	0	239.674	No, Trazione
SLV 12	1282	-4843	30	0	0	0	0	239.674	No, Trazione
SLV 10	-1901	-16806	-39	0.013	8.155	0.898	20.454	239.674	No
SLV 9	-1901	-16806	-39	0.013	8.155	0.898	20.454	239.674	No
SLV 6	-2048	-16660	-39	0.013	8.272	0.896	20.664	239.674	No
SLV 5	-2048	-16660	-39	0.013	8.272	0.896	20.664	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.309	SLU 43	Si
V_SLU	2.467	SLU 38	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 7	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

Maschio 259

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-350.9	-1100.3	-331.4	Z medio 375 cm	L5	19.5	28	523	523	523			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 41	375	-1720	-11133	3.15	10284	0.924	No, M>Mu
SLU 41	898	-1296	-1602	2.37	8952	5.587	Si
SLU 84	375	-2100	-11593	3.85	10807	0.932	No, M>Mu
SLU 84	898	-1551	-2231	2.84	9848	4.415	Si
SLU 39	375	-1644	-10555	3.01	10103	0.957	No, M>Mu
SLU 39	898	-1232	-1791	2.26	8685	4.85	Si
SLU 42	375	-1711	-10926	3.13	10265	0.939	No, M>Mu
SLU 42	898	-1301	-1700	2.38	8973	5.279	Si
SLU 82	375	-2024	-11015	3.71	10753	0.976	No, M>Mu
SLU 82	898	-1487	-2419	2.72	9652	3.99	Si
SLU 40	375	-1635	-10348	2.99	10081	0.974	No, M>Mu
SLU 40	898	-1237	-1888	2.27	8707	4.611	Si
SLU 20	375	-1581	-10321	2.9	9935	0.963	No, M>Mu
SLU 20	898	-1186	-1609	2.17	8478	5.269	Si
SLU 62	375	-1970	-10988	3.61	10699	0.974	No, M>Mu
SLU 62	898	-1436	-2140	2.63	9480	4.43	Si
SLU 83	375	-2108	-11800	3.86	10812	0.916	No, M>Mu
SLU 83	898	-1546	-2133	2.83	9833	4.61	Si
SLU 81	375	-2032	-11222	3.72	10761	0.959	No, M>Mu
SLU 81	898	-1482	-2321	2.71	9635	4.151	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 12	375	-837	6991	1.53	7134	1.021	Si
SLV 12	898	-620	-5925	1.14	5482	0.925	No, M>Mu
SLV 8	375	-634	6427	0	0	0	No, e> /2
SLV 8	898	-664	-4188	1.22	5833	1.393	Si
SLV 10	375	-2373	-15830	4.35	14907	0.942	No, M>Mu
SLV 10	898	-1382	654	2.53	10686	16.332	Si
SLV 7	375	-634	6427	0	0	0	No, e> /2
SLV 7	898	-664	-4188	1.22	5833	1.393	Si
SLV 2	375	-1397	-9064	2.56	10768	1.188	Si
SLV 2	898	-1212	2115	2.22	9671	4.572	Si
SLV 9	375	-2373	-15830	4.35	14907	0.942	No, M>Mu
SLV 9	898	-1382	654	2.53	10686	16.332	Si
SLV 5	375	-2171	-16394	3.98	14278	0.871	No, M>Mu
SLV 5	898	-1427	2391	2.61	10937	4.574	Si
SLV 11	375	-837	6991	1.53	7134	1.021	Si
SLV 11	898	-620	-5925	1.14	5482	0.925	No, M>Mu
SLV 6	375	-2171	-16394	3.98	14278	0.871	No, M>Mu
SLV 6	898	-1427	2391	2.61	10937	4.574	Si
SLV 1	375	-1397	-9064	2.56	10768	1.188	Si
SLV 1	898	-1212	2115	2.22	9671	4.572	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 42	375	-1711	-157	-10926		6.05	10.09	1.08	306			1.94	Si
SLU 42	898	-1301	-57	-1700		2.38	19.5	0.87	477			8.33	Si
SLU 20	375	-1581	-152	-10321		5.84	9.66	1.08	293			1.93	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 20	898	-1186	-52	-1609		2.17	19.5	0.85	461			8.93	Si
SLU 39	375	-1644	-143	-10555		5.88	9.98	1.08	303			2.12	Si
SLU 39	898	-1232	-42	-1791		2.26	19.5	0.86	468			11.14	Si
SLU 18	375	-1505	-129	-9743		5.47	9.83	1.08	298			2.32	Si
SLU 18	898	-1122	-33	-1798		2.06	19.5	0.83	453			13.92	Si
SLU 40	375	-1635	-134	-10348		5.69	10.26	1.08	311			2.32	Si
SLU 40	898	-1237	-38	-1888		2.27	19.5	0.86	468			12.3	Si
SLU 83	375	-2108	-172	-11800		6.04	12.46	1.08	378			2.2	Si
SLU 83	898	-1546	-63	-2133		2.83	19.5	0.93	509			8.04	Si
SLU 21	375	-1572	-143	-10115		5.64	9.95	1.08	302			2.11	Si
SLU 21	898	-1191	-48	-1707		2.18	19.5	0.85	462			9.67	Si
SLU 62	375	-1970	-157	-10988		5.62	12.51	1.08	380			2.41	Si
SLU 62	898	-1436	-54	-2140		2.63	19.5	0.91	495			9.17	Si
SLU 41	375	-1720	-166	-11133		6.25	9.83	1.08	298			1.8	Si
SLU 41	898	-1296	-61	-1602		2.37	19.5	0.87	476			7.79	Si
SLU 84	375	-2100	-163	-11593		5.91	12.69	1.08	385			2.36	Si
SLU 84	898	-1551	-59	-2231		2.84	19.5	0.93	510			8.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	375	-634	543	6427		0	0	0.83	0			0	No, Vu<V
SLV 7	898	-664	355	-4188		2.29	10.34	1.29	374			1.06	Si
SLV 16	375	-1610	90	-339		2.95	19.5	1.42	777			8.63	Si
SLV 16	898	-835	286	-5649		3.33	8.95	1.5	376			1.32	Si
SLV 10	375	-2373	-657	-15830		9.18	9.24	1.63	420			0.64	No, Vu<V
SLV 10	898	-1382	-402	654		2.53	19.5	1.34	731			1.82	Si
SLV 12	375	-837	525	6991		7.14	4.18	1.63	190			0.36	No, Vu<V
SLV 12	898	-620	463	-5925		38.34	0.58	1.63	26			0.06	No, Vu<V
SLV 6	375	-2171	-640	-16394		11.76	6.59	1.63	300			0.47	No, Vu<V
SLV 6	898	-1427	-510	2391		2.61	19.5	1.36	740			1.45	Si
SLV 11	375	-837	525	6991		7.14	4.18	1.63	190			0.36	No, Vu<V
SLV 11	898	-620	463	-5925		38.34	0.58	1.63	26			0.06	No, Vu<V
SLV 5	375	-2171	-640	-16394		11.76	6.59	1.63	300			0.47	No, Vu<V
SLV 5	898	-1427	-510	2391		2.61	19.5	1.36	740			1.45	Si
SLV 9	375	-2373	-657	-15830		9.18	9.24	1.63	420			0.64	No, Vu<V
SLV 9	898	-1382	-402	654		2.53	19.5	1.34	731			1.82	Si
SLV 15	375	-1610	90	-339		2.95	19.5	1.42	777			8.63	Si
SLV 15	898	-835	286	-5649		3.33	8.95	1.5	376			1.32	Si
SLV 8	375	-634	543	6427		0	0	0.83	0			0	No, Vu<V
SLV 8	898	-664	355	-4188		2.29	10.34	1.29	374			1.06	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 636.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.37	1.64	-894	4377	10844	2.48	Si
SLV 11	14	0.37	1.64	-894	4377	10844	2.48	Si
SLV 7	14	0.37	1.81	-989	4377	11789	2.69	Si
SLV 8	14	0.37	1.81	-989	4377	11789	2.69	Si
SLV 15	14	0.37	1.83	-1000	4377	11900	2.72	Si
SLV 16	14	0.37	1.83	-1000	4377	11900	2.72	Si
SLV 14	14	0.37	2.17	-1184	4377	13637	3.12	Si
SLV 13	14	0.37	2.17	-1184	4377	13637	3.12	Si
SLV 4	14	0.37	2.41	-1313	4377	14767	3.37	Si
SLV 3	14	0.37	2.41	-1313	4377	14767	3.37	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 636.5 Wa = 0.05 Ta = 0.1631

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 11	-620	-837	23	0.009	1.047	0.906	13.984	1162.023	No
SLV 12	-620	-837	23	0.009	1.047	0.906	13.984	1162.023	No
SLV 7	-664	-634	23	0.009	1.092	0.909	14.477	1162.023	No
SLV 8	-664	-634	23	0.009	1.092	0.909	14.477	1162.023	No
SLV 10	-1382	-2373	-22	0.017	1.813	0.938	26.993	1162.023	No
SLV 9	-1382	-2373	-22	0.017	1.813	0.938	26.993	1162.023	No
SLV 5	-1427	-2171	-22	0.018	1.858	0.939	27.797	1162.023	No
SLV 6	-1427	-2171	-22	0.018	1.858	0.939	27.797	1162.023	No
SLV 4	-983	-936	8	0.026	1.41	0.924	40.593	1619.324	No
SLV 3	-983	-936	8	0.026	1.41	0.924	40.593	1619.324	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.916	SLU 83	No
V_SLU	1.796	SLU 41	Si
PF_SLV	0	SLV 7	No
V_SLV	0	SLV 7	No
PFFP_SLV	2.477	SLV 11	Si
R_SLV	0.012	SLV 11	No

Maschio 260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1100.3	-331.4	-1100.3	-35.4	Z medio 461 cm	Z medio 809 cm	296	28	348.5	174	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 66	546	-32022	104396	3.86	2491367	23.864	Si
SLU 66	720	-27694	112628	3.34	2417398	21.464	Si
SLU 71	546	-32683	83100	3.94	2495437	30.029	Si
SLU 71	720	-28329	106282	3.42	2433391	22.896	Si
SLU 69	546	-32953	93688	3.98	2496546	26.647	Si
SLU 69	720	-28606	115921	3.45	2439816	21.047	Si
SLU 67	546	-32017	105766	3.86	2491327	23.555	Si
SLU 67	720	-27682	110793	3.34	2417066	21.816	Si
SLU 70	546	-32948	95058	3.98	2496527	26.263	Si
SLU 70	720	-28594	114086	3.45	2439534	21.383	Si
SLU 27	546	-27298	82768	3.29	2406536	29.076	Si
SLU 27	720	-23797	104984	2.87	2280521	21.723	Si
SLU 25	546	-26362	94847	3.18	2378111	25.073	Si
SLU 25	720	-22872	99857	2.76	2238277	22.415	Si
SLU 65	546	-30813	106800	3.72	2478971	23.211	Si
SLU 65	720	-26484	96639	3.2	2382030	24.649	Si
SLU 24	546	-26368	93477	3.18	2378282	25.442	Si
SLU 24	720	-22885	101692	2.76	2238872	22.016	Si
SLU 28	546	-27293	84138	3.29	2406387	28.6	Si
SLU 28	720	-23784	103149	2.87	2279975	22.104	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	546	-23167	317473	2.8	2644296	8.329	Si
SLV 15	720	-21332	172732	2.57	2492127	14.428	Si
SLV 12	546	-20968	505448	2.53	2460709	4.868	Si
SLV 12	720	-19209	140237	2.32	2303676	16.427	Si
SLV 6	546	-27161	-359793	3.28	2941703	8.176	Si
SLV 6	720	-22407	-16360	2.7	2582433	157.847	Si
SLV 8	546	-20947	429716	2.53	2458940	5.722	Si
SLV 8	720	-18547	82675	2.24	2242214	27.121	Si
SLV 7	546	-20947	429716	2.53	2458940	5.722	Si
SLV 7	720	-18547	82675	2.24	2242214	27.121	Si
SLD 11	546	-22752	256191	2.75	2610749	10.191	Si
SLD 11	720	-20136	94792	2.43	2387556	25.187	Si
SLV 5	546	-27161	-359793	3.28	2941703	8.176	Si
SLV 5	720	-22407	-16360	2.7	2582433	157.847	Si
SLD 12	546	-22752	256191	2.75	2610749	10.191	Si
SLD 12	720	-20136	94792	2.43	2387556	25.187	Si
SLV 16	546	-23167	317473	2.8	2644296	8.329	Si
SLV 16	720	-21332	172732	2.57	2492127	14.428	Si
SLV 11	546	-20968	505448	2.53	2460709	4.868	Si
SLV 11	720	-19209	140237	2.32	2303676	16.427	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	546	-32891	260	69306		3.97	296	1.08	8979			34.49	Si
SLU 60	720	-28863	852	28353		3.48	296	1.02	8453			9.92	Si
SLU 10	546	-25722	440	63225		3.1	296	0.97	8034			18.24	Si
SLU 10	720	-22533	864	28439		2.72	296	0.92	7609			8.8	Si
SLU 40	546	-30180	295	86449		3.64	296	1.04	8628			29.28	Si
SLU 40	720	-26685	887	39991		3.22	296	0.98	8162			9.2	Si
SLU 61	546	-32886	415	70676		3.97	296	1.08	8979			21.61	Si
SLU 61	720	-28851	996	26518		3.48	296	1.02	8451			8.49	Si
SLU 19	546	-27231	352	59757		3.29	296	0.99	8235			23.42	Si
SLU 19	720	-24041	894	15582		2.9	296	0.94	7810			8.73	Si
SLU 52	546	-31377	504	74145		3.79	296	1.06	8788			17.43	Si
SLU 52	720	-27342	966	39375		3.3	296	1	8250			8.54	Si
SLU 82	546	-35835	359	97369		4.32	296	1.08	8979			25.04	Si
SLU 82	720	-31494	989	50927		3.8	296	1.06	8804			8.9	Si
SLU 29	546	-27029	-808	72180		3.26	296	0.99	8208			10.15	Si
SLU 29	720	-23520	-614	95346		2.84	296	0.93	7740			12.61	Si
SLU 31	546	-28671	383	89918		3.46	296	1.02	8427			21.98	Si
SLU 31	720	-25176	857	52848		3.04	296	0.96	7961			9.29	Si
SLU 73	546	-34326	447	100837		4.14	296	1.08	8979			20.07	Si
SLU 73	720	-29985	959	63784		3.62	296	1.04	8602			8.97	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	546	-20947	9780	429716		2.53	296	1.34	11096			1.13	Si
SLV 8	720	-18547	10174	82675		2.24	296	1.28	10616			1.04	Si
SLV 9	546	-27182	-9498	-284061		3.28	296	1.49	12343			1.3	Si
SLV 9	720	-23069	-9349	41202		2.78	296	1.39	11520			1.23	Si
SLV 6	546	-27161	-8154	-359793		3.28	296	1.49	12339			1.51	Si
SLV 6	720	-22407	-7836	-16360		2.7	296	1.37	11388			1.45	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	546	-20968	8436	505448		2.53	296	1.34	11100			1.32	Si
SLV 11	720	-19209	8662	140237		2.32	296	1.3	10748			1.24	Si
SLV 10	546	-27182	-9498	-284061		3.28	296	1.49	12343			1.3	Si
SLV 10	720	-23069	-9349	41202		2.78	296	1.39	11520			1.23	Si
SLV 3	546	-23099	5070	65035		2.79	296	1.39	11526			2.27	Si
SLV 3	720	-19125	5635	-19144		2.31	296	1.29	10732			1.9	Si
SLV 7	546	-20947	9780	429716		2.53	296	1.34	11096			1.13	Si
SLV 7	720	-18547	10174	82675		2.24	296	1.28	10616			1.04	Si
SLV 4	546	-23099	5070	65035		2.79	296	1.39	11526			2.27	Si
SLV 4	720	-19125	5635	-19144		2.31	296	1.29	10732			1.9	Si
SLV 12	546	-20968	8436	505448		2.53	296	1.34	11100			1.32	Si
SLV 12	720	-19209	8662	140237		2.32	296	1.3	10748			1.24	Si
SLV 5	546	-27161	-8154	-359793		3.28	296	1.49	12339			1.51	Si
SLV 5	720	-22407	-7836	-16360		2.7	296	1.37	11388			1.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 633 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.37	2.47	-20440	29448	228400	7.76	Si
SLV 8	14	0.37	2.47	-20440	29448	228400	7.76	Si
SLV 11	14	0.37	2.52	-20883	29448	232076	7.88	Si
SLV 12	14	0.37	2.52	-20883	29448	232076	7.88	Si
SLV 3	14	0.37	2.57	-21281	29448	235324	7.99	Si
SLV 4	14	0.37	2.57	-21281	29448	235324	7.99	Si
SLV 2	14	0.37	2.71	-22445	29448	244588	8.31	Si
SLV 1	14	0.37	2.71	-22445	29448	244588	8.31	Si
SLV 15	14	0.37	2.75	-22759	29448	247022	8.39	Si
SLV 16	14	0.37	2.75	-22759	29448	247022	8.39	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 633 Wa = 0.05 Ta = 0.0724

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 7	-18547	-20947	-240	0.034	22.968	0.949	51.711	1617.009	No
SLV 8	-18547	-20947	-240	0.034	22.968	0.949	51.711	1617.009	No
SLV 12	-19209	-20968	-198	0.036	23.64	0.95	54.879	1617.009	No
SLV 11	-19209	-20968	-198	0.036	23.64	0.95	54.879	1617.009	No
SLV 5	-22407	-27161	-27	0.043	26.888	0.955	65.842	1617.009	No
SLV 6	-22407	-27161	-27	0.043	26.888	0.955	65.842	1617.009	No
SLV 10	-23069	-27182	15	0.044	27.561	0.956	66.311	1617.009	No
SLV 9	-23069	-27182	15	0.044	27.561	0.956	66.311	1617.009	No
SLV 4	-19125	-23099	-214	0.035	23.555	0.95	53.729	906.018	No
SLV 3	-19125	-23099	-214	0.035	23.555	0.95	53.729	906.018	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	21.047	SLV 69	Si
V_SLV	8.486	SLV 61	Si
PF_SLV	4.868	SLV 11	Si
V_SLV	1.043	SLV 7	Si
PFFP_SLV	7.756	SLV 7	Si
R_SLV	0.032	SLV 7	No

Maschio 261

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-35.4	-1100.3	104.6	L3	L5	140	28	725	725	725			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 74	173	-21620	120917	5.52	488732	4.042	Si
SLU 74	898	-15497	-24558	3.95	558325	22.735	Si
SLU 75	173	-21656	123165	5.52	487822	3.961	Si
SLU 75	898	-15461	-25581	3.94	558249	21.823	Si
SLU 84	173	-22615	128754	5.77	461881	3.587	Si
SLU 84	898	-15989	-34691	4.08	558807	16.108	Si
SLU 81	173	-22395	130881	5.71	468200	3.577	Si
SLU 81	898	-15542	-36232	3.96	558414	15.412	Si
SLU 77	173	-21804	116543	5.56	484101	4.154	Si
SLU 77	898	-15979	-21994	4.08	558808	25.407	Si
SLU 82	173	-22431	133128	5.72	467166	3.509	Si
SLU 82	898	-15506	-37255	3.96	558344	14.987	Si
SLU 78	173	-21840	118790	5.57	483162	4.067	Si
SLU 78	898	-15943	-23017	4.07	558807	24.278	Si
SLU 76	173	-21445	121547	5.47	492993	4.056	Si
SLU 76	898	-15159	-26610	3.87	557381	20.946	Si
SLU 73	173	-21261	125922	5.42	497335	3.95	Si

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 73	898	-14676	-29174	3.74	555162	19.029	Si
SLU 83	173	-22579	126507	5.76	462945	3.659	Si
SLU 83	898	-16025	-33668	4.09	558800	16.597	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	173	-17240	221211	4.4	772444	3.492	Si
SLV 12	898	-10377	-61991	2.65	569012	9.179	Si
SLV 3	173	-20068	168779	5.12	816202	4.836	Si
SLV 3	898	-9311	-1164	2.38	525058	451.118	Si
SLV 8	173	-19861	246267	5.07	813789	3.304	Si
SLV 8	898	-9902	-47745	2.53	549833	11.516	Si
SLD 12	173	-15666	140413	4	737945	5.256	Si
SLD 12	898	-10211	-33171	2.6	562381	16.954	Si
SLV 11	173	-17240	221211	4.4	772444	3.492	Si
SLV 11	898	-10377	-61991	2.65	569012	9.179	Si
SLD 11	173	-15666	140413	4	737945	5.256	Si
SLD 11	898	-10211	-33171	2.6	562381	16.954	Si
SLD 8	173	-16734	151175	4.27	762143	5.041	Si
SLD 8	898	-10008	-27146	2.55	554192	20.416	Si
SLV 4	173	-20068	168779	5.12	816202	4.836	Si
SLV 4	898	-9311	-1164	2.38	525058	451.118	Si
SLD 7	173	-16734	151175	4.27	762143	5.041	Si
SLD 7	898	-10008	-27146	2.55	554192	20.416	Si
SLV 7	173	-19861	246267	5.07	813789	3.304	Si
SLV 7	898	-9902	-47745	2.53	549833	11.516	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 69	173	-19016	-682	96232		4.85	140	1.08	4247			6.23	Si
SLU 69	898	-14099	-951	-1548		3.6	140	1.04	4058			4.27	Si
SLU 30	173	-15650	-626	78333		3.99	140	1.08	4247			6.78	Si
SLU 30	898	-11583	-922	558		2.95	140	0.95	3722			4.04	Si
SLU 8	173	-13425	-532	62989		3.42	140	1.01	3968			7.46	Si
SLU 8	898	-10073	-746	-2172		2.57	140	0.9	3521			4.72	Si
SLU 37	173	-18401	-750	96397		4.69	140	1.08	4247			5.67	Si
SLU 37	898	-13499	-839	-18866		3.44	140	1.01	3978			4.74	Si
SLU 28	173	-15886	-598	81449		4.05	140	1.08	4247			7.11	Si
SLU 28	898	-11861	-894	906		3.03	140	0.96	3759			4.21	Si
SLU 71	173	-18781	-710	93116		4.79	140	1.08	4247			5.98	Si
SLU 71	898	-13822	-979	-1896		3.53	140	1.03	4021			4.11	Si
SLU 29	173	-15614	-698	76086		3.98	140	1.08	4247			6.09	Si
SLU 29	898	-11619	-970	1580		2.96	140	0.95	3727			3.84	Si
SLU 27	173	-15849	-669	79201		4.04	140	1.08	4247			6.34	Si
SLU 27	898	-11897	-942	1928		3.03	140	0.96	3764			4	Si
SLU 72	173	-18817	-638	95364		4.8	140	1.08	4247			6.65	Si
SLU 72	898	-13786	-931	-2918		3.52	140	1.02	4016			4.31	Si
SLU 70	173	-19053	-610	98479		4.86	140	1.08	4247			6.96	Si
SLU 70	898	-14063	-903	-2571		3.59	140	1.03	4053			4.49	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	173	-11718	-3623	-58646		2.99	140	1.43	5610			1.55	Si
SLV 5	898	-9797	-3468	37853		2.5	140	1.33	5226			1.51	Si
SLV 6	173	-11718	-3623	-58646		2.99	140	1.43	5610			1.55	Si
SLV 6	898	-9797	-3468	37853		2.5	140	1.33	5226			1.51	Si
SLV 12	173	-17240	3037	221211		4.4	140	1.63	6370			2.1	Si
SLV 12	898	-10377	2841	-61991		2.65	140	1.36	5342			1.88	Si
SLV 8	173	-19861	3762	246267		5.07	140	1.63	6370			1.69	Si
SLV 8	898	-9902	3523	-47745		2.53	140	1.34	5247			1.49	Si
SLV 9	173	-9098	-4348	-83702		2.32	140	1.3	5086			1.17	Si
SLV 9	898	-10272	-4150	23606		2.62	140	1.36	5321			1.28	Si
SLV 14	173	-8891	-2610	-6215		2.27	140	1.29	5045			1.93	Si
SLV 14	898	-10863	-2500	-22974		2.77	140	1.39	5439			2.18	Si
SLV 10	173	-9098	-4348	-83702		2.32	140	1.3	5086			1.17	Si
SLV 10	898	-10272	-4150	23606		2.62	140	1.36	5321			1.28	Si
SLV 7	173	-19861	3762	246267		5.07	140	1.63	6370			1.69	Si
SLV 7	898	-9902	3523	-47745		2.53	140	1.34	5247			1.49	Si
SLV 11	173	-17240	3037	221211		4.4	140	1.63	6370			2.1	Si
SLV 11	898	-10377	2841	-61991		2.65	140	1.36	5342			1.88	Si
SLV 13	173	-8891	-2610	-6215		2.27	140	1.29	5045			1.93	Si
SLV 13	898	-10863	-2500	-22974		2.77	140	1.39	5439			2.18	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 535.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.35	2.74	-10738	57087	116628	2.04	Si
SLV 5	14	0.35	2.74	-10738	57087	116628	2.04	Si
SLV 10	14	0.35	2.92	-11448	57087	121969	2.14	Si
SLV 9	14	0.35	2.92	-11448	57087	121969	2.14	Si
SLV 1	14	0.35	2.94	-11516	57087	122463	2.15	Si
SLV 2	14	0.35	2.94	-11516	57087	122463	2.15	Si
SLV 3	14	0.35	3.29	-12894	57087	131922	2.31	Si
SLV 4	14	0.35	3.29	-12894	57087	131922	2.31	Si
SLV 13	14	0.35	3.54	-13885	57087	138039	2.42	Si
SLV 14	14	0.35	3.54	-13885	57087	138039	2.42	Si



Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 535.5 $W_a = 0.05$ $T_a = 0.3135$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-9311	-20068	264	0.001	13.559	0.922	1.895	988.543	No
SLV 4	-9311	-20068	264	0.001	13.559	0.922	1.895	988.543	No
SLV 14	-10863	-8891	-279	0.002	15.122	0.928	3.45	988.543	No
SLV 13	-10863	-8891	-279	0.002	15.122	0.928	3.45	988.543	No
SLV 1	-9279	-17625	208	0.006	13.528	0.922	9.345	988.543	No
SLV 2	-9279	-17625	208	0.006	13.528	0.922	9.345	988.543	No
SLV 15	-10894	-11333	-222	0.006	15.153	0.929	10.087	988.543	No
SLV 16	-10894	-11333	-222	0.006	15.153	0.929	10.087	988.543	No
SLV 10	-10272	-9098	-175	0.01	14.526	0.926	14.998	239.674	No
SLV 9	-10272	-9098	-175	0.01	14.526	0.926	14.998	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.509	SLU 82	Si
V_SLU	3.843	SLU 29	Si
PF_SLV	3.304	SLV 7	Si
V_SLV	1.17	SLV 9	Si
PFFP_SLV	2.043	SLV 5	Si
R_SLV	0.002	SLV 3	No

Maschio 262

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1051.8	-485.9	-1100.3	-485.9	L3	F1	48.5	30	1326.6	1326.5	1326.6			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 43	1250	-1014	4433	0.7	22457	5.066	Si
SLU 43	1462	-285	-3837	0.2	6733	1.755	Si
SLU 44	1250	-1038	4242	0.71	22941	5.408	Si
SLU 44	1462	-280	-4156	0.19	6621	1.593	Si
SLU 47	1250	-1188	3905	0.82	25888	6.629	Si
SLU 47	1462	-324	-3665	0.22	7627	2.081	Si
SLU 65	1250	-1136	3815	0.78	24885	6.523	Si
SLU 65	1462	-299	-3762	0.21	7059	1.876	Si
SLU 52	1250	-1089	3393	0.75	23947	7.058	Si
SLU 52	1462	-273	-3387	0.19	6472	1.911	Si
SLU 23	1250	-928	2680	0.64	20724	7.734	Si
SLU 23	1462	-238	-2773	0.16	5656	2.04	Si
SLU 64	1250	-1112	4006	0.77	24411	6.093	Si
SLU 64	1462	-304	-3442	0.21	7171	2.083	Si
SLU 46	1250	-1152	4063	0.79	25184	6.199	Si
SLU 46	1462	-319	-3650	0.22	7524	2.061	Si
SLU 1	1250	-806	3297	0.55	18192	5.517	Si
SLU 1	1462	-224	-2847	0.15	5325	1.87	Si
SLU 2	1250	-830	3106	0.57	18696	6.019	Si
SLU 2	1462	-219	-3167	0.15	5212	1.646	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 11	1250	59	2946	0	0	0	No, Trazione
SLV 11	1462	-71	-3797	0	0	0	No, e>/2
SLV 9	1250	-989	3189	0.68	22635	7.097	Si
SLV 9	1462	-315	11572	0	0	0	No, e>/2
SLV 7	1250	-707	2677	0.49	16451	6.146	Si
SLV 7	1462	-141	-16602	0	0	0	No, e>/2
SLV 10	1250	-989	3189	0.68	22635	7.097	Si
SLV 10	1462	-315	11572	0	0	0	No, e>/2
SLV 8	1250	-707	2677	0.49	16451	6.146	Si
SLV 8	1462	-141	-16602	0	0	0	No, e>/2
SLV 13	1250	271	3419	0	0	0	No, Trazione
SLV 13	1462	-149	21131	0	0	0	No, e>/2
SLV 4	1250	-1968	2447	1.35	42392	17.323	Si
SLV 4	1462	-307	-26161	0	0	0	No, e>/2
SLV 14	1250	271	3419	0	0	0	No, Trazione
SLV 14	1462	-149	21131	0	0	0	No, e>/2
SLD 1	1250	-1460	2752	1	32456	11.795	Si
SLD 1	1462	-292	-10625	0	0	0	No, e>/2
SLV 12	1250	59	2946	0	0	0	No, Trazione
SLV 12	1462	-71	-3797	0	0	0	No, e>/2



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLU 65	1250	-1136	119	3815		0.78	48.45	0.66	959			8.05	Si
SLU 65	1462	-299	-140	-3762		0.29	34.92	0.59	622			4.45	Si
SLU 73	1250	-1187	94	2966		0.82	48.45	0.66	966			10.33	Si
SLU 73	1462	-292	-108	-2993		0.23	41.98	0.59	739			6.82	Si
SLU 47	1250	-1188	123	3905		0.82	48.45	0.66	966			7.87	Si
SLU 47	1462	-324	-111	-3665		0.28	38.71	0.59	688			6.2	Si
SLU 2	1250	-830	96	3106		0.57	48.45	0.63	918			9.52	Si
SLU 2	1462	-219	-136	-3167		0.25	29.34	0.59	518			3.8	Si
SLU 23	1250	-928	84	2680		0.64	48.45	0.64	931			11.12	Si
SLU 23	1462	-238	-111	-2773		0.21	37.76	0.58	661			5.94	Si
SLU 52	1250	-1089	106	3393		0.75	48.45	0.66	953			8.97	Si
SLU 52	1462	-273	-133	-3387		0.26	35.52	0.59	628			4.71	Si
SLU 10	1250	-881	71	2258		0.61	48.45	0.64	925			13.05	Si
SLU 10	1462	-213	-105	-2398		0.18	38.87	0.58	676			6.45	Si
SLU 43	1250	-1014	139	4433		0.7	48.45	0.65	943			6.8	Si
SLU 43	1462	-285	-95	-3837		0.29	32.26	0.59	576			6.06	Si
SLU 46	1250	-1152	128	4063		0.79	48.45	0.66	961			7.53	Si
SLU 46	1462	-319	-94	-3650		0.28	38.37	0.59	682			7.24	Si
SLU 44	1250	-1038	132	4242		0.71	48.45	0.65	946			7.18	Si
SLU 44	1462	-280	-165	-4156		0.33	28.13	0.6	506			3.07	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt _{lim}	c.s.	Verifica
SLV 11	1250	59	159	2946		0	0	0.83	0			0	No, Vu<V
SLV 11	1462	-71	-693	-3797		0	0	0.83	0			0	No, Vu<V
SLV 12	1250	59	159	2946		0	0	0.83	0			0	No, Vu<V
SLV 12	1462	-71	-693	-3797		0	0	0.83	0			0	No, Vu<V
SLV 9	1250	-989	-191	3189		0.68	48.45	0.97	1409			7.37	Si
SLV 9	1462	-315	59	11572		0	0	0.83	0			0	No, Vu<V
SLD 1	1250	-1460	224	2752		1	48.45	1.03	1503			6.72	Si
SLD 1	1462	-292	375	-10625		0	0	0.83	0			0	No, Vu<V
SLV 14	1250	271	-321	3419		0	0	0.83	0			0	No, Vu<V
SLV 14	1462	-149	-826	21131		0	0	0.83	0			0	No, Vu<V
SLV 4	1250	-1968	506	2447		1.35	48.45	1.1	1605			3.17	Si
SLV 4	1462	-307	725	-26161		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	-989	-191	3189		0.68	48.45	0.97	1409			7.37	Si
SLV 10	1462	-315	59	11572		0	0	0.83	0			0	No, Vu<V
SLV 7	1250	-707	376	2677		0.49	48.45	0.93	1353			3.6	Si
SLV 7	1462	-141	-160	-16602		0	0	0.83	0			0	No, Vu<V
SLV 8	1250	-707	376	2677		0.49	48.45	0.93	1353			3.6	Si
SLV 8	1462	-141	-160	-16602		0	0	0.83	0			0	No, Vu<V
SLV 13	1250	271	-321	3419		0	0	0.83	0			0	No, Vu<V
SLV 13	1462	-149	-826	21131		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 836.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.41	0	-3983	79320	0	0	No, e>t/2
SLV 7	14	0.41	0	-1602	79320	0	0	No, e>t/2
SLV 10	14	0.41	0	-3276	79320	0	0	No, e>t/2
SLV 1	14	0.41	0	-3983	79320	0	0	No, e>t/2
SLV 5	14	0.41	0	-3988	79320	0	0	No, e>t/2
SLV 6	14	0.41	0	-3988	79320	0	0	No, e>t/2
SLV 9	14	0.41	0	-3276	79320	0	0	No, e>t/2
SLV 4	14	0.41	0	-3267	79320	0	0	No, e>t/2
SLV 3	14	0.41	0	-3267	79320	0	0	No, e>t/2
SLV 8	14	0.41	0	-1602	79320	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 836.3 Wa = 0.05 Ta = 0.9796

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	183	-2114	-13	0	0	0	0	239.674	No, Trazione
SLV 3	55	3059	-1	0	0	0	0	239.674	No, Trazione
SLV 11	183	-2114	-13	0	0	0	0	239.674	No, Trazione
SLV 7	204	1686	-13	0	0	0	0	239.674	No, Trazione
SLV 1	-95	435	8	0	0	0	0	239.674	No, Trazione
SLV 4	55	3059	-1	0	0	0	0	239.674	No, Trazione
SLV 8	204	1686	-13	0	0	0	0	239.674	No, Trazione
SLV 2	-95	435	8	0	0	0	0	239.674	No, Trazione
SLV 5	-295	-7059	19	0.012	3.614	0.942	18.042	239.674	No
SLV 6	-295	-7059	19	0.012	3.614	0.942	18.042	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.593	SLU 44	Si
V_SLU	3.069	SLU 44	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 12	No



Maschio 263

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-772.3	-485.9	-867.8	-485.9	L3	F1	95.5	30	1326.4	1326.3	1326.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 23	1250	-2355	5537	0.82	101172	18.272	Si
SLU 23	1462	-859	-14305	0.3	39531	2.764	Si
SLU 29	1250	-1918	-562	0.67	84105	149.555	Si
SLU 29	1462	-584	9500	0.2	27203	2.863	Si
SLU 52	1250	-2921	5535	1.02	122102	22.06	Si
SLU 52	1462	-1007	-16436	0.35	46023	2.8	Si
SLU 65	1250	-2871	6131	1	120305	19.622	Si
SLU 65	1462	-988	-15296	0.34	45182	2.954	Si
SLU 73	1250	-3009	5341	1.05	125213	23.445	Si
SLU 73	1462	-1066	-15381	0.37	48593	3.159	Si
SLU 31	1250	-2493	4746	0.87	106370	22.41	Si
SLU 31	1462	-937	-14389	0.33	42983	2.987	Si
SLU 44	1250	-2784	6325	0.97	117145	18.52	Si
SLU 44	1462	-928	-16352	0.32	42593	2.605	Si
SLU 10	1250	-2405	4941	0.84	103075	20.862	Si
SLU 10	1462	-878	-15445	0.31	40383	2.615	Si
SLU 2	1250	-2268	5731	0.79	97829	17.069	Si
SLU 2	1462	-800	-15360	0.28	36912	2.403	Si
SLU 8	1250	-1831	-368	0.64	80604	218.989	Si
SLU 8	1462	-525	8444	0.18	24517	2.903	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 1	1250	-1221	17572	0.43	56292	3.203	Si
SLD 1	1462	16	-1799	0	0	0	No, Trazione
SLV 3	1250	-249	-7892	0.09	11810	1.497	Si
SLV 3	1462	-81	-54178	0	0	0	No, e>1/2
SLV 13	1250	-3519	10846	1.23	151214	13.942	Si
SLV 13	1462	-989	50536	0	0	0	No, e>1/2
SLV 9	1250	-2455	77787	0.86	109069	1.402	Si
SLV 9	1462	702	98046	0	0	0	No, Trazione
SLV 7	1250	-1313	-74832	0	0	0	No, e>1/2
SLV 7	1462	-1771	-101688	0	0	0	No, e>1/2
SLV 8	1250	-1313	-74832	0	0	0	No, e>1/2
SLV 8	1462	-1771	-101688	0	0	0	No, e>1/2
SLV 4	1250	-249	-7892	0.09	11810	1.497	Si
SLV 4	1462	-81	-54178	0	0	0	No, e>1/2
SLV 1	1250	-302	40569	0	0	0	No, e>1/2
SLV 1	1462	824	1312	0	0	0	No, Trazione
SLV 2	1250	-302	40569	0	0	0	No, e>1/2
SLV 2	1462	824	1312	0	0	0	No, Trazione
SLV 14	1250	-3519	10846	1.23	151214	13.942	Si
SLV 14	1462	-989	50536	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 42	1250	-2378	12	1755	0.83	95.55	95.55	0.67	1909			165.54	Si
SLU 42	1462	-864	218	-3849	0.3	95.55	95.55	0.6	1708			7.82	Si
SLU 78	1250	-2845	-10	1980	0.99	95.55	95.55	0.69	1972			196.92	Si
SLU 78	1462	-976	210	-705	0.34	95.55	95.55	0.6	1723			8.2	Si
SLU 84	1250	-2894	33	2349	1.01	95.55	95.55	0.69	1978			60.77	Si
SLU 84	1462	-992	211	-4840	0.35	95.55	95.55	0.6	1725			8.19	Si
SLU 76	1250	-3014	86	4277	1.05	95.55	95.55	0.7	1994			23.06	Si
SLU 76	1462	-1081	221	-10109	0.38	95.55	95.55	0.61	1737			7.85	Si
SLU 38	1250	-2324	-44	1031	0.81	95.55	95.55	0.66	1902			42.82	Si
SLU 38	1462	-845	222	1459	0.29	95.55	95.55	0.59	1705			7.69	Si
SLU 36	1250	-2329	-31	1386	0.81	95.55	95.55	0.66	1903			61.32	Si
SLU 36	1462	-848	218	287	0.3	95.55	95.55	0.59	1705			7.83	Si
SLU 31	1250	-2493	128	4746	0.87	95.55	95.55	0.67	1925			15.02	Si
SLU 31	1462	-937	201	-14389	0.33	95.55	95.55	0.6	1717			8.54	Si
SLU 34	1250	-2498	65	3683	0.87	95.55	95.55	0.67	1926			29.42	Si
SLU 34	1462	-952	229	-9117	0.33	95.55	95.55	0.6	1719			7.51	Si
SLU 80	1250	-2840	-23	1625	0.99	95.55	95.55	0.69	1971			84.19	Si
SLU 80	1462	-973	214	467	0.34	95.55	95.55	0.6	1722			8.05	Si
SLU 40	1250	-2372	74	2819	0.83	95.55	95.55	0.67	1909			25.72	Si
SLU 40	1462	-849	191	-9120	0.3	95.55	95.55	0.6	1706			8.94	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1250	-302	691	40569	0	0	0	0.83	0			0	No, Vu<V
SLV 2	1462	824	-571	1312	0	0	0	0.83	0			0	No, Vu<V
SLV 9	1250	-2455	-599	77787	1.7	48.27	1.17	1698				2.83	Si



Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	1462	702	-142	98046		0	0	0.83	0			0	No, Vu<V
SLV 1	1250	-302	691	40569		0	0	0.83	0			0	No, Vu<V
SLV 1	1462	824	-571	1312		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	-2455	-599	77787		1.7	48.27	1.17	1698			2.83	Si
SLV 10	1462	702	-142	98046		0	0	0.83	0			0	No, Vu<V
SLV 8	1250	-1313	671	-74832		0	0	0.83	0			0	No, Vu<V
SLV 8	1462	-1771	233	-101688		0	0	0.83	0			0	No, Vu<V
SLV 4	1250	-249	933	-7892		0.17	48.23	0.87	1256			1.35	Si
SLV 4	1462	-81	-366	-54178		0	0	0.83	0			0	No, Vu<V
SLV 7	1250	-1313	671	-74832		0	0	0.83	0			0	No, Vu<V
SLV 7	1462	-1771	233	-101688		0	0	0.83	0			0	No, Vu<V
SLV 3	1250	-249	933	-7892		0.17	48.23	0.87	1256			1.35	Si
SLV 3	1462	-81	-366	-54178		0	0	0.83	0			0	No, Vu<V
SLV 5	1250	-1490	-134	86703		0	0	0.83	0			0	No, Vu<V
SLV 5	1462	1246	-451	83278		0	0	0.83	0			0	No, Vu<V
SLD 1	1250	-1221	319	17572		0.43	95.55	0.92	2633			8.27	Si
SLD 1	1462	16	-213	-1799		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 836.2 Wa 0.05 denominatore $8 \gamma M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.41	0	-4526	156362	0	0	No, e>t/2
SLV 4	14	0.41	0	-2283	156362	0	0	No, e>t/2
SLV 10	14	0.41	0	-8833	156362	0	0	No, e>t/2
SLV 1	14	0.41	0	-4526	156362	0	0	No, e>t/2
SLV 9	14	0.41	0	-8833	156362	0	0	No, e>t/2
SLV 3	14	0.41	0	-2283	156362	0	0	No, e>t/2
SLV 6	14	0.41	0	-8053	156362	0	0	No, e>t/2
SLV 8	14	0.41	0	-576	156362	0	0	No, e>t/2
SLV 5	14	0.41	0	-8053	156362	0	0	No, e>t/2
SLV 7	14	0.41	0	-576	156362	0	0	No, e>t/2

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 836.2 Wa = 0.05 Ta = 0.9793

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	849	-14392	-55	0	0	0	0	239.674	No, Trazione
SLV 1	381	-6500	165	0	0	0	0	239.674	No, Trazione
SLV 5	974	-12227	48	0	0	0	0	239.674	No, Trazione
SLV 3	-252	-3757	162	0	7.009	0.969	0	239.674	No
SLV 14	-36	-13717	-179	0	6.977	0.995	0	239.674	No
SLV 2	381	-6500	165	0	0	0	0	239.674	No, Trazione
SLV 13	-36	-13717	-179	0	6.977	0.995	0	239.674	No
SLV 10	849	-14392	-55	0	0	0	0	239.674	No, Trazione
SLV 6	974	-12227	48	0	0	0	0	239.674	No, Trazione
SLV 4	-252	-3757	162	0	7.009	0.969	0	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.403	SLU 2	Si
V_SLU	7.511	SLU 34	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 10	No

Maschio 264

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-772.3	-500.9	-772.3	-486.1	L4	F1	14.7	30	949.8	946.4	953.2			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 24	1250	-120	720	0.27	852	1.183	Si
SLU 24	1462	-13	160	0	0	0	No, e>l/2
SLU 59	1250	-164	970	0.37	1152	1.188	Si
SLU 59	1462	-38	326	0	0	0	No, e>l/2
SLU 27	1250	-114	697	0.26	817	1.173	Si
SLU 27	1462	25	214	0	0	0	No, Trazione
SLU 58	1250	-156	940	0.35	1099	1.168	Si
SLU 58	1462	-5	206	0	0	0	No, e>l/2
SLU 35	1250	-115	707	0.26	821	1.161	Si
SLU 35	1462	21	242	0	0	0	No, Trazione
SLU 49	1250	-163	958	0.37	1146	1.197	Si
SLU 49	1462	-39	292	0	0	0	No, e>l/2
SLU 32	1250	-120	731	0.27	856	1.171	Si
SLU 32	1462	-16	188	0	0	0	No, e>l/2

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Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 29	1250	-115	698	0.26	819	1.173	Si
SLU 29	1462	30	221	0	0	0	No, Trazione
SLU 28	1250	-122	726	0.28	872	1.2	Si
SLU 28	1462	-8	334	0	0	0	No, e>l/2
SLU 30	1250	-123	728	0.28	874	1.2	Si
SLU 30	1462	-3	341	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 7	1250	-640	2596	1.45	4159	1.602	Si
SLV 7	1462	-382	18610	0	0	0	No, e>l/2
SLV 8	1250	-640	2596	1.45	4159	1.602	Si
SLV 8	1462	-382	18610	0	0	0	No, e>l/2
SLV 10	1250	387	-1091	0	0	0	No, Trazione
SLV 10	1462	274	-18436	0	0	0	No, Trazione
SLD 1	1250	-128	765	0.29	922	1.206	Si
SLD 1	1462	-59	-2611	0	0	0	No, e>l/2
SLV 11	1250	-554	2285	1.25	3669	1.606	Si
SLV 11	1462	-330	19296	0	0	0	No, e>l/2
SLV 14	1250	157	-272	0	0	0	No, Trazione
SLV 14	1462	123	-4428	0	0	0	No, Trazione
SLV 12	1250	-554	2285	1.25	3669	1.606	Si
SLV 12	1462	-330	19296	0	0	0	No, e>l/2
SLV 6	1250	302	-781	0	0	0	No, Trazione
SLV 6	1462	223	-19122	0	0	0	No, Trazione
SLV 13	1250	157	-272	0	0	0	No, Trazione
SLV 13	1462	123	-4428	0	0	0	No, Trazione
SLV 9	1250	387	-1091	0	0	0	No, Trazione
SLV 9	1462	274	-18436	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	1250	-123	8	728	0.95	4.32	0.68	88				10.5	Si
SLU 30	1462	-3	53	341	0	0	0.56	0				0	No, Vu<V
SLU 32	1250	-120	8	731	1.04	3.86	0.69	80				9.47	Si
SLU 32	1462	-16	41	188	0	0	0.56	0				0	No, Vu<V
SLU 51	1250	-163	12	960	1.22	4.47	0.72	96				8.05	Si
SLU 51	1462	-34	52	298	0	0	0.56	0				0	No, Vu<V
SLU 56	1250	-155	12	939	1.29	4	0.73	87				7.15	Si
SLU 56	1462	-10	33	200	0	0	0.56	0				0	No, Vu<V
SLU 29	1250	-115	10	698	0.99	3.86	0.69	80				8.14	Si
SLU 29	1462	30	19	221	0	0	0.56	0				0	No, Vu<V
SLU 27	1250	-114	10	697	0.99	3.86	0.69	80				8.36	Si
SLU 27	1462	25	22	214	0	0	0.56	0				0	No, Vu<V
SLU 57	1250	-163	11	969	1.25	4.34	0.72	94				8.66	Si
SLU 57	1462	-42	68	320	0	0	0.56	0				0	No, Vu<V
SLU 35	1250	-115	9	707	1.04	3.68	0.69	77				8.81	Si
SLU 35	1462	21	34	242	0	0	0.56	0				0	No, Vu<V
SLU 24	1250	-120	9	720	0.99	4.04	0.69	83				8.95	Si
SLU 24	1462	-13	29	160	0	0	0.56	0				0	No, Vu<V
SLU 28	1250	-122	8	726	0.94	4.32	0.68	88				10.83	Si
SLU 28	1462	-8	56	334	0	0	0.56	0				0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	1250	387	-66	-1091	0	0	0.83	0				0	No, Vu<V
SLV 9	1462	274	-133	-18436	0	0	0.83	0				0	No, Vu<V
SLV 6	1250	302	-49	-781	0	0	0.83	0				0	No, Vu<V
SLV 6	1462	223	-193	-19122	0	0	0.83	0				0	No, Vu<V
SLV 11	1250	-554	68	2285	1.89	9.76	1.21	355				5.23	Si
SLV 11	1462	-330	257	19296	0	0	0.83	0				0	No, Vu<V
SLV 7	1250	-640	85	2596	2.14	9.95	1.26	377				4.45	Si
SLV 7	1462	-382	197	18610	0	0	0.83	0				0	No, Vu<V
SLV 10	1250	387	-66	-1091	0	0	0.83	0				0	No, Vu<V
SLV 10	1462	274	-133	-18436	0	0	0.83	0				0	No, Vu<V
SLV 14	1250	157	-38	-272	0	0	0.83	0				0	No, Vu<V
SLV 14	1462	123	75	-4428	0	0	0.83	0				0	No, Vu<V
SLV 13	1250	157	-38	-272	0	0	0.83	0				0	No, Vu<V
SLV 13	1462	123	75	-4428	0	0	0.83	0				0	No, Vu<V
SLV 8	1250	-640	85	2596	2.14	9.95	1.26	377				4.45	Si
SLV 8	1462	-382	197	18610	0	0	0.83	0				0	No, Vu<V
SLV 12	1250	-554	68	2285	1.89	9.76	1.21	355				5.23	Si
SLV 12	1462	-330	257	19296	0	0	0.83	0				0	No, Vu<V
SLD 1	1250	-128	13	765	1.01	4.21	1.04	131				10.23	Si
SLD 1	1462	-59	-32	-2611	0	0	0.83	0				0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1019.2 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.45	0	1070	13486	0	0	No, Trazione
SLV 5	14	0.45	0	1070	13486	0	0	No, Trazione
SLV 10	14	0.45	0	1334	13486	0	0	No, Trazione
SLV 16	14	0.45	0	-200	13486	0	0	No, e>t/2
SLV 13	14	0.45	0	650	13486	0	0	No, Trazione
SLV 9	14	0.45	0	1334	13486	0	0	No, Trazione
SLV 15	14	0.45	0	-200	13486	0	0	No, e>t/2
SLV 14	14	0.45	0	650	13486	0	0	No, Trazione



Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.45	0	-230	13486	0	0	No, $e>t/2$
SLV 2	14	0.45	0	-230	13486	0	0	No, $e>t/2$

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1019.2 $W_a = 0.05$ $T_a = 0.5022$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 7	-180	694	-73	0	0	0	0	239.674	No, Trazione
SLV 5	111	-3500	170	0	0	0	0	239.674	No, Trazione
SLV 9	155	-2916	73	0	0	0	0	239.674	No, Trazione
SLV 1	-42	-2714	198	0	0.779	0.957	0	274.306	No
SLV 4	-130	-1456	125	0	0.825	0.913	0	274.306	No
SLV 2	-42	-2714	198	0	0.779	0.957	0	274.306	No
SLV 10	155	-2916	73	0	0	0	0	239.674	No, Trazione
SLV 8	-180	694	-73	0	0	0	0	239.674	No, Trazione
SLV 3	-130	-1456	125	0	0.825	0.913	0	274.306	No
SLV 6	111	-3500	170	0	0	0	0	239.674	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 79	No
V_SLU	0	SLU 6	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 14	No
R_SLV	0	SLV 16	No

Maschio 265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-772.3	-377.1	-772.3	-349.9	L3	F1	27.3	30	1382.9	1376.6	1389.2			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 1	1250	-494	-1616	0.6	6228	3.855	Si
SLU 1	1462	-73	1043	0	0	0	No, $e>l/2$
SLU 55	1250	-904	-8772	1.11	10644	1.213	Si
SLU 55	1462	333	4030	0	0	0	No, Trazione
SLU 53	1250	-719	-2776	0.88	8739	3.148	Si
SLU 53	1462	-84	1739	0	0	0	No, $e>l/2$
SLU 59	1250	-894	-6001	1.09	10549	1.758	Si
SLU 59	1462	138	2978	0	0	0	No, Trazione
SLU 58	1250	-766	-2291	0.94	9237	4.032	Si
SLU 58	1462	-98	1517	0	0	0	No, $e>l/2$
SLU 52	1250	-828	-9071	1.01	9878	1.089	Si
SLU 52	1462	370	4107	0	0	0	No, Trazione
SLU 57	1250	-923	-6187	1.13	10835	1.751	Si
SLU 57	1462	115	3123	0	0	0	No, Trazione
SLU 54	1250	-847	-6485	1.04	10076	1.554	Si
SLU 54	1462	153	3200	0	0	0	No, Trazione
SLU 56	1250	-795	-2477	0.97	9539	3.85	Si
SLU 56	1462	-121	1661	0	0	0	No, $e>l/2$
SLU 51	1250	-914	-4965	1.12	10744	2.164	Si
SLU 51	1462	50	2547	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 10	1250	2646	29223	0	0	0	No, Trazione
SLV 10	1462	2513	30808	0	0	0	No, Trazione
SLV 14	1250	-614	1178	0.75	7857	6.669	Si
SLV 14	1462	1190	11688	0	0	0	No, Trazione
SLV 13	1250	-614	1178	0.75	7857	6.669	Si
SLV 13	1462	1190	11688	0	0	0	No, Trazione
SLV 4	1250	-375	-5415	0	0	0	No, $e>l/2$
SLV 4	1462	-1259	-9163	1.54	14992	1.636	Si
SLV 5	1250	3346	33248	0	0	0	No, Trazione
SLV 5	1462	2210	29778	0	0	0	No, Trazione
SLV 2	1250	1719	14597	0	0	0	No, Trazione
SLV 2	1462	178	8256	0	0	0	No, Trazione
SLV 3	1250	-375	-5415	0	0	0	No, $e>l/2$
SLV 3	1462	-1259	-9163	1.54	14992	1.636	Si
SLV 6	1250	3346	33248	0	0	0	No, Trazione
SLV 6	1462	2210	29778	0	0	0	No, Trazione
SLV 9	1250	2646	29223	0	0	0	No, Trazione
SLV 9	1462	2513	30808	0	0	0	No, Trazione
SLD 1	1250	408	4478	0	0	0	No, Trazione
SLD 1	1462	45	4028	0	0	0	No, Trazione



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 57	1250	-923	-222	-6187		1.48	20.77	0.75	469			2.11	Si
SLU 57	1462	115	191	3123		0	0	0.56	0			0	No, Vu<V
SLU 56	1250	-795	-98	-2477		0.97	27.25	0.69	560			5.72	Si
SLU 56	1462	-121	87	1661		0	0	0.56	0			0	No, Vu<V
SLU 1	1250	-494	-57	-1616		0.6	27.25	0.64	520			9.16	Si
SLU 1	1462	-73	88	1043		0	0	0.56	0			0	No, Vu<V
SLU 52	1250	-828	-311	-9071		3.45	8.01	1.02	244			0.78	No, Vu<V
SLU 52	1462	370	322	4107		0	0	0.56	0			0	No, Vu<V
SLU 51	1250	-914	-175	-4965		1.24	24.58	0.72	531			3.03	Si
SLU 51	1462	50	142	2547		0	0	0.56	0			0	No, Vu<V
SLU 58	1250	-766	-93	-2291		0.94	27.25	0.68	556			6.01	Si
SLU 58	1462	-98	77	1517		0	0	0.56	0			0	No, Vu<V
SLU 54	1250	-847	-228	-6485		1.58	17.91	0.77	412			1.8	Si
SLU 54	1462	153	226	3200		0	0	0.56	0			0	No, Vu<V
SLU 53	1250	-719	-104	-2776		0.88	27.25	0.67	550			5.29	Si
SLU 53	1462	-84	122	1739		0	0	0.56	0			0	No, Vu<V
SLU 55	1250	-904	-305	-8772		2.56	11.76	0.9	317			1.04	Si
SLU 55	1462	333	287	4030		0	0	0.56	0			0	No, Vu<V
SLU 59	1250	-894	-217	-6001		1.44	20.75	0.75	465			2.15	Si
SLU 59	1462	138	182	2978		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ_0	σ_N	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1250	-375	606	-5415		0	0	0.83	0			0	No, Vu<V
SLV 3	1462	-1259	-638	-9163		2.2	19.04	1.27	728			1.14	Si
SLV 4	1250	-375	606	-5415		0	0	0.83	0			0	No, Vu<V
SLV 4	1462	-1259	-638	-9163		2.2	19.04	1.27	728			1.14	Si
SLV 9	1250	2646	-1075	29223		0	0	0.83	0			0	No, Vu<V
SLV 9	1462	2513	2185	30808		0	0	0.83	0			0	No, Vu<V
SLV 6	1250	3346	-821	33248		0	0	0.83	0			0	No, Vu<V
SLV 6	1462	2210	2106	29778		0	0	0.83	0			0	No, Vu<V
SLV 10	1250	2646	-1075	29223		0	0	0.83	0			0	No, Vu<V
SLV 10	1462	2513	2185	30808		0	0	0.83	0			0	No, Vu<V
SLV 13	1250	-614	-761	1178		0.75	27.25	0.98	804			1.06	Si
SLV 13	1462	1190	847	11688		0	0	0.83	0			0	No, Vu<V
SLD 1	1250	408	-8	4478		0	0	0.83	0			0	No, Vu<V
SLD 1	1462	45	295	4028		0	0	0.83	0			0	No, Vu<V
SLV 5	1250	3346	-821	33248		0	0	0.83	0			0	No, Vu<V
SLV 5	1462	2210	2106	29778		0	0	0.83	0			0	No, Vu<V
SLV 2	1250	1719	84	14597		0	0	0.83	0			0	No, Vu<V
SLV 2	1462	178	586	8256		0	0	0.83	0			0	No, Vu<V
SLV 14	1250	-614	-761	1178		0.75	27.25	0.98	804			1.06	Si
SLV 14	1462	1190	847	11688		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 861.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.42	0	-1578	49072	0	0	No, e>t/2
SLV 6	14	0.42	0	-386	49072	0	0	No, e>t/2
SLV 8	14	0.42	0	-2454	49072	0	0	No, e>t/2
SLV 9	14	0.42	0	-517	49072	0	0	No, e>t/2
SLV 10	14	0.42	0	-517	49072	0	0	No, e>t/2
SLV 7	14	0.42	0	-2454	49072	0	0	No, e>t/2
SLV 4	14	0.42	0	-1578	49072	0	0	No, e>t/2
SLV 2	14	0.42	0	-958	49072	0	0	No, e>t/2
SLV 1	14	0.42	0	-958	49072	0	0	No, e>t/2
SLV 5	14	0.42	0	-386	49072	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 861.3 Wa = 0.05 Ta = 1.0645

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 10	116	-18985	22	0	0	0	0	239.674	No, Trazione
SLV 3	-8	987	-50	0	0	0	0	239.674	No, Trazione
SLV 8	225	10110	-45	0	0	0	0	239.674	No, Trazione
SLV 4	-8	987	-50	0	0	0	0	239.674	No, Trazione
SLV 12	354	9411	-27	0	0	0	0	239.674	No, Trazione
SLV 11	354	9411	-27	0	0	0	0	239.674	No, Trazione
SLV 7	225	10110	-45	0	0	0	0	239.674	No, Trazione
SLV 2	-79	-7532	-35	0	2.085	0.968	0	239.674	No
SLV 1	-79	-7532	-35	0	2.085	0.968	0	239.674	No
SLV 9	116	-18985	22	0	0	0	0	239.674	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No



1.6 Verifiche travi di accoppiamento in muratura

Le unità di misura elencate nel capitolo sono in [cm, daN] ove non espressamente specificato.

X ini.: coordinata punto iniziale. [cm]

Y ini.: coordinata punto iniziale. [cm]

Z ini.inf.: coordinata punto iniziale. [cm]

Z ini.sup.: coordinata punto iniziale. [cm]

H ini.: altezza della sezione iniziale. [cm]

X fin.: coordinata punto finale. [cm]

Y fin.: coordinata punto finale. [cm]

Z fin.inf.: coordinata punto finale. [cm]

Z fin.sup.: coordinata punto finale. [cm]

H fin.: altezza della sezione finale. [cm]

Luce: lunghezza della trave. [cm]

Spessore: spessore. [cm]

R. Trazione: resistenza a trazione dell'elemento teso disposto orizzontalmente. [daN]

fb₋: resistenza normalizzata a compressione in direzione orizzontale dei blocchi. [daN/cm²]

f_{hk}: resistenza caratteristica a compressione della muratura utilizzata in direzione orizzontale. [daN/cm²]

f_{vk0}: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/cm²]

f_{hmedio}: resistenza media a compressione della muratura utilizzata in direzione orizzontale. [daN/cm²]

τ₀: resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/cm²]

f_{v0}: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/cm²]

μ: coefficiente di attrito [C8.7.1.17].

φ: coefficiente di ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.

f_{vk,lim}: valore caratteristico massimo della resistenza a taglio che può essere impiegata nel calcolo (§11.10.3.3). [daN/cm²]

E: modulo di elasticità longitudinale della muratura utilizzato. [daN/cm²]

G: modulo di elasticità tangenziale della muratura utilizzato. [daN/cm²]

FC: fattore di confidenza della muratura.

Sezione: sezione di verifica.

γ_M: fattore parziale di sicurezza del materiale.

N: sforzo normale. [daN]

M: momento flettente nel piano. [daN*cm]

Mu: momento ultimo. [daN*cm]

Comb.: combinazione.

c.s.: coefficiente di sicurezza.

Verifica: stato di verifica.

M: momento flettente. [daN*cm]

V: taglio nel piano. [daN]

Vt: resistenza a taglio secondo [7.8.4]. [daN]

Vp: resistenza a taglio secondo [7.8.6]. [daN]

Vt fess. diag.: resistenza a taglio per fessurazione diagonale secondo §C8.7.1.3.1.1 formule [C8.7.1.16] ovvero [C8.7.1.17]. [daN]

Vt,lim: taglio limite [C8.1.7.18]. [daN]

Stato limite: p_{F_SLV}=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche.

Coeff.s.: coefficiente di sicurezza.

Trave di accoppiamento 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2465.3	227.1	124	173	49	-2465.3	127.1	124	173	49	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb ₋	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ _M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2726	-47731	52331	SLU 78	1.1	Si
fin.	3	-1105	-37254	52331	SLU 78	1.4	Si
ini.	3	-2695	-48610	52331	SLU 77	1.08	Si
fin.	3	-929	-36303	52331	SLU 77	1.44	Si
ini.	3	-2702	-47260	52331	SLU 80	1.11	Si
fin.	3	-1106	-37109	52331	SLU 80	1.41	Si
ini.	3	-2773	-48799	52331	SLU 82	1.07	Si
fin.	3	-1075	-35795	52331	SLU 82	1.46	Si
ini.	3	-2673	-48220	52331	SLU 74	1.09	Si
fin.	3	-907	-35439	52331	SLU 74	1.48	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2672	-48139	52331	SLU 79	1.09	Si
fin.	3	-930	-36157	52331	SLU 79	1.45	Si
ini.	3	-2743	-49677	52331	SLU 81	1.05	Si
fin.	3	-899	-34844	52331	SLU 81	1.5	Si
ini.	3	-2703	-47341	52331	SLU 75	1.11	Si
fin.	3	-1083	-36390	52331	SLU 75	1.44	Si
ini.	3	-2765	-50067	52331	SLU 83	1.05	Si
fin.	3	-921	-35708	52331	SLU 83	1.47	Si
ini.	3	-2796	-49189	52331	SLU 84	1.06	Si
fin.	3	-1097	-36660	52331	SLU 84	1.43	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-49189	5381			566	213	SLU 84	0.04	No
fin.	3	0	-36660	-3664			566	213	SLU 84	0.06	No
ini.	3	0	-48139	5328			566	213	SLU 79	0.04	No
fin.	3	0	-36157	-3592			566	213	SLU 79	0.06	No
ini.	3	0	-48610	5375			566	213	SLU 77	0.04	No
fin.	3	0	-36303	-3609			566	213	SLU 77	0.06	No
ini.	3	0	-50067	5481			566	213	SLU 83	0.04	No
fin.	3	0	-35708	-3583			566	213	SLU 83	0.06	No
ini.	3	0	-47731	5275			566	213	SLU 78	0.04	No
fin.	3	0	-37254	-3690			566	213	SLU 78	0.06	No
ini.	3	0	-47260	5227			566	213	SLU 80	0.04	No
fin.	3	0	-37109	-3672			566	213	SLU 80	0.06	No
ini.	3	0	-47341	5218			566	213	SLU 75	0.04	No
fin.	3	0	-36390	-3619			566	213	SLU 75	0.06	No
ini.	3	0	-48220	5318			566	213	SLU 74	0.04	No
fin.	3	0	-35439	-3538			566	213	SLU 74	0.06	No
ini.	3	0	-49677	5425			566	213	SLU 81	0.04	No
fin.	3	0	-34844	-3512			566	213	SLU 81	0.06	No
ini.	3	0	-48799	5325			566	213	SLU 82	0.04	No
fin.	3	0	-35795	-3593			566	213	SLU 82	0.06	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	647	-4442	63471	SLV 10	14.29	Si
fin.	2	-2665	-57914	63471	SLV 10	1.1	Si
ini.	2	-512	-12322	63471	SLV 5	5.15	Si
fin.	2	-163	-66007	63471	SLV 5	0.96	No
ini.	2	-4335	-53145	63471	SLV 3	1.19	Si
fin.	2	3740	-28241	63471	SLV 3	2.25	Si
ini.	2	-4314	-60984	63471	SLV 8	1.04	Si
fin.	2	1350	6620	63471	SLV 8	9.59	Si
ini.	2	-3156	-53104	63471	SLV 12	1.2	Si
fin.	2	-1152	14713	63471	SLV 12	4.31	Si
ini.	2	-3156	-53104	63471	SLV 11	1.2	Si
fin.	2	-1152	14713	63471	SLV 11	4.31	Si
ini.	2	647	-4442	63471	SLV 9	14.29	Si
fin.	2	-2665	-57914	63471	SLV 9	1.1	Si
ini.	2	-512	-12322	63471	SLV 6	5.15	Si
fin.	2	-163	-66007	63471	SLV 6	0.96	No
ini.	2	-4314	-60984	63471	SLV 7	1.04	Si
fin.	2	1350	6620	63471	SLV 7	9.59	Si
ini.	2	-4335	-53145	63471	SLV 4	1.19	Si
fin.	2	3740	-28241	63471	SLV 4	2.25	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-60984	6564			849	320	SLV 7	0.05	No
fin.	2	0	6620	-933			849	320	SLV 7	0.34	No
ini.	2	0	-38547	5681			849	320	SLV 2	0.06	No
fin.	2	0	-50029	-4387			849	320	SLV 2	0.07	No
ini.	2	0	-41975	5065			849	320	SLD 3	0.06	No
fin.	2	0	-27130	-2803			849	320	SLD 3	0.11	No
ini.	2	0	-53104	4978			849	320	SLV 11	0.06	No
fin.	2	0	14713	-182			849	320	SLV 11	1.76	Si
ini.	2	0	-41975	5065			849	320	SLD 4	0.06	No
fin.	2	0	-27130	-2803			849	320	SLD 4	0.11	No
ini.	2	0	-60984	6564			849	320	SLV 8	0.05	No
fin.	2	0	6620	-933			849	320	SLV 8	0.34	No
ini.	2	0	-38547	5681			849	320	SLV 1	0.06	No
fin.	2	0	-50029	-4387			849	320	SLV 1	0.07	No
ini.	2	0	-53104	4978			849	320	SLV 12	0.06	No
fin.	2	0	14713	-182			849	320	SLV 12	1.76	Si
ini.	2	0	-53145	6942			849	320	SLV 4	0.05	No
fin.	2	0	-28241	-3197			849	320	SLV 4	0.1	No
ini.	2	0	-53145	6942			849	320	SLV 3	0.05	No
fin.	2	0	-28241	-3197			849	320	SLV 3	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.962	SLV 5	No
V_SLV	0.046	SLV 3	No
PF_SLU	1.045	SLU 83	Si
V_SLU	0.039	SLU 83	No



Trave di accoppiamento 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2176.3	587.6	-96	104	200	-2276.3	587.6	-96	104	200	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2658	-190463	316581	SLU 74	1.66	Si
fin.	3	-2548	-192406	316581	SLU 74	1.65	Si
ini.	3	-2740	-197124	316581	SLU 83	1.61	Si
fin.	3	-2616	-198537	316581	SLU 83	1.59	Si
ini.	3	-2690	-191129	316581	SLU 77	1.66	Si
fin.	3	-2549	-195159	316581	SLU 77	1.62	Si
ini.	3	-2642	-191041	316581	SLU 78	1.66	Si
fin.	3	-2486	-190838	316581	SLU 78	1.66	Si
ini.	3	-2674	-189762	316581	SLU 79	1.67	Si
fin.	3	-2532	-193873	316581	SLU 79	1.63	Si
ini.	3	-2660	-196370	316581	SLU 82	1.61	Si
fin.	3	-2551	-191463	316581	SLU 82	1.65	Si
ini.	3	-2692	-197036	316581	SLU 84	1.61	Si
fin.	3	-2552	-194216	316581	SLU 84	1.63	Si
ini.	3	-2708	-196458	316581	SLU 81	1.61	Si
fin.	3	-2614	-195784	316581	SLU 81	1.62	Si
ini.	3	-2626	-189674	316581	SLU 80	1.67	Si
fin.	3	-2468	-189552	316581	SLU 80	1.67	Si
ini.	3	-2610	-190375	316581	SLU 75	1.66	Si
fin.	3	-2484	-188085	316581	SLU 75	1.68	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-190463	-3604			3466	1304	SLU 74	0.36	No
fin.	3	0	-192406	4444			3466	1304	SLU 74	0.29	No
ini.	3	0	-196370	-3620			3466	1304	SLU 82	0.36	No
fin.	3	0	-191463	4597			3466	1304	SLU 82	0.28	No
ini.	3	0	-197036	-3702			3466	1304	SLU 84	0.35	No
fin.	3	0	-194216	4579			3466	1304	SLU 84	0.28	No
ini.	3	0	-197124	-3776			3466	1304	SLU 83	0.35	No
fin.	3	0	-198537	4623			3466	1304	SLU 83	0.28	No
ini.	3	0	-188283	-3379			3466	1304	SLU 73	0.39	No
fin.	3	0	-181166	4360			3466	1304	SLU 73	0.3	No
ini.	3	0	-191129	-3686			3466	1304	SLU 77	0.35	No
fin.	3	0	-195159	4427			3466	1304	SLU 77	0.29	No
ini.	3	0	-189762	-3666			3466	1304	SLU 79	0.36	No
fin.	3	0	-193873	4398			3466	1304	SLU 79	0.3	No
ini.	3	0	-191041	-3612			3466	1304	SLU 78	0.36	No
fin.	3	0	-190838	4383			3466	1304	SLU 78	0.3	No
ini.	3	0	-196458	-3694			3466	1304	SLU 81	0.35	No
fin.	3	0	-195784	4640			3466	1304	SLU 81	0.28	No
ini.	3	0	-190375	-3530			3466	1304	SLU 75	0.37	No
fin.	3	0	-188085	4401			3466	1304	SLU 75	0.3	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2584	-489909	327721	SLV 13	0.67	No
fin.	2	-2553	182742	327721	SLV 13	1.79	Si
ini.	2	2584	-489909	327721	SLV 14	0.67	No
fin.	2	-2553	182742	327721	SLV 14	1.79	Si
ini.	2	7239	-702184	327721	SLV 10	0.47	No
fin.	2	1518	149543	327721	SLV 10	2.19	Si
ini.	2	-6282	225579	327721	SLV 3	1.45	Si
fin.	2	-1067	-448273	327721	SLV 3	0.73	No
ini.	2	6114	-579060	327721	SLV 6	0.57	No
fin.	2	2667	-2642	327721	SLV 6	124.02	Si
ini.	2	-10937	437854	327721	SLV 7	0.75	No
fin.	2	-5138	-415074	327721	SLV 7	0.79	No
ini.	2	7239	-702184	327721	SLV 9	0.47	No
fin.	2	1518	149543	327721	SLV 9	2.19	Si
ini.	2	-6282	225579	327721	SLV 4	1.45	Si
fin.	2	-1067	-448273	327721	SLV 4	0.73	No
ini.	2	6114	-579060	327721	SLV 5	0.57	No
fin.	2	2667	-2642	327721	SLV 5	124.02	Si
ini.	2	-10937	437854	327721	SLV 8	0.75	No
fin.	2	-5138	-415074	327721	SLV 8	0.79	No



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-79495	-10389			5199	1957	SLV 2	0.19	No
fin.	2	0	-324543	-5120			5199	1957	SLV 2	0.38	No
ini.	2	0	-184835	5623			5199	1957	SLV 16	0.35	No
fin.	2	0	59013	11298			5199	1957	SLV 16	0.17	No
ini.	2	0	-184835	5623			5199	1957	SLV 15	0.35	No
fin.	2	0	59013	11298			5199	1957	SLV 15	0.17	No
ini.	2	0	437854	-9283			5199	1957	SLV 8	0.21	No
fin.	2	0	-415074	550			5199	1957	SLV 8	3.56	Si
ini.	2	0	437854	-9283			5199	1957	SLV 7	0.21	No
fin.	2	0	-415074	550			5199	1957	SLV 7	3.56	Si
ini.	2	0	-489909	8099			5199	1957	SLV 14	0.24	No
fin.	2	0	182742	11340			5199	1957	SLV 14	0.17	No
ini.	2	0	-79495	-10389			5199	1957	SLV 1	0.19	No
fin.	2	0	-324543	-5120			5199	1957	SLV 1	0.38	No
ini.	2	0	225579	-12865			5199	1957	SLV 3	0.15	No
fin.	2	0	-448273	-5162			5199	1957	SLV 3	0.38	No
ini.	2	0	-489909	8099			5199	1957	SLV 13	0.24	No
fin.	2	0	182742	11340			5199	1957	SLV 13	0.17	No
ini.	2	0	225579	-12865			5199	1957	SLV 4	0.15	No
fin.	2	0	-448273	-5162			5199	1957	SLV 4	0.38	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 9	No
V_SLV	0.152	SLV 3	No
PF_SLU	1.595	SLU 83	Si
V_SLU	0.281	SLU 81	No

Trave di accoppiamento 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2176.3	587.6	144	173	29	-2276.3	587.6	144	173	29	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	μ_u	Comb.	c.s.	Verifica
ini.	3	1800	-21985	19201	SLU 79	0.87	No
fin.	3	1439	-22770	19201	SLU 79	0.84	No
ini.	3	1712	-22252	19201	SLU 76	0.86	No
fin.	3	1386	-21783	19201	SLU 76	0.88	No
ini.	3	1817	-22076	19201	SLU 77	0.87	No
fin.	3	1455	-22848	19201	SLU 77	0.84	No
ini.	3	1757	-23631	19201	SLU 82	0.81	No
fin.	3	1428	-23260	19201	SLU 82	0.83	No
ini.	3	1765	-22155	19201	SLU 80	0.87	No
fin.	3	1414	-22334	19201	SLU 80	0.86	No
ini.	3	1782	-22246	19201	SLU 78	0.86	No
fin.	3	1429	-22413	19201	SLU 78	0.86	No
ini.	3	1786	-23647	19201	SLU 84	0.81	No
fin.	3	1439	-23521	19201	SLU 84	0.82	No
ini.	3	1822	-23477	19201	SLU 83	0.82	No
fin.	3	1464	-23956	19201	SLU 83	0.8	No
ini.	3	1788	-22060	19201	SLU 74	0.87	No
fin.	3	1444	-22588	19201	SLU 74	0.85	No
ini.	3	1792	-23461	19201	SLU 81	0.82	No
fin.	3	1454	-23696	19201	SLU 81	0.81	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-22155	1455			335	126	SLU 80	0.09	No
fin.	3	0	-22334	-1386			335	126	SLU 80	0.09	No
ini.	3	0	-21985	1451			335	126	SLU 79	0.09	No
fin.	3	0	-22770	-1407			335	126	SLU 79	0.09	No
ini.	3	0	-23647	1541			335	126	SLU 84	0.08	No
fin.	3	0	-23521	-1462			335	126	SLU 84	0.09	No
ini.	3	0	-22246	1461			335	126	SLU 78	0.09	No
fin.	3	0	-22413	-1390			335	126	SLU 78	0.09	No
ini.	3	0	-22076	1457			335	126	SLU 77	0.09	No
fin.	3	0	-22848	-1412			335	126	SLU 77	0.09	No
ini.	3	0	-22230	1454			335	126	SLU 75	0.09	No
fin.	3	0	-22153	-1380			335	126	SLU 75	0.09	No
ini.	3	0	-23477	1537			335	126	SLU 83	0.08	No
fin.	3	0	-23956	-1483			335	126	SLU 83	0.08	No
ini.	3	0	-22252	1452			335	126	SLU 76	0.09	No
fin.	3	0	-21783	-1361			335	126	SLU 76	0.09	No
ini.	3	0	-23461	1530			335	126	SLU 81	0.08	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-23696	-1473			335	126	SLU 81	0.09	No
ini.	3	0	-23631	1534			335	126	SLU 82	0.08	No
fin.	3	0	-23260	-1451			335	126	SLU 82	0.09	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1568	-152832	28471	SLV 10	0.19	No
fin.	2	933	127070	28471	SLV 10	0.22	No
ini.	2	2304	62059	28471	SLV 4	0.46	No
fin.	2	628	-92397	28471	SLV 4	0.31	No
ini.	2	933	123684	28471	SLV 7	0.23	No
fin.	2	1127	-156794	28471	SLV 7	0.18	No
ini.	2	176	100504	28471	SLV 12	0.28	No
fin.	2	1411	-133746	28471	SLV 12	0.21	No
ini.	2	2326	-129652	28471	SLV 5	0.22	No
fin.	2	649	104022	28471	SLV 5	0.27	No
ini.	2	176	100504	28471	SLV 11	0.28	No
fin.	2	1411	-133746	28471	SLV 11	0.21	No
ini.	2	2304	62059	28471	SLV 3	0.46	No
fin.	2	628	-92397	28471	SLV 3	0.31	No
ini.	2	933	123684	28471	SLV 8	0.23	No
fin.	2	1127	-156794	28471	SLV 8	0.18	No
ini.	2	2326	-129652	28471	SLV 6	0.22	No
fin.	2	649	104022	28471	SLV 6	0.27	No
ini.	2	1568	-152832	28471	SLV 9	0.19	No
fin.	2	933	127070	28471	SLV 9	0.22	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-152832	2531			503	189	SLV 9	0.07	No
fin.	2	0	127070	47			503	189	SLV 9	4.01	Si
ini.	2	0	-152832	2531			503	189	SLV 10	0.07	No
fin.	2	0	127070	47			503	189	SLV 10	4.01	Si
ini.	2	0	-91207	2362			503	189	SLV 14	0.08	No
fin.	2	0	62673	529			503	189	SLV 14	0.36	No
ini.	2	0	-13942	321			503	189	SLV 1	0.59	No
fin.	2	0	-14153	-2034			503	189	SLV 1	0.09	No
ini.	2	0	-129652	1919			503	189	SLV 5	0.1	No
fin.	2	0	104022	-722			503	189	SLV 5	0.26	No
ini.	2	0	-91207	2362			503	189	SLV 13	0.08	No
fin.	2	0	62673	529			503	189	SLV 13	0.36	No
ini.	2	0	-129652	1919			503	189	SLV 6	0.1	No
fin.	2	0	104022	-722			503	189	SLV 6	0.26	No
ini.	2	0	-13942	321			503	189	SLV 2	0.59	No
fin.	2	0	-14153	-2034			503	189	SLV 2	0.09	No
ini.	2	0	62059	-437			503	189	SLV 4	0.43	No
fin.	2	0	-92397	-2390			503	189	SLV 4	0.08	No
ini.	2	0	62059	-437			503	189	SLV 3	0.43	No
fin.	2	0	-92397	-2390			503	189	SLV 3	0.08	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 7	No
V_SLV	0.075	SLV 9	No
PF_SLU	0.801	SLU 83	No
V_SLU	0.082	SLU 84	No

Trave di accoppiamento 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1961.8	127.1	104	173	69	-1961.8	207.1	104	173	69	80	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	456	14950	70622	SLU 80	4.72	Si
fin.	3	-172	-73936	70622	SLU 80	0.96	No
ini.	3	399	16578	70622	SLU 82	4.26	Si
fin.	3	-292	-76958	70622	SLU 82	0.92	No
ini.	3	392	16985	70622	SLU 81	4.16	Si
fin.	3	-311	-77877	70622	SLU 81	0.91	No
ini.	3	426	16727	70622	SLU 83	4.22	Si
fin.	3	-268	-78468	70622	SLU 83	0.9	No
ini.	3	433	16321	70622	SLU 84	4.33	Si
fin.	3	-248	-77548	70622	SLU 84	0.91	No
ini.	3	419	15511	70622	SLU 75	4.55	Si
fin.	3	-230	-74239	70622	SLU 75	0.95	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	453	15253	70622	SLU 78	4.63	Si
fin.	3	-187	-74829	70622	SLU 78	0.94	No
ini.	3	446	15660	70622	SLU 77	4.51	Si
fin.	3	-206	-75749	70622	SLU 77	0.93	No
ini.	3	450	15357	70622	SLU 79	4.6	Si
fin.	3	-191	-74856	70622	SLU 79	0.94	No
ini.	3	412	15917	70622	SLU 74	4.44	Si
fin.	3	-250	-75159	70622	SLU 74	0.94	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	15511	424			688	259	SLU 75	0.61	No
fin.	3	0	-74239	-3306			688	259	SLU 75	0.08	No
ini.	3	0	14950	464			688	259	SLU 80	0.56	No
fin.	3	0	-73936	-3307			688	259	SLU 80	0.08	No
ini.	3	0	15357	453			688	259	SLU 79	0.57	No
fin.	3	0	-74856	-3341			688	259	SLU 79	0.08	No
ini.	3	0	16321	437			688	259	SLU 84	0.59	No
fin.	3	0	-77548	-3453			688	259	SLU 84	0.07	No
ini.	3	0	15917	413			688	259	SLU 74	0.63	No
fin.	3	0	-75159	-3340			688	259	SLU 74	0.08	No
ini.	3	0	16985	392			688	259	SLU 81	0.66	No
fin.	3	0	-77877	-3452			688	259	SLU 81	0.07	No
ini.	3	0	16578	403			688	259	SLU 82	0.64	No
fin.	3	0	-76958	-3418			688	259	SLU 82	0.08	No
ini.	3	0	15660	446			688	259	SLU 77	0.58	No
fin.	3	0	-75749	-3375			688	259	SLU 77	0.08	No
ini.	3	0	16727	426			688	259	SLU 83	0.61	No
fin.	3	0	-78468	-3487			688	259	SLU 83	0.07	No
ini.	3	0	15253	457			688	259	SLU 78	0.57	No
fin.	3	0	-74829	-3341			688	259	SLU 78	0.08	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-372	33657	87331	SLD 8	2.59	Si
fin.	2	-1554	-89981	87331	SLD 8	0.97	No
ini.	2	-1036	49521	87331	SLV 11	1.76	Si
fin.	2	-2757	-121819	87331	SLV 11	0.72	No
ini.	2	-372	33657	87331	SLD 7	2.59	Si
fin.	2	-1554	-89981	87331	SLD 7	0.97	No
ini.	2	-509	51821	87331	SLV 4	1.69	Si
fin.	2	-2178	-112343	87331	SLV 4	0.78	No
ini.	2	-280	26810	87331	SLD 12	3.26	Si
fin.	2	-1265	-80423	87331	SLD 12	1.09	Si
ini.	2	-509	51821	87331	SLV 3	1.69	Si
fin.	2	-2178	-112343	87331	SLV 3	0.78	No
ini.	2	-1251	65814	87331	SLV 8	1.33	Si
fin.	2	-3436	-144261	87331	SLV 8	0.61	No
ini.	2	-280	26810	87331	SLD 11	3.26	Si
fin.	2	-1265	-80423	87331	SLD 11	1.09	Si
ini.	2	-1036	49521	87331	SLV 12	1.76	Si
fin.	2	-2757	-121819	87331	SLV 12	0.72	No
ini.	2	-1251	65814	87331	SLV 7	1.33	Si
fin.	2	-3436	-144261	87331	SLV 7	0.61	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	27848	-147			1031	388	SLD 4	2.65	Si
fin.	2	0	-76518	-3166			1031	388	SLD 4	0.12	No
ini.	2	0	49521	-1249			1031	388	SLV 11	0.31	No
fin.	2	0	-121819	-4270			1031	388	SLV 11	0.09	No
ini.	2	0	27848	-147			1031	388	SLD 3	2.65	Si
fin.	2	0	-76518	-3166			1031	388	SLD 3	0.12	No
ini.	2	0	65814	-1550			1031	388	SLV 8	0.25	No
fin.	2	0	-144261	-5146			1031	388	SLV 8	0.08	No
ini.	2	0	51821	-725			1031	388	SLV 3	0.54	No
fin.	2	0	-112343	-4433			1031	388	SLV 3	0.09	No
ini.	2	0	33657	-489			1031	388	SLD 8	0.79	No
fin.	2	0	-89981	-3465			1031	388	SLD 8	0.11	No
ini.	2	0	65814	-1550			1031	388	SLV 7	0.25	No
fin.	2	0	-144261	-5146			1031	388	SLV 7	0.08	No
ini.	2	0	49521	-1249			1031	388	SLV 12	0.31	No
fin.	2	0	-121819	-4270			1031	388	SLV 12	0.09	No
ini.	2	0	33657	-489			1031	388	SLD 7	0.79	No
fin.	2	0	-89981	-3465			1031	388	SLD 7	0.11	No
ini.	2	0	51821	-725			1031	388	SLV 4	0.54	No
fin.	2	0	-112343	-4433			1031	388	SLV 4	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.605	SLV 7	No
V_SLV	0.075	SLV 7	No
PF_SLU	0.9	SLU 83	No
V_SLU	0.074	SLU 83	No



Trave di accoppiamento 5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1961.8	485.1	104	173	69	-1961.8	565.1	104	173	69	80	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2362	-21735	70622	SLU 81	3.25	Si
fin.	3	-2283	-1638	70622	SLU 81	43.13	Si
ini.	3	-2365	-22366	70622	SLU 84	3.16	Si
fin.	3	-2276	-1378	70622	SLU 84	51.25	Si
ini.	3	-2252	-21991	70622	SLU 79	3.21	Si
fin.	3	-2173	-1307	70622	SLU 79	54.04	Si
ini.	3	-2273	-22170	70622	SLU 78	3.19	Si
fin.	3	-2193	-1256	70622	SLU 78	56.21	Si
ini.	3	-2253	-22111	70622	SLU 80	3.19	Si
fin.	3	-2167	-1083	70622	SLU 80	65.23	Si
ini.	3	-2363	-21855	70622	SLU 82	3.23	Si
fin.	3	-2276	-1413	70622	SLU 82	49.97	Si
ini.	3	-2272	-22050	70622	SLU 77	3.2	Si
fin.	3	-2199	-1481	70622	SLU 77	47.7	Si
ini.	3	-2252	-21680	70622	SLU 76	3.26	Si
fin.	3	-2163	-969	70622	SLU 76	72.9	Si
ini.	3	-2271	-21659	70622	SLU 75	3.26	Si
fin.	3	-2193	-1292	70622	SLU 75	54.66	Si
ini.	3	-2364	-22247	70622	SLU 83	3.17	Si
fin.	3	-2283	-1602	70622	SLU 83	44.08	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-21991	7749			688	259	SLU 79	0.03	No
fin.	3	0	-1307	-3246			688	259	SLU 79	0.08	No
ini.	3	0	-21855	7806			688	259	SLU 82	0.03	No
fin.	3	0	-1413	-3280			688	259	SLU 82	0.08	No
ini.	3	0	-22247	7957			688	259	SLU 83	0.03	No
fin.	3	0	-1602	-3344			688	259	SLU 83	0.08	No
ini.	3	0	-22366	7950			688	259	SLU 84	0.03	No
fin.	3	0	-1378	-3329			688	259	SLU 84	0.08	No
ini.	3	0	-21539	7650			688	259	SLU 74	0.03	No
fin.	3	0	-1516	-3224			688	259	SLU 74	0.08	No
ini.	3	0	-22050	7794			688	259	SLU 77	0.03	No
fin.	3	0	-1481	-3274			688	259	SLU 77	0.08	No
ini.	3	0	-22170	7788			688	259	SLU 78	0.03	No
fin.	3	0	-1256	-3260			688	259	SLU 78	0.08	No
ini.	3	0	-21735	7813			688	259	SLU 81	0.03	No
fin.	3	0	-1638	-3294			688	259	SLU 81	0.08	No
ini.	3	0	-22111	7743			688	259	SLU 80	0.03	No
fin.	3	0	-1083	-3231			688	259	SLU 80	0.08	No
ini.	3	0	-21659	7644			688	259	SLU 75	0.03	No
fin.	3	0	-1292	-3210			688	259	SLU 75	0.08	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4341	-78232	87331	SLV 10	1.12	Si
fin.	2	10	103955	87331	SLV 10	0.84	No
ini.	2	-12	18424	87331	SLV 4	4.74	Si
fin.	2	-2797	-63134	87331	SLV 4	1.38	Si
ini.	2	774	39108	87331	SLV 12	2.23	Si
fin.	2	-2453	-84721	87331	SLV 12	1.03	Si
ini.	2	-12	18424	87331	SLV 3	4.74	Si
fin.	2	-2797	-63134	87331	SLV 3	1.38	Si
ini.	2	1238	48517	87331	SLV 8	1.8	Si
fin.	2	-3010	-105237	87331	SLV 8	0.83	No
ini.	2	-3877	-68824	87331	SLV 6	1.27	Si
fin.	2	-547	83440	87331	SLV 6	1.05	Si
ini.	2	-4341	-78232	87331	SLV 9	1.12	Si
fin.	2	10	103955	87331	SLV 9	0.84	No
ini.	2	774	39108	87331	SLV 11	2.23	Si
fin.	2	-2453	-84721	87331	SLV 11	1.03	Si
ini.	2	-3877	-68824	87331	SLV 5	1.27	Si
fin.	2	-547	83440	87331	SLV 5	1.05	Si
ini.	2	1238	48517	87331	SLV 7	1.8	Si
fin.	2	-3010	-105237	87331	SLV 7	0.83	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-78232	9148			1031	388	SLV 9	0.04	No
fin.	2	0	103955	1970			1031	388	SLV 9	0.2	No
ini.	2	0	-41737	6855			1031	388	SLD 9	0.06	No

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Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	43339	-436			1031	388	SLD 9	0.89	No
ini.	2	0	-68824	8465			1031	388	SLV 6	0.05	No
fin.	2	0	83440	1568			1031	388	SLV 6	0.25	No
ini.	2	0	-78232	9148			1031	388	SLV 10	0.04	No
fin.	2	0	103955	1970			1031	388	SLV 10	0.2	No
ini.	2	0	-68824	8465			1031	388	SLV 5	0.05	No
fin.	2	0	83440	1568			1031	388	SLV 5	0.25	No
ini.	2	0	-37824	6569			1031	388	SLD 5	0.06	No
fin.	2	0	34646	-605			1031	388	SLD 5	0.64	No
ini.	2	0	-48140	7398			1031	388	SLV 14	0.05	No
fin.	2	0	61853	-325			1031	388	SLV 14	1.19	Si
ini.	2	0	-48140	7398			1031	388	SLV 13	0.05	No
fin.	2	0	61853	-325			1031	388	SLV 13	1.19	Si
ini.	2	0	-41737	6855			1031	388	SLD 10	0.06	No
fin.	2	0	43339	-436			1031	388	SLD 10	0.89	No
ini.	2	0	-37824	6569			1031	388	SLD 6	0.06	No
fin.	2	0	34646	-605			1031	388	SLD 6	0.64	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.83	SLV 7	No
V_SLV		0.042	SLV 9	No
PF_SLU		3.158	SLU 84	Si
V_SLU		0.033	SLU 83	No

Trave di accoppiamento 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2154.3	-328.4	-96	104	200	-2254.3	-328.4	-96	104	200	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{tk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3761	-69611	316581	SLU 74	4.55	Si
fin.	3	-2742	-204543	316581	SLU 74	1.55	Si
ini.	3	-3517	-60556	316581	SLU 69	5.23	Si
fin.	3	-2541	-193241	316581	SLU 69	1.64	Si
ini.	3	-3859	-66910	316581	SLU 77	4.73	Si
fin.	3	-2767	-211115	316581	SLU 77	1.5	Si
ini.	3	-3900	-71526	316581	SLU 83	4.43	Si
fin.	3	-2827	-211260	316581	SLU 83	1.5	Si
ini.	3	-3548	-62529	316581	SLU 56	5.06	Si
fin.	3	-2574	-191482	316581	SLU 56	1.65	Si
ini.	3	-3509	-59747	316581	SLU 71	5.3	Si
fin.	3	-2529	-192298	316581	SLU 71	1.65	Si
ini.	3	-3803	-74227	316581	SLU 81	4.27	Si
fin.	3	-2803	-204689	316581	SLU 81	1.55	Si
ini.	3	-3540	-61721	316581	SLU 58	5.13	Si
fin.	3	-2562	-190539	316581	SLU 58	1.66	Si
ini.	3	-3851	-66101	316581	SLU 79	4.79	Si
fin.	3	-2755	-210171	316581	SLU 79	1.51	Si
ini.	3	-3589	-67145	316581	SLU 62	4.71	Si
fin.	3	-2634	-191628	316581	SLU 62	1.65	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-32538	-7726			3466	1304	SLU 75	0.17	No
fin.	3	0	-163575	1771			3466	1304	SLU 75	0.74	No
ini.	3	0	-71526	-8151			3466	1304	SLU 83	0.16	No
fin.	3	0	-211260	1666			3466	1304	SLU 83	0.78	No
ini.	3	0	-74227	-7928			3466	1304	SLU 81	0.16	No
fin.	3	0	-204689	1779			3466	1304	SLU 81	0.73	No
ini.	3	0	-66910	-8049			3466	1304	SLU 77	0.16	No
fin.	3	0	-211115	1493			3466	1304	SLU 77	0.87	No
ini.	3	0	-66101	-8027			3466	1304	SLU 79	0.16	No
fin.	3	0	-210171	1472			3466	1304	SLU 79	0.89	No
ini.	3	0	-69611	-7827			3466	1304	SLU 74	0.17	No
fin.	3	0	-204543	1605			3466	1304	SLU 74	0.81	No
ini.	3	0	-34453	-8050			3466	1304	SLU 84	0.16	No
fin.	3	0	-170292	1832			3466	1304	SLU 84	0.71	No
ini.	3	0	-29837	-7948			3466	1304	SLU 78	0.16	No
fin.	3	0	-170146	1659			3466	1304	SLU 78	0.79	No
ini.	3	0	-37154	-7827			3466	1304	SLU 82	0.17	No
fin.	3	0	-163720	1944			3466	1304	SLU 82	0.67	No
ini.	3	0	-29028	-7926			3466	1304	SLU 80	0.16	No
fin.	3	0	-169203	1638			3466	1304	SLU 80	0.8	No



Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4317	52947	327721	SLV 4	6.19	Si
fin.	2	2296	-581445	327721	SLV 4	0.56	No
ini.	2	-4317	52947	327721	SLV 3	6.19	Si
fin.	2	2296	-581445	327721	SLV 3	0.56	No
ini.	2	-9219	233259	327721	SLV 2	1.4	Si
fin.	2	-3083	-350051	327721	SLV 2	0.94	No
ini.	2	6847	-409708	327721	SLV 11	0.8	No
fin.	2	6576	-426116	327721	SLV 11	0.77	No
ini.	2	6847	-409708	327721	SLV 12	0.8	No
fin.	2	6576	-426116	327721	SLV 12	0.77	No
ini.	2	4334	-293266	327721	SLV 7	1.12	Si
fin.	2	7497	-622403	327721	SLV 7	0.53	No
ini.	2	4334	-293266	327721	SLV 8	1.12	Si
fin.	2	7497	-622403	327721	SLV 8	0.53	No
ini.	2	-9219	233259	327721	SLV 1	1.4	Si
fin.	2	-3083	-350051	327721	SLV 1	0.94	No
ini.	2	-9493	191330	327721	SLV 10	1.71	Si
fin.	2	-11356	345196	327721	SLV 10	0.95	No
ini.	2	-9493	191330	327721	SLV 9	1.71	Si
fin.	2	-11356	345196	327721	SLV 9	0.95	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	233259	-17786			5199	1957	SLV 2	0.11	No
fin.	2	0	-350051	-7892			5199	1957	SLV 2	0.25	No
ini.	2	0	-154883	6056			5199	1957	SLV 13	0.32	No
fin.	2	0	304238	12051			5199	1957	SLV 13	0.16	No
ini.	2	0	233259	-17786			5199	1957	SLV 1	0.11	No
fin.	2	0	-350051	-7892			5199	1957	SLV 1	0.25	No
ini.	2	0	52947	-16602			5199	1957	SLV 3	0.12	No
fin.	2	0	-581445	-9672			5199	1957	SLV 3	0.2	No
ini.	2	0	307772	-10822			5199	1957	SLV 5	0.18	No
fin.	2	0	148909	1165			5199	1957	SLV 5	1.68	Si
ini.	2	0	52947	-16602			5199	1957	SLV 4	0.12	No
fin.	2	0	-581445	-9672			5199	1957	SLV 4	0.2	No
ini.	2	0	66986	-10615			5199	1957	SLD 1	0.18	No
fin.	2	0	-232688	-2720			5199	1957	SLD 1	0.72	No
ini.	2	0	66986	-10615			5199	1957	SLD 2	0.18	No
fin.	2	0	-232688	-2720			5199	1957	SLD 2	0.72	No
ini.	2	0	307772	-10822			5199	1957	SLV 6	0.18	No
fin.	2	0	148909	1165			5199	1957	SLV 6	1.68	Si
ini.	2	0	-154883	6056			5199	1957	SLV 14	0.32	No
fin.	2	0	304238	12051			5199	1957	SLV 14	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.527	SLV 7	No
V_SLV	0.11	SLV 1	No
PF_SLU	1.499	SLU 83	Si
V_SLU	0.16	SLU 83	No

Trave di accoppiamento 7

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2154.3	-328.4	144	173	29	-2254.3	-328.4	144	173	29	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	892	-11591	19201	SLU 56	1.66	Si
fin.	3	604	-23420	19201	SLU 56	0.82	No
ini.	3	935	-14740	19201	SLU 83	1.3	Si
fin.	3	620	-27160	19201	SLU 83	0.71	No
ini.	3	950	-13053	19201	SLU 79	1.47	Si
fin.	3	623	-26593	19201	SLU 79	0.72	No
ini.	3	794	-11234	19201	SLU 35	1.71	Si
fin.	3	506	-23273	19201	SLU 35	0.83	No
ini.	3	959	-13160	19201	SLU 77	1.46	Si
fin.	3	632	-26628	19201	SLU 77	0.72	No
ini.	3	905	-15338	19201	SLU 81	1.25	Si
fin.	3	614	-26270	19201	SLU 81	0.73	No
ini.	3	770	-12813	19201	SLU 41	1.5	Si
fin.	3	494	-23805	19201	SLU 41	0.81	No
ini.	3	869	-13171	19201	SLU 62	1.46	Si
fin.	3	592	-23952	19201	SLU 62	0.8	No
ini.	3	884	-11484	19201	SLU 58	1.67	Si

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Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	595	-23385	19201	SLU 58	0.82	No
ini.	3	929	-13759	19201	SLU 74	1.4	Si
fin.	3	626	-25738	19201	SLU 74	0.75	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-11591	888			335	126	SLU 56	0.14	No
fin.	3	0	-23420	-1104			335	126	SLU 56	0.11	No
ini.	3	0	-13053	989			335	126	SLU 79	0.13	No
fin.	3	0	-26593	-1243			335	126	SLU 79	0.1	No
ini.	3	0	-13160	994			335	126	SLU 77	0.13	No
fin.	3	0	-26628	-1245			335	126	SLU 77	0.1	No
ini.	3	0	-15338	1077			335	126	SLU 81	0.12	No
fin.	3	0	-26270	-1255			335	126	SLU 81	0.1	No
ini.	3	0	-11484	882			335	126	SLU 58	0.14	No
fin.	3	0	-23385	-1102			335	126	SLU 58	0.11	No
ini.	3	0	-13171	958			335	126	SLU 62	0.13	No
fin.	3	0	-23952	-1142			335	126	SLU 62	0.11	No
ini.	3	0	-13769	970			335	126	SLU 60	0.13	No
fin.	3	0	-23062	-1114			335	126	SLU 60	0.11	No
ini.	3	0	-12813	917			335	126	SLU 41	0.14	No
fin.	3	0	-23805	-1115			335	126	SLU 41	0.11	No
ini.	3	0	-13759	1007			335	126	SLU 74	0.13	No
fin.	3	0	-25738	-1217			335	126	SLU 74	0.1	No
ini.	3	0	-14740	1064			335	126	SLU 83	0.12	No
fin.	3	0	-27160	-1283			335	126	SLU 83	0.1	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	7178	8302	28471	SLV 8	3.43	Si
fin.	2	5686	-60300	28471	SLV 8	0.47	No
ini.	2	3801	38548	28471	SLV 4	0.74	No
fin.	2	1557	-76800	28471	SLV 4	0.37	No
ini.	2	3801	38548	28471	SLV 3	0.74	No
fin.	2	1557	-76800	28471	SLV 3	0.37	No
ini.	2	122	36365	28471	SLV 2	0.78	No
fin.	2	-1672	-59958	28471	SLV 2	0.47	No
ini.	2	-2495	-57327	28471	SLV 13	0.5	No
fin.	2	-634	43323	28471	SLV 13	0.66	No
ini.	2	1184	-55144	28471	SLV 15	0.52	No
fin.	2	2594	26481	28471	SLV 15	1.08	Si
ini.	2	122	36365	28471	SLV 1	0.78	No
fin.	2	-1672	-59958	28471	SLV 1	0.47	No
ini.	2	-2495	-57327	28471	SLV 14	0.5	No
fin.	2	-634	43323	28471	SLV 14	0.66	No
ini.	2	1184	-55144	28471	SLV 16	0.52	No
fin.	2	2594	26481	28471	SLV 16	1.08	Si
ini.	2	7178	8302	28471	SLV 7	3.43	Si
fin.	2	5686	-60300	28471	SLV 7	0.47	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	38548	-190			503	189	SLV 3	1	No
fin.	2	0	-76800	-2693			503	189	SLV 3	0.07	No
ini.	2	0	36365	-906			503	189	SLV 2	0.21	No
fin.	2	0	-59958	-1886			503	189	SLV 2	0.1	No
ini.	2	0	36365	-906			503	189	SLV 1	0.21	No
fin.	2	0	-59958	-1886			503	189	SLV 1	0.1	No
ini.	2	0	-55144	2277			503	189	SLV 15	0.08	No
fin.	2	0	26481	276			503	189	SLV 15	0.69	No
ini.	2	0	-19805	2250			503	189	SLV 11	0.08	No
fin.	2	0	-29316	-1705			503	189	SLV 11	0.11	No
ini.	2	0	8302	1510			503	189	SLV 7	0.13	No
fin.	2	0	-60300	-2595			503	189	SLV 7	0.07	No
ini.	2	0	8302	1510			503	189	SLV 8	0.13	No
fin.	2	0	-60300	-2595			503	189	SLV 8	0.07	No
ini.	2	0	-19805	2250			503	189	SLV 12	0.08	No
fin.	2	0	-29316	-1705			503	189	SLV 12	0.11	No
ini.	2	0	38548	-190			503	189	SLV 4	1	No
fin.	2	0	-76800	-2693			503	189	SLV 4	0.07	No
ini.	2	0	-55144	2277			503	189	SLV 16	0.08	No
fin.	2	0	26481	276			503	189	SLV 16	0.69	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.371	SLV 3	No
V_SLV	0.07	SLV 3	No
PF_SLU	0.707	SLU 83	No
V_SLU	0.098	SLU 83	No

Trave di accoppiamento 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1731.3	-328.4	-96	104	200	-1831.3	-328.4	-96	104	200	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	180	-443106	316581	SLU 65	0.71	No
fin.	3	755	-337873	316581	SLU 65	0.94	No
ini.	3	-25	-439622	316581	SLU 55	0.72	No
fin.	3	671	-345170	316581	SLU 55	0.92	No
ini.	3	-96	-473236	316581	SLU 76	0.67	No
fin.	3	664	-371605	316581	SLU 76	0.85	No
ini.	3	11	-482145	316581	SLU 73	0.66	No
fin.	3	654	-367397	316581	SLU 73	0.86	No
ini.	3	81	-448530	316581	SLU 52	0.71	No
fin.	3	662	-340962	316581	SLU 52	0.93	No
ini.	3	-267	-437595	316581	SLU 61	0.72	No
fin.	3	213	-328391	316581	SLU 61	0.96	No
ini.	3	-336	-450992	316581	SLU 75	0.7	No
fin.	3	273	-348105	316581	SLU 75	0.91	No
ini.	3	-338	-471209	316581	SLU 82	0.67	No
fin.	3	206	-354826	316581	SLU 82	0.89	No
ini.	3	-443	-442084	316581	SLU 78	0.72	No
fin.	3	282	-352313	316581	SLU 78	0.9	No
ini.	3	-445	-462301	316581	SLU 84	0.68	No
fin.	3	215	-359034	316581	SLU 84	0.88	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-473236	-9608			3466	1304	SLU 76	0.14	No
fin.	3	0	-371605	7819			3466	1304	SLU 76	0.17	No
ini.	3	0	-436662	-9571			3466	1304	SLU 80	0.14	No
fin.	3	0	-350589	7526			3466	1304	SLU 80	0.17	No
ini.	3	0	-471209	-9497			3466	1304	SLU 82	0.14	No
fin.	3	0	-354826	8362			3466	1304	SLU 82	0.16	No
ini.	3	0	-395163	-9144			3466	1304	SLU 79	0.14	No
fin.	3	0	-312753	7460			3466	1304	SLU 79	0.17	No
ini.	3	0	-442084	-9576			3466	1304	SLU 78	0.14	No
fin.	3	0	-352313	7633			3466	1304	SLU 78	0.17	No
ini.	3	0	-420802	-9318			3466	1304	SLU 83	0.14	No
fin.	3	0	-321198	8047			3466	1304	SLU 83	0.16	No
ini.	3	0	-462301	-9745			3466	1304	SLU 84	0.13	No
fin.	3	0	-359034	8112			3466	1304	SLU 84	0.16	No
ini.	3	0	-400585	-9149			3466	1304	SLU 77	0.14	No
fin.	3	0	-314477	7568			3466	1304	SLU 77	0.17	No
ini.	3	0	-482145	-9360			3466	1304	SLU 73	0.14	No
fin.	3	0	-367397	8068			3466	1304	SLU 73	0.16	No
ini.	3	0	-450992	-9328			3466	1304	SLU 75	0.14	No
fin.	3	0	-348105	7883			3466	1304	SLU 75	0.17	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1813	-557082	327721	SLD 13	0.59	No
fin.	2	-74	-211719	327721	SLD 13	1.55	Si
ini.	2	4313	-730365	327721	SLV 15	0.45	No
fin.	2	-983	-42352	327721	SLV 15	7.74	Si
ini.	2	1945	-765335	327721	SLV 10	0.43	No
fin.	2	1639	-474275	327721	SLV 10	0.69	No
ini.	2	1945	-765335	327721	SLV 9	0.43	No
fin.	2	1639	-474275	327721	SLV 9	0.69	No
ini.	2	1813	-557082	327721	SLD 14	0.59	No
fin.	2	-74	-211719	327721	SLD 14	1.55	Si
ini.	2	4835	-918752	327721	SLV 13	0.36	No
fin.	2	169	-213960	327721	SLV 13	1.53	Si
ini.	2	4835	-918752	327721	SLV 14	0.36	No
fin.	2	169	-213960	327721	SLV 14	1.53	Si
ini.	2	-1054	-445448	327721	SLV 6	0.74	No
fin.	2	1748	-525793	327721	SLV 6	0.62	No
ini.	2	-1054	-445448	327721	SLV 5	0.74	No
fin.	2	1748	-525793	327721	SLV 5	0.62	No
ini.	2	4313	-730365	327721	SLV 16	0.45	No
fin.	2	-983	-42352	327721	SLV 16	7.74	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	335926	-14727			5199	1957	SLV 4	0.13	No
fin.	2	0	-214081	-7966			5199	1957	SLV 4	0.25	No
ini.	2	0	335926	-14727			5199	1957	SLV 3	0.13	No
fin.	2	0	-214081	-7966			5199	1957	SLV 3	0.25	No
ini.	2	0	-765335	-5019			5199	1957	SLV 9	0.39	No
fin.	2	0	-474275	13153			5199	1957	SLV 9	0.15	No
ini.	2	0	-730365	3791			5199	1957	SLV 15	0.52	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-42352	16896			5199	1957	SLV 15	0.12	No
ini.	2	0	-730365	3791			5199	1957	SLV 16	0.52	No
fin.	2	0	-42352	16896			5199	1957	SLV 16	0.12	No
ini.	2	0	-918752	2716			5199	1957	SLV 13	0.72	No
fin.	2	0	-213960	19185			5199	1957	SLV 13	0.1	No
ini.	2	0	-765335	-5019			5199	1957	SLV 10	0.39	No
fin.	2	0	-474275	13153			5199	1957	SLV 10	0.15	No
ini.	2	0	147539	-15802			5199	1957	SLV 1	0.12	No
fin.	2	0	-385689	-5677			5199	1957	SLV 1	0.34	No
ini.	2	0	-918752	2716			5199	1957	SLV 14	0.72	No
fin.	2	0	-213960	19185			5199	1957	SLV 14	0.1	No
ini.	2	0	147539	-15802			5199	1957	SLV 2	0.12	No
fin.	2	0	-385689	-5677			5199	1957	SLV 2	0.34	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 13	No
V_SLV	0.102	SLV 13	No
PF_SLU	0.657	SLU 73	No
V_SLU	0.134	SLU 84	No

Trave di accoppiamento 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1731.3	-328.4	144	173	29	-1831.3	-328.4	144	173	29	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1599	-25995	19201	SLU 76	0.74	No
fin.	3	3101	-40214	19201	SLU 76	0.48	No
ini.	3	1401	-23055	19201	SLU 79	0.83	No
fin.	3	1826	-40185	19201	SLU 79	0.48	No
ini.	3	1599	-26800	19201	SLU 84	0.72	No
fin.	3	2700	-41794	19201	SLU 84	0.46	No
ini.	3	1605	-27541	19201	SLU 82	0.7	No
fin.	3	2765	-40670	19201	SLU 82	0.47	No
ini.	3	1407	-23339	19201	SLU 77	0.82	No
fin.	3	1857	-40192	19201	SLU 77	0.48	No
ini.	3	1516	-24374	19201	SLU 80	0.79	No
fin.	3	2552	-40877	19201	SLU 80	0.47	No
ini.	3	1528	-25399	19201	SLU 75	0.76	No
fin.	3	2647	-39759	19201	SLU 75	0.48	No
ini.	3	1490	-26222	19201	SLU 81	0.73	No
fin.	3	2039	-39978	19201	SLU 81	0.48	No
ini.	3	1484	-25481	19201	SLU 83	0.75	No
fin.	3	1974	-41102	19201	SLU 83	0.47	No
ini.	3	1522	-24658	19201	SLU 78	0.78	No
fin.	3	2582	-40884	19201	SLU 78	0.47	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-27541	2451			335	126	SLU 82	0.05	No
fin.	3	0	-40670	-4526			335	126	SLU 82	0.03	No
ini.	3	0	-25481	2261			335	126	SLU 83	0.06	No
fin.	3	0	-41102	-4526			335	126	SLU 83	0.03	No
ini.	3	0	-25995	2421			335	126	SLU 76	0.05	No
fin.	3	0	-40214	-4392			335	126	SLU 76	0.03	No
ini.	3	0	-23339	2130			335	126	SLU 77	0.06	No
fin.	3	0	-40192	-4373			335	126	SLU 77	0.03	No
ini.	3	0	-24658	2303			335	126	SLU 78	0.05	No
fin.	3	0	-40884	-4426			335	126	SLU 78	0.03	No
ini.	3	0	-26800	2434			335	126	SLU 84	0.05	No
fin.	3	0	-41794	-4579			335	126	SLU 84	0.03	No
ini.	3	0	-26222	2278			335	126	SLU 81	0.06	No
fin.	3	0	-39978	-4472			335	126	SLU 81	0.03	No
ini.	3	0	-24374	2288			335	126	SLU 80	0.06	No
fin.	3	0	-40877	-4409			335	126	SLU 80	0.03	No
ini.	3	0	-23055	2115			335	126	SLU 79	0.06	No
fin.	3	0	-40185	-4356			335	126	SLU 79	0.03	No
ini.	3	0	-25399	2321			335	126	SLU 75	0.05	No
fin.	3	0	-39759	-4373			335	126	SLU 75	0.03	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1328	-86784	28471	SLV 9	0.33	No
fin.	2	9540	-2111	28471	SLV 9	13.48	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1354	-62563	28471	SLV 6	0.46	No
fin.	2	6841	-14805	28471	SLV 6	1.92	Si
ini.	2	901	41556	28471	SLV 3	0.69	No
fin.	2	-5169	-52466	28471	SLV 3	0.54	No
ini.	2	1328	-86784	28471	SLV 10	0.33	No
fin.	2	9540	-2111	28471	SLV 10	13.48	Si
ini.	2	1036	-74195	28471	SLV 14	0.38	No
fin.	2	7917	393	28471	SLV 14	72.53	Si
ini.	2	1036	-74195	28471	SLV 13	0.38	No
fin.	2	7917	393	28471	SLV 13	72.53	Si
ini.	2	609	54146	28471	SLV 8	0.53	No
fin.	2	-6792	-49962	28471	SLV 8	0.57	No
ini.	2	901	41556	28471	SLV 4	0.69	No
fin.	2	-5169	-52466	28471	SLV 4	0.54	No
ini.	2	609	54146	28471	SLV 7	0.53	No
fin.	2	-6792	-49962	28471	SLV 7	0.57	No
ini.	2	1354	-62563	28471	SLV 5	0.46	No
fin.	2	6841	-14805	28471	SLV 5	1.92	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-62563	1321			503	189	SLV 6	0.14	No
fin.	2	0	-14805	-4501			503	189	SLV 6	0.04	No
ini.	2	0	-62563	1321			503	189	SLV 5	0.14	No
fin.	2	0	-14805	-4501			503	189	SLV 5	0.04	No
ini.	2	0	6544	350			503	189	SLV 1	0.54	No
fin.	2	0	-41919	-4604			503	189	SLV 1	0.04	No
ini.	2	0	6544	350			503	189	SLV 2	0.54	No
fin.	2	0	-41919	-4604			503	189	SLV 2	0.04	No
ini.	2	0	41556	222			503	189	SLV 3	0.85	No
fin.	2	0	-52466	-3897			503	189	SLV 3	0.05	No
ini.	2	0	41556	222			503	189	SLV 4	0.85	No
fin.	2	0	-52466	-3897			503	189	SLV 4	0.05	No
ini.	2	0	-86784	2024			503	189	SLV 10	0.09	No
fin.	2	0	-2111	-3706			503	189	SLV 10	0.05	No
ini.	2	0	-6319	982			503	189	SLD 1	0.19	No
fin.	2	0	-33196	-3633			503	189	SLD 1	0.05	No
ini.	2	0	-86784	2024			503	189	SLV 9	0.09	No
fin.	2	0	-2111	-3706			503	189	SLV 9	0.05	No
ini.	2	0	-6319	982			503	189	SLD 2	0.19	No
fin.	2	0	-33196	-3633			503	189	SLD 2	0.05	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.328	SLV 9	No
V_SLV	0.041	SLV 1	No
PF_SLU	0.459	SLU 84	No
V_SLU	0.028	SLU 84	No

Trave di accoppiamento 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1422.3	-328.4	114	173	59	-1652.3	-328.4	114	173	59	230	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	941	-132381	69831	SLU 76	0.53	No
fin.	3	2419	-75674	69831	SLU 76	0.92	No
ini.	3	903	-133457	69831	SLU 83	0.52	No
fin.	3	2464	-88441	69831	SLU 83	0.79	No
ini.	3	878	-129349	69831	SLU 80	0.54	No
fin.	3	2336	-82142	69831	SLU 80	0.85	No
ini.	3	930	-130983	69831	SLU 75	0.53	No
fin.	3	2426	-77993	69831	SLU 75	0.9	No
ini.	3	944	-136893	69831	SLU 84	0.51	No
fin.	3	2499	-84022	69831	SLU 84	0.83	No
ini.	3	895	-130242	69831	SLU 78	0.54	No
fin.	3	2367	-81515	69831	SLU 78	0.86	No
ini.	3	889	-127546	69831	SLU 74	0.55	No
fin.	3	2391	-82412	69831	SLU 74	0.85	No
ini.	3	976	-133123	69831	SLU 73	0.52	No
fin.	3	2479	-72153	69831	SLU 73	0.97	No
ini.	3	979	-137635	69831	SLU 82	0.51	No
fin.	3	2559	-80500	69831	SLU 82	0.87	No
ini.	3	938	-134198	69831	SLU 81	0.52	No
fin.	3	2524	-84919	69831	SLU 81	0.82	No



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-127546	3459			682	257	SLU 74	0.07	No
fin.	3	0	-82412	-3143			682	257	SLU 74	0.08	No
ini.	3	0	-134198	3633			682	257	SLU 81	0.07	No
fin.	3	0	-84919	-3298			682	257	SLU 81	0.08	No
ini.	3	0	-136893	3678			682	257	SLU 84	0.07	No
fin.	3	0	-84022	-3360			682	257	SLU 84	0.08	No
ini.	3	0	-133123	3532			682	257	SLU 73	0.07	No
fin.	3	0	-72153	-3111			682	257	SLU 73	0.08	No
ini.	3	0	-129349	3487			682	257	SLU 80	0.07	No
fin.	3	0	-82142	-3207			682	257	SLU 80	0.08	No
ini.	3	0	-132381	3526			682	257	SLU 76	0.07	No
fin.	3	0	-75674	-3162			682	257	SLU 76	0.08	No
ini.	3	0	-137635	3684			682	257	SLU 82	0.07	No
fin.	3	0	-80500	-3309			682	257	SLU 82	0.08	No
ini.	3	0	-130983	3509			682	257	SLU 75	0.07	No
fin.	3	0	-77993	-3153			682	257	SLU 75	0.08	No
ini.	3	0	-133457	3628			682	257	SLU 83	0.07	No
fin.	3	0	-88441	-3350			682	257	SLU 83	0.08	No
ini.	3	0	-130242	3503			682	257	SLU 78	0.07	No
fin.	3	0	-81515	-3205			682	257	SLU 78	0.08	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1581	-158115	80971	SLV 10	0.51	No
fin.	2	3596	10803	80971	SLV 10	7.49	Si
ini.	2	3268	-187232	80971	SLV 14	0.43	No
fin.	2	5490	101162	80971	SLV 14	0.8	No
ini.	2	3172	-160576	80971	SLV 16	0.5	No
fin.	2	4990	89454	80971	SLV 16	0.91	No
ini.	2	3268	-187232	80971	SLV 13	0.43	No
fin.	2	5490	101162	80971	SLV 13	0.8	No
ini.	2	-1967	11469	80971	SLV 3	7.06	Si
fin.	2	-2089	-207741	80971	SLV 3	0.39	No
ini.	2	-1871	-15188	80971	SLV 2	5.33	Si
fin.	2	-1588	-196033	80971	SLV 2	0.41	No
ini.	2	-1871	-15188	80971	SLV 1	5.33	Si
fin.	2	-1588	-196033	80971	SLV 1	0.41	No
ini.	2	1581	-158115	80971	SLV 9	0.51	No
fin.	2	3596	10803	80971	SLV 9	7.49	Si
ini.	2	-1967	11469	80971	SLV 4	7.06	Si
fin.	2	-2089	-207741	80971	SLV 4	0.39	No
ini.	2	3172	-160576	80971	SLV 15	0.5	No
fin.	2	4990	89454	80971	SLV 15	0.91	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	11469	662			1022	385	SLV 3	0.58	No
fin.	2	0	-207741	-4408			1022	385	SLV 3	0.09	No
ini.	2	0	-160576	3997			1022	385	SLV 15	0.1	No
fin.	2	0	89454	-477			1022	385	SLV 15	0.81	No
ini.	2	0	-15188	750			1022	385	SLV 1	0.51	No
fin.	2	0	-196033	-3664			1022	385	SLV 1	0.11	No
ini.	2	0	-160576	3997			1022	385	SLV 16	0.1	No
fin.	2	0	89454	-477			1022	385	SLV 16	0.81	No
ini.	2	0	11469	662			1022	385	SLV 4	0.58	No
fin.	2	0	-207741	-4408			1022	385	SLV 4	0.09	No
ini.	2	0	-17648	1727			1022	385	SLV 8	0.22	No
fin.	2	0	-117382	-3901			1022	385	SLV 8	0.1	No
ini.	2	0	-187232	4085			1022	385	SLV 13	0.09	No
fin.	2	0	101162	267			1022	385	SLV 13	1.44	Si
ini.	2	0	-187232	4085			1022	385	SLV 14	0.09	No
fin.	2	0	101162	267			1022	385	SLV 14	1.44	Si
ini.	2	0	-15188	750			1022	385	SLV 2	0.51	No
fin.	2	0	-196033	-3664			1022	385	SLV 2	0.11	No
ini.	2	0	-17648	1727			1022	385	SLV 7	0.22	No
fin.	2	0	-117382	-3901			1022	385	SLV 7	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.39	SLV 3	No
V_SLV	0.087	SLV 3	No
PF_SLU	0.507	SLU 82	No
V_SLU	0.07	SLU 82	No

Trave di accoppiamento 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1505.7	127.1	124	173	49	-1505.7	220.1	124	173	49	93	30	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ _M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-12	-1967	36545	SLU 79	18.58	Si
fin.	3	1000	-52042	36545	SLU 79	0.7	No
ini.	3	-14	-1889	36545	SLU 77	19.35	Si
fin.	3	995	-51555	36545	SLU 77	0.71	No
ini.	3	-28	-925	36545	SLU 74	39.52	Si
fin.	3	926	-46757	36545	SLU 74	0.78	No
ini.	3	-11	-1973	36545	SLU 80	18.52	Si
fin.	3	999	-51898	36545	SLU 80	0.7	No
ini.	3	-13	-1895	36545	SLU 78	19.28	Si
fin.	3	994	-51411	36545	SLU 78	0.71	No
ini.	3	-25	-1013	36545	SLU 76	36.06	Si
fin.	3	928	-47004	36545	SLU 76	0.78	No
ini.	3	-32	-803	36545	SLU 83	45.5	Si
fin.	3	984	-49908	36545	SLU 83	0.73	No
ini.	3	-32	-809	36545	SLU 84	45.15	Si
fin.	3	982	-49765	36545	SLU 84	0.73	No
ini.	3	-8	-1881	36545	SLU 37	19.42	Si
fin.	3	889	-46833	36545	SLU 37	0.78	No
ini.	3	-8	-1888	36545	SLU 38	19.36	Si
fin.	3	888	-46689	36545	SLU 38	0.78	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ _M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-1803	-87			377	142	SLU 35	1.63	Si
fin.	3	0	-46346	-373			377	142	SLU 35	0.38	No
ini.	3	0	-809	-27			377	142	SLU 84	5.33	Si
fin.	3	0	-49765	-355			377	142	SLU 84	0.4	No
ini.	3	0	-803	-29			377	142	SLU 83	4.94	Si
fin.	3	0	-49908	-357			377	142	SLU 83	0.4	No
ini.	3	0	-1809	-85			377	142	SLU 36	1.67	Si
fin.	3	0	-46202	-371			377	142	SLU 36	0.38	No
ini.	3	0	-1881	-92			377	142	SLU 37	1.55	Si
fin.	3	0	-46833	-391			377	142	SLU 37	0.36	No
ini.	3	0	-1889	-89			377	142	SLU 77	1.6	Si
fin.	3	0	-51555	-379			377	142	SLU 77	0.37	No
ini.	3	0	-1973	-92			377	142	SLU 80	1.55	Si
fin.	3	0	-51898	-396			377	142	SLU 80	0.36	No
ini.	3	0	-1888	-90			377	142	SLU 38	1.58	Si
fin.	3	0	-46689	-389			377	142	SLU 38	0.37	No
ini.	3	0	-1967	-94			377	142	SLU 79	1.52	Si
fin.	3	0	-52042	-398			377	142	SLU 79	0.36	No
ini.	3	0	-1895	-87			377	142	SLU 78	1.64	Si
fin.	3	0	-51411	-377			377	142	SLU 78	0.38	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ _M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-541	9138	52331	SLD 7	5.73	Si
fin.	2	458	-53456	52331	SLD 7	0.98	No
ini.	2	-1280	22700	52331	SLV 7	2.31	Si
fin.	2	306	-88902	52331	SLV 7	0.59	No
ini.	2	-124	-7523	52331	SLV 16	6.96	Si
fin.	2	940	-68140	52331	SLV 16	0.77	No
ini.	2	-124	-7523	52331	SLV 15	6.96	Si
fin.	2	940	-68140	52331	SLV 15	0.77	No
ini.	2	-478	5888	52331	SLD 11	8.89	Si
fin.	2	561	-58494	52331	SLD 11	0.89	No
ini.	2	-1128	14903	52331	SLV 12	3.51	Si
fin.	2	551	-100846	52331	SLV 12	0.52	No
ini.	2	-1128	14903	52331	SLV 11	3.51	Si
fin.	2	551	-100846	52331	SLV 11	0.52	No
ini.	2	-478	5888	52331	SLD 12	8.89	Si
fin.	2	561	-58494	52331	SLD 12	0.89	No
ini.	2	-541	9138	52331	SLD 8	5.73	Si
fin.	2	458	-53456	52331	SLD 8	0.98	No
ini.	2	-1280	22700	52331	SLV 8	2.31	Si
fin.	2	306	-88902	52331	SLV 8	0.59	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ _M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	22700	-1048			566	213	SLV 8	0.2	No
fin.	2	0	-88902	-918			566	213	SLV 8	0.23	No
ini.	2	0	-7523	-634			566	213	SLV 16	0.34	No
fin.	2	0	-68140	-571			566	213	SLV 16	0.37	No
ini.	2	0	-7523	-634			566	213	SLV 15	0.34	No
fin.	2	0	-68140	-571			566	213	SLV 15	0.37	No
ini.	2	0	-15386	1221			566	213	SLV 5	0.17	No
fin.	2	0	44360	743			566	213	SLV 5	0.29	No
ini.	2	0	22700	-1048			566	213	SLV 7	0.2	No
fin.	2	0	-88902	-918			566	213	SLV 7	0.23	No
ini.	2	0	-15386	1221			566	213	SLV 6	0.17	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	44360	743			566	213	SLV 6	0.29	No
ini.	2	0	14903	-1223			566	213	SLV 11	0.17	No
fin.	2	0	-100846	-1026			566	213	SLV 11	0.21	No
ini.	2	0	-23183	1045			566	213	SLV 10	0.2	No
fin.	2	0	32415	635			566	213	SLV 10	0.34	No
ini.	2	0	-23183	1045			566	213	SLV 9	0.2	No
fin.	2	0	32415	635			566	213	SLV 9	0.34	No
ini.	2	0	14903	-1223			566	213	SLV 12	0.17	No
fin.	2	0	-100846	-1026			566	213	SLV 12	0.21	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.519	SLV 11	No
V_SLV	0.174	SLV 11	No
PF_SLU	0.702	SLU 79	No
V_SLU	0.357	SLU 79	No

Trave di accoppiamento 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1883.8	104.6	114	173	59	-1963.8	104.6	114	173	59	80	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3479	-56672	69831	SLU 77	1.23	Si
fin.	3	-5428	3648	69831	SLU 77	19.14	Si
ini.	3	-3438	-56742	69831	SLU 73	1.23	Si
fin.	3	-5137	3028	69831	SLU 73	23.06	Si
ini.	3	-3610	-58751	69831	SLU 82	1.19	Si
fin.	3	-5477	2766	69831	SLU 82	25.24	Si
ini.	3	-3501	-57967	69831	SLU 78	1.2	Si
fin.	3	-5353	4115	69831	SLU 78	16.97	Si
ini.	3	-3617	-58451	69831	SLU 83	1.19	Si
fin.	3	-5605	3069	69831	SLU 83	22.75	Si
ini.	3	-3479	-57867	69831	SLU 80	1.21	Si
fin.	3	-5293	4256	69831	SLU 80	16.41	Si
ini.	3	-3638	-59746	69831	SLU 84	1.17	Si
fin.	3	-5530	3536	69831	SLU 84	19.75	Si
ini.	3	-3473	-56972	69831	SLU 75	1.23	Si
fin.	3	-5300	3346	69831	SLU 75	20.87	Si
ini.	3	-3589	-57456	69831	SLU 81	1.22	Si
fin.	3	-5552	2300	69831	SLU 81	30.37	Si
ini.	3	-3466	-57736	69831	SLU 76	1.21	Si
fin.	3	-5190	3798	69831	SLU 76	18.39	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-56572	6600			754	284	SLU 79	0.04	No
fin.	3	0	3789	-12353			754	284	SLU 79	0.02	No
ini.	3	0	-58751	6625			754	284	SLU 82	0.04	No
fin.	3	0	2766	-12226			754	284	SLU 82	0.02	No
ini.	3	0	-56672	6631			754	284	SLU 77	0.04	No
fin.	3	0	3648	-12460			754	284	SLU 77	0.02	No
ini.	3	0	-56972	6498			754	284	SLU 75	0.04	No
fin.	3	0	3346	-12014			754	284	SLU 75	0.02	No
ini.	3	0	-57967	6660			754	284	SLU 78	0.04	No
fin.	3	0	4115	-12316			754	284	SLU 78	0.02	No
ini.	3	0	-59746	6788			754	284	SLU 84	0.04	No
fin.	3	0	3536	-12528			754	284	SLU 84	0.02	No
ini.	3	0	-58451	6759			754	284	SLU 83	0.04	No
fin.	3	0	3069	-12672			754	284	SLU 83	0.02	No
ini.	3	0	-57867	6629			754	284	SLU 80	0.04	No
fin.	3	0	4256	-12208			754	284	SLU 80	0.02	No
ini.	3	0	-57456	6596			754	284	SLU 81	0.04	No
fin.	3	0	2300	-12371			754	284	SLU 81	0.02	No
ini.	3	0	-55677	6468			754	284	SLU 74	0.04	No
fin.	3	0	2879	-12159			754	284	SLU 74	0.02	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1283	-121479	80971	SLV 14	0.67	No
fin.	2	5004	30805	80971	SLV 14	2.63	Si
ini.	2	-1767	-67042	80971	SLD 16	1.21	Si
fin.	2	-343	9754	80971	SLD 16	8.3	Si
ini.	2	-1012	-106792	80971	SLV 16	0.76	No
fin.	2	4013	20889	80971	SLV 16	3.88	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1283	-121479	80971	SLV 13	0.67	No
fin.	2	5004	30805	80971	SLV 13	2.63	Si
ini.	2	-1012	-106792	80971	SLV 15	0.76	No
fin.	2	4013	20889	80971	SLV 15	3.88	Si
ini.	2	-1882	-73276	80971	SLD 13	1.11	Si
fin.	2	70	14020	80971	SLD 13	5.78	Si
ini.	2	-2425	-84886	80971	SLV 9	0.95	No
fin.	2	484	25331	80971	SLV 9	3.2	Si
ini.	2	-1882	-73276	80971	SLD 14	1.11	Si
fin.	2	70	14020	80971	SLD 14	5.78	Si
ini.	2	-1767	-67042	80971	SLD 15	1.21	Si
fin.	2	-343	9754	80971	SLD 15	8.3	Si
ini.	2	-2425	-84886	80971	SLV 10	0.95	No
fin.	2	484	25331	80971	SLV 10	3.2	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	32031	1585			1131	426	SLV 1	0.27	No
fin.	2	0	-17891	-15365			1131	426	SLV 1	0.03	No
ini.	2	0	-7719	3138			1131	426	SLD 2	0.14	No
fin.	2	0	-6756	-11174			1131	426	SLD 2	0.04	No
ini.	2	0	-1485	2718			1131	426	SLD 4	0.16	No
fin.	2	0	-11022	-11450			1131	426	SLD 4	0.04	No
ini.	2	0	-7719	3138			1131	426	SLD 1	0.14	No
fin.	2	0	-6756	-11174			1131	426	SLD 1	0.04	No
ini.	2	0	10125	1664			1131	426	SLV 7	0.26	No
fin.	2	0	-22333	-11474			1131	426	SLV 7	0.04	No
ini.	2	0	32031	1585			1131	426	SLV 2	0.27	No
fin.	2	0	-17891	-15365			1131	426	SLV 2	0.03	No
ini.	2	0	-1485	2718			1131	426	SLD 3	0.16	No
fin.	2	0	-11022	-11450			1131	426	SLD 3	0.04	No
ini.	2	0	10125	1664			1131	426	SLV 8	0.26	No
fin.	2	0	-22333	-11474			1131	426	SLV 8	0.04	No
ini.	2	0	46718	581			1131	426	SLV 3	0.73	No
fin.	2	0	-27807	-16048			1131	426	SLV 3	0.03	No
ini.	2	0	46718	581			1131	426	SLV 4	0.73	No
fin.	2	0	-27807	-16048			1131	426	SLV 4	0.03	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 13	No
V_SLV		SLV 3	No
PF_SLU		SLU 84	Si
V_SLU		SLU 83	No

Trave di accoppiamento 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1406.3	104.6	114	173	59	-1506.3	104.6	114	173	59	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2877	-57305	69831	SLU 77	1.22	Si
fin.	3	-2597	-98831	69831	SLU 77	0.71	No
ini.	3	-2833	-56125	69831	SLU 74	1.24	Si
fin.	3	-2625	-98483	69831	SLU 74	0.71	No
ini.	3	-2798	-55855	69831	SLU 75	1.25	Si
fin.	3	-2623	-98817	69831	SLU 75	0.71	No
ini.	3	-2841	-57034	69831	SLU 78	1.22	Si
fin.	3	-2595	-99166	69831	SLU 78	0.7	No
ini.	3	-2930	-58228	69831	SLU 84	1.2	Si
fin.	3	-2744	-103357	69831	SLU 84	0.68	No
ini.	3	-2830	-56538	69831	SLU 80	1.24	Si
fin.	3	-2566	-97906	69831	SLU 80	0.71	No
ini.	3	-2922	-57319	69831	SLU 81	1.22	Si
fin.	3	-2773	-102674	69831	SLU 81	0.68	No
ini.	3	-2965	-58499	69831	SLU 83	1.19	Si
fin.	3	-2746	-103023	69831	SLU 83	0.68	No
ini.	3	-2764	-55178	69831	SLU 76	1.27	Si
fin.	3	-2592	-97781	69831	SLU 76	0.71	No
ini.	3	-2886	-57049	69831	SLU 82	1.22	Si
fin.	3	-2771	-103009	69831	SLU 82	0.68	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-58499	11134			682	257	SLU 83	0.02	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-103023	-6086			682	257	SLU 83	0.04	No
ini.	3	0	-56538	10717			682	257	SLU 80	0.02	No
fin.	3	0	-97906	-5818			682	257	SLU 80	0.04	No
ini.	3	0	-57319	10939			682	257	SLU 81	0.02	No
fin.	3	0	-102674	-6033			682	257	SLU 81	0.04	No
ini.	3	0	-57034	10806			682	257	SLU 78	0.02	No
fin.	3	0	-99166	-5881			682	257	SLU 78	0.04	No
ini.	3	0	-56125	10628			682	257	SLU 74	0.02	No
fin.	3	0	-98483	-5816			682	257	SLU 74	0.04	No
ini.	3	0	-57049	10922			682	257	SLU 82	0.02	No
fin.	3	0	-103009	-6047			682	257	SLU 82	0.04	No
ini.	3	0	-57305	10823			682	257	SLU 77	0.02	No
fin.	3	0	-98831	-5868			682	257	SLU 77	0.04	No
ini.	3	0	-56808	10734			682	257	SLU 79	0.02	No
fin.	3	0	-97571	-5805			682	257	SLU 79	0.04	No
ini.	3	0	-58228	11117			682	257	SLU 84	0.02	No
fin.	3	0	-103357	-6099			682	257	SLU 84	0.04	No
ini.	3	0	-55855	10611			682	257	SLU 75	0.02	No
fin.	3	0	-98817	-5829			682	257	SLU 75	0.04	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3150	-23131	80971	SLD 2	3.5	Si
fin.	2	-4962	-114534	80971	SLD 2	0.71	No
ini.	2	-4833	-3941	80971	SLV 1	20.55	Si
fin.	2	-9212	-179442	80971	SLV 1	0.45	No
ini.	2	-2783	-21487	80971	SLD 4	3.77	Si
fin.	2	-4958	-122751	80971	SLD 4	0.66	No
ini.	2	-4833	-3941	80971	SLV 2	20.55	Si
fin.	2	-9212	-179442	80971	SLV 2	0.45	No
ini.	2	-2783	-21487	80971	SLD 3	3.77	Si
fin.	2	-4958	-122751	80971	SLD 3	0.66	No
ini.	2	-3969	-91	80971	SLV 4	885.2	Si
fin.	2	-9211	-199061	80971	SLV 4	0.41	No
ini.	2	-1214	-20336	80971	SLV 7	3.98	Si
fin.	2	-4018	-135582	80971	SLV 7	0.6	No
ini.	2	-3150	-23131	80971	SLD 1	3.5	Si
fin.	2	-4962	-114534	80971	SLD 1	0.71	No
ini.	2	-3969	-91	80971	SLV 3	885.2	Si
fin.	2	-9211	-199061	80971	SLV 3	0.41	No
ini.	2	-1214	-20336	80971	SLV 8	3.98	Si
fin.	2	-4018	-135582	80971	SLV 8	0.6	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-70765	11884			1022	385	SLV 16	0.03	No
fin.	2	0	47703	-811			1022	385	SLV 16	0.47	No
ini.	2	0	-41538	9146			1022	385	SLV 12	0.04	No
fin.	2	0	-61552	-4081			1022	385	SLV 12	0.09	No
ini.	2	0	-51574	9091			1022	385	SLD 15	0.04	No
fin.	2	0	-17205	-2563			1022	385	SLD 15	0.15	No
ini.	2	0	-51574	9091			1022	385	SLD 16	0.04	No
fin.	2	0	-17205	-2563			1022	385	SLD 16	0.15	No
ini.	2	0	-74614	11444			1022	385	SLV 14	0.03	No
fin.	2	0	67322	-70			1022	385	SLV 14	5.49	Si
ini.	2	0	-53218	8910			1022	385	SLD 13	0.04	No
fin.	2	0	-8988	-2254			1022	385	SLD 13	0.17	No
ini.	2	0	-74614	11444			1022	385	SLV 13	0.03	No
fin.	2	0	67322	-70			1022	385	SLV 13	5.49	Si
ini.	2	0	-53218	8910			1022	385	SLD 14	0.04	No
fin.	2	0	-8988	-2254			1022	385	SLD 14	0.17	No
ini.	2	0	-70765	11884			1022	385	SLV 15	0.03	No
fin.	2	0	47703	-811			1022	385	SLV 15	0.47	No
ini.	2	0	-41538	9146			1022	385	SLV 11	0.04	No
fin.	2	0	-61552	-4081			1022	385	SLV 11	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.407	SLV 3	No
V_SLV	0.032	SLV 15	No
PF_SLU	0.676	SLU 84	No
V_SLU	0.023	SLU 83	No

Trave di accoppiamento 14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1261.3	104.6	120	173	53	-1358.3	104.6	120	173	53	97	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb ₀	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3092	-14870	59331	SLU 78	3.99	Si
fin.	3	-1861	-99446	59331	SLU 78	0.6	No
ini.	3	-3033	-15228	59331	SLU 74	3.9	Si
fin.	3	-1863	-98300	59331	SLU 74	0.6	No
ini.	3	-3122	-14733	59331	SLU 77	4.03	Si
fin.	3	-1894	-99699	59331	SLU 77	0.6	No
ini.	3	-3102	-16910	59331	SLU 81	3.51	Si
fin.	3	-1924	-101490	59331	SLU 81	0.58	No
ini.	3	-3003	-15365	59331	SLU 75	3.86	Si
fin.	3	-1830	-98047	59331	SLU 75	0.61	No
ini.	3	-3072	-17046	59331	SLU 82	3.48	Si
fin.	3	-1891	-101236	59331	SLU 82	0.59	No
ini.	3	-3099	-14746	59331	SLU 80	4.02	Si
fin.	3	-1862	-98510	59331	SLU 80	0.6	No
ini.	3	-3129	-14609	59331	SLU 79	4.06	Si
fin.	3	-1895	-98764	59331	SLU 79	0.6	No
ini.	3	-3191	-16415	59331	SLU 83	3.61	Si
fin.	3	-1954	-102889	59331	SLU 83	0.58	No
ini.	3	-3161	-16552	59331	SLU 84	3.58	Si
fin.	3	-1921	-102635	59331	SLU 84	0.58	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-16910	11592			612	230	SLU 81	0.02	No
fin.	3	0	-101490	-7204			612	230	SLU 81	0.03	No
ini.	3	0	-16415	11749			612	230	SLU 83	0.02	No
fin.	3	0	-102889	-7295			612	230	SLU 83	0.03	No
ini.	3	0	-17046	11606			612	230	SLU 82	0.02	No
fin.	3	0	-101236	-7202			612	230	SLU 82	0.03	No
ini.	3	0	-14746	11292			612	230	SLU 80	0.02	No
fin.	3	0	-98510	-6999			612	230	SLU 80	0.03	No
ini.	3	0	-15228	11231			612	230	SLU 74	0.02	No
fin.	3	0	-98300	-6982			612	230	SLU 74	0.03	No
ini.	3	0	-14609	11278			612	230	SLU 79	0.02	No
fin.	3	0	-98764	-7001			612	230	SLU 79	0.03	No
ini.	3	0	-14870	11401			612	230	SLU 78	0.02	No
fin.	3	0	-99446	-7072			612	230	SLU 78	0.03	No
ini.	3	0	-16552	11763			612	230	SLU 84	0.02	No
fin.	3	0	-102635	-7293			612	230	SLU 84	0.03	No
ini.	3	0	-14733	11387			612	230	SLU 77	0.02	No
fin.	3	0	-99699	-7074			612	230	SLU 77	0.03	No
ini.	3	0	-15365	11244			612	230	SLU 75	0.02	No
fin.	3	0	-98047	-6980			612	230	SLU 75	0.03	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1384	18285	70471	SLV 16	3.85	Si
fin.	2	1219	-70673	70471	SLV 16	1	No
ini.	2	-2492	16400	70471	SLV 9	4.3	Si
fin.	2	-1829	-70368	70471	SLV 9	1	Si
ini.	2	-2492	16400	70471	SLV 10	4.3	Si
fin.	2	-1829	-70368	70471	SLV 10	1	Si
ini.	2	-1384	18285	70471	SLV 15	3.85	Si
fin.	2	1219	-70673	70471	SLV 15	1	No
ini.	2	-1750	2000	70471	SLD 15	35.23	Si
fin.	2	-202	-67502	70471	SLD 15	1.04	Si
ini.	2	-1904	6123	70471	SLD 13	11.51	Si
fin.	2	-508	-68370	70471	SLD 13	1.03	Si
ini.	2	-1753	28174	70471	SLV 14	2.5	Si
fin.	2	495	-72604	70471	SLV 14	0.97	No
ini.	2	-1750	2000	70471	SLD 16	35.23	Si
fin.	2	-202	-67502	70471	SLD 16	1.04	Si
ini.	2	-1753	28174	70471	SLV 13	2.5	Si
fin.	2	495	-72604	70471	SLV 13	0.97	No
ini.	2	-1904	6123	70471	SLD 14	11.51	Si
fin.	2	-508	-68370	70471	SLD 14	1.03	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	28174	10492			919	346	SLV 14	0.03	No
fin.	2	0	-72604	-5704			919	346	SLV 14	0.06	No
ini.	2	0	18285	11305			919	346	SLV 15	0.03	No
fin.	2	0	-70673	-5965			919	346	SLV 15	0.06	No
ini.	2	0	2000	9091			919	346	SLD 16	0.04	No
fin.	2	0	-67502	-5207			919	346	SLD 16	0.07	No
ini.	2	0	-16566	9849			919	346	SLV 11	0.04	No
fin.	2	0	-63931	-5443			919	346	SLV 11	0.06	No
ini.	2	0	6123	8759			919	346	SLD 14	0.04	No
fin.	2	0	-68370	-5103			919	346	SLD 14	0.07	No
ini.	2	0	2000	9091			919	346	SLD 15	0.04	No
fin.	2	0	-67502	-5207			919	346	SLD 15	0.07	No
ini.	2	0	28174	10492			919	346	SLV 13	0.03	No
fin.	2	0	-72604	-5704			919	346	SLV 13	0.06	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-16566	9849			919	346	SLV 12	0.04	No
fin.	2	0	-63931	-5443			919	346	SLV 12	0.06	No
ini.	2	0	18285	11305			919	346	SLV 16	0.03	No
fin.	2	0	-70673	-5965			919	346	SLV 16	0.06	No
ini.	2	0	6123	8759			919	346	SLD 13	0.04	No
fin.	2	0	-68370	-5103			919	346	SLD 13	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.971	SLV 13	No
V_SLV	0.031	SLV 15	No
PF_SLU	0.577	SLU 83	No
V_SLU	0.02	SLU 84	No

Trave di accoppiamento 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1123.8	104.6	120	173	53	-1223.8	104.6	120	173	53	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2793	-30059	59331	SLU 82	1.97	Si
fin.	3	-2885	24599	59331	SLU 82	2.41	Si
ini.	3	-2846	-30213	59331	SLU 79	1.96	Si
fin.	3	-3045	27934	59331	SLU 79	2.12	Si
ini.	3	-2763	-29640	59331	SLU 74	2	Si
fin.	3	-2917	26180	59331	SLU 74	2.27	Si
ini.	3	-2736	-29501	59331	SLU 75	2.01	Si
fin.	3	-2879	25714	59331	SLU 75	2.31	Si
ini.	3	-2820	-30073	59331	SLU 80	1.97	Si
fin.	3	-3007	27468	59331	SLU 80	2.16	Si
ini.	3	-2839	-30556	59331	SLU 77	1.94	Si
fin.	3	-3036	27861	59331	SLU 77	2.13	Si
ini.	3	-2819	-30198	59331	SLU 81	1.96	Si
fin.	3	-2922	25065	59331	SLU 81	2.37	Si
ini.	3	-2869	-30975	59331	SLU 84	1.92	Si
fin.	3	-3005	26280	59331	SLU 84	2.26	Si
ini.	3	-2896	-31114	59331	SLU 83	1.91	Si
fin.	3	-3042	26745	59331	SLU 83	2.22	Si
ini.	3	-2813	-30417	59331	SLU 78	1.95	Si
fin.	3	-2999	27395	59331	SLU 78	2.17	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-30059	209			612	230	SLU 82	1.1	Si
fin.	3	0	24599	1733			612	230	SLU 82	0.13	No
ini.	3	0	-30073	227			612	230	SLU 80	1.01	Si
fin.	3	0	27468	1766			612	230	SLU 80	0.13	No
ini.	3	0	-30417	221			612	230	SLU 78	1.04	Si
fin.	3	0	27395	1787			612	230	SLU 78	0.13	No
ini.	3	0	-30556	228			612	230	SLU 77	1.01	Si
fin.	3	0	27861	1793			612	230	SLU 77	0.13	No
ini.	3	0	-29640	209			612	230	SLU 74	1.1	Si
fin.	3	0	26180	1742			612	230	SLU 74	0.13	No
ini.	3	0	-29501	202			612	230	SLU 75	1.14	Si
fin.	3	0	25714	1736			612	230	SLU 75	0.13	No
ini.	3	0	-30975	228			612	230	SLU 84	1.01	Si
fin.	3	0	26280	1784			612	230	SLU 84	0.13	No
ini.	3	0	-30198	216			612	230	SLU 81	1.06	Si
fin.	3	0	25065	1740			612	230	SLU 81	0.13	No
ini.	3	0	-31114	235			612	230	SLU 83	0.98	No
fin.	3	0	26745	1790			612	230	SLU 83	0.13	No
ini.	3	0	-30213	234			612	230	SLU 79	0.98	No
fin.	3	0	27934	1773			612	230	SLU 79	0.13	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1381	-47721	70471	SLD 13	1.48	Si
fin.	2	-2991	46936	70471	SLD 13	1.5	Si
ini.	2	-684	-76982	70471	SLV 16	0.92	No
fin.	2	-3760	71991	70471	SLV 16	0.98	No
ini.	2	-1624	-53202	70471	SLV 9	1.32	Si
fin.	2	-3653	60046	70471	SLV 9	1.17	Si
ini.	2	-1624	-53202	70471	SLV 10	1.32	Si
fin.	2	-3653	60046	70471	SLV 10	1.17	Si
ini.	2	-1381	-47721	70471	SLD 14	1.48	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-2991	46936	70471	SLD 14	1.5	Si
ini.	2	-754	-86167	70471	SLV 13	0.82	No
fin.	2	-4401	86341	70471	SLV 13	0.82	No
ini.	2	-2938	47822	70471	SLV 4	1.47	Si
fin.	2	517	-50967	70471	SLV 4	1.38	Si
ini.	2	-754	-86167	70471	SLV 14	0.82	No
fin.	2	-4401	86341	70471	SLV 14	0.82	No
ini.	2	-684	-76982	70471	SLV 15	0.92	No
fin.	2	-3760	71991	70471	SLV 15	0.98	No
ini.	2	-2938	47822	70471	SLV 3	1.47	Si
fin.	2	517	-50967	70471	SLV 3	1.38	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-86167	2016			919	346	SLV 13	0.17	No
fin.	2	0	86341	2906			919	346	SLV 13	0.12	No
ini.	2	0	-47721	934			919	346	SLD 14	0.37	No
fin.	2	0	46936	1909			919	346	SLD 14	0.18	No
ini.	2	0	-22584	4			919	346	SLV 12	92.18	Si
fin.	2	0	12215	2089			919	346	SLV 12	0.17	No
ini.	2	0	-76982	1635			919	346	SLV 15	0.21	No
fin.	2	0	71991	3127			919	346	SLV 15	0.11	No
ini.	2	0	-43804	772			919	346	SLD 15	0.45	No
fin.	2	0	40897	2004			919	346	SLD 15	0.17	No
ini.	2	0	-76982	1635			919	346	SLV 16	0.21	No
fin.	2	0	71991	3127			919	346	SLV 16	0.11	No
ini.	2	0	-47721	934			919	346	SLD 13	0.37	No
fin.	2	0	46936	1909			919	346	SLD 13	0.18	No
ini.	2	0	-43804	772			919	346	SLD 16	0.45	No
fin.	2	0	40897	2004			919	346	SLD 16	0.17	No
ini.	2	0	-22584	4			919	346	SLV 11	92.18	Si
fin.	2	0	12215	2089			919	346	SLV 11	0.17	No
ini.	2	0	-86167	2016			919	346	SLV 14	0.17	No
fin.	2	0	86341	2906			919	346	SLV 14	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		0.816 SLV 13	No
V_SLV		0.111 SLV 15	No
PF_SLU		1.907 SLU 83	Si
V_SLU		0.129 SLU 77	No

Trave di accoppiamento 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-971.3	104.6	114	173	59	-1071.3	104.6	114	173	59	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-4197	-52375	69831	SLU 84	1.33	Si
fin.	3	-2125	-57818	69831	SLU 84	1.21	Si
ini.	3	-4000	-49885	69831	SLU 74	1.4	Si
fin.	3	-2063	-55677	69831	SLU 74	1.25	Si
ini.	3	-4019	-50241	69831	SLU 75	1.39	Si
fin.	3	-2030	-54859	69831	SLU 75	1.27	Si
ini.	3	-4130	-51129	69831	SLU 81	1.37	Si
fin.	3	-2063	-56987	69831	SLU 81	1.23	Si
ini.	3	-4067	-51131	69831	SLU 78	1.37	Si
fin.	3	-2125	-56508	69831	SLU 78	1.24	Si
ini.	3	-4179	-52019	69831	SLU 83	1.34	Si
fin.	3	-2158	-58636	69831	SLU 83	1.19	Si
ini.	3	-4036	-50615	69831	SLU 80	1.38	Si
fin.	3	-2140	-56361	69831	SLU 80	1.24	Si
ini.	3	-4149	-51484	69831	SLU 82	1.36	Si
fin.	3	-2030	-56169	69831	SLU 82	1.24	Si
ini.	3	-4017	-50259	69831	SLU 79	1.39	Si
fin.	3	-2173	-57179	69831	SLU 79	1.22	Si
ini.	3	-4049	-50776	69831	SLU 77	1.38	Si
fin.	3	-2158	-57327	69831	SLU 77	1.22	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-51484	12244			682	257	SLU 82	0.02	No
fin.	3	0	-56169	-5459			682	257	SLU 82	0.05	No
ini.	3	0	-50615	11710			682	257	SLU 80	0.02	No
fin.	3	0	-56361	-5312			682	257	SLU 80	0.05	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-52375	12335			682	257	SLU 84	0.02	No
fin.	3	0	-57818	-5541			682	257	SLU 84	0.05	No
ini.	3	0	-49885	11718			682	257	SLU 74	0.02	No
fin.	3	0	-55677	-5297			682	257	SLU 74	0.05	No
ini.	3	0	-52019	12308			682	257	SLU 83	0.02	No
fin.	3	0	-58636	-5570			682	257	SLU 83	0.05	No
ini.	3	0	-50776	11809			682	257	SLU 77	0.02	No
fin.	3	0	-57327	-5378			682	257	SLU 77	0.05	No
ini.	3	0	-51131	11837			682	257	SLU 78	0.02	No
fin.	3	0	-56508	-5348			682	257	SLU 78	0.05	No
ini.	3	0	-51129	12217			682	257	SLU 81	0.02	No
fin.	3	0	-56987	-5489			682	257	SLU 81	0.05	No
ini.	3	0	-50241	11746			682	257	SLU 75	0.02	No
fin.	3	0	-54859	-5267			682	257	SLU 75	0.05	No
ini.	3	0	-50259	11683			682	257	SLU 79	0.02	No
fin.	3	0	-57179	-5342			682	257	SLU 79	0.05	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-9311	-108520	80971	SLV 14	0.75	No
fin.	2	-3666	-25512	80971	SLV 14	3.17	Si
ini.	2	-5877	-73124	80971	SLD 15	1.11	Si
fin.	2	-2113	-24521	80971	SLD 15	3.3	Si
ini.	2	831	22521	80971	SLV 5	3.6	Si
fin.	2	-1712	-69663	80971	SLV 5	1.16	Si
ini.	2	-5877	-73124	80971	SLD 16	1.11	Si
fin.	2	-2113	-24521	80971	SLD 16	3.3	Si
ini.	2	-10158	-126774	80971	SLV 16	0.64	No
fin.	2	-3104	-9011	80971	SLV 16	8.99	Si
ini.	2	-6216	-88977	80971	SLV 11	0.91	No
fin.	2	-1044	-3167	80971	SLV 11	25.57	Si
ini.	2	-6216	-88977	80971	SLV 12	0.91	No
fin.	2	-1044	-3167	80971	SLV 12	25.57	Si
ini.	2	831	22521	80971	SLV 6	3.6	Si
fin.	2	-1712	-69663	80971	SLV 6	1.16	Si
ini.	2	-9311	-108520	80971	SLV 13	0.75	No
fin.	2	-3666	-25512	80971	SLV 13	3.17	Si
ini.	2	-10158	-126774	80971	SLV 15	0.64	No
fin.	2	-3104	-9011	80971	SLV 15	8.99	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-56920	9642			1022	385	SLD 11	0.04	No
fin.	2	0	-22189	-3130			1022	385	SLD 11	0.12	No
ini.	2	0	-126774	13183			1022	385	SLV 16	0.03	No
fin.	2	0	-9011	-997			1022	385	SLV 16	0.39	No
ini.	2	0	-108520	11314			1022	385	SLV 13	0.03	No
fin.	2	0	-25512	-1064			1022	385	SLV 13	0.36	No
ini.	2	0	-56920	9642			1022	385	SLD 12	0.04	No
fin.	2	0	-22189	-3130			1022	385	SLD 12	0.12	No
ini.	2	0	-73124	10062			1022	385	SLD 15	0.04	No
fin.	2	0	-24521	-2427			1022	385	SLD 15	0.16	No
ini.	2	0	-73124	10062			1022	385	SLD 16	0.04	No
fin.	2	0	-24521	-2427			1022	385	SLD 16	0.16	No
ini.	2	0	-88977	12213			1022	385	SLV 11	0.03	No
fin.	2	0	-3167	-2642			1022	385	SLV 11	0.15	No
ini.	2	0	-88977	12213			1022	385	SLV 12	0.03	No
fin.	2	0	-3167	-2642			1022	385	SLV 12	0.15	No
ini.	2	0	-126774	13183			1022	385	SLV 15	0.03	No
fin.	2	0	-9011	-997			1022	385	SLV 15	0.39	No
ini.	2	0	-108520	11314			1022	385	SLV 14	0.03	No
fin.	2	0	-25512	-1064			1022	385	SLV 14	0.36	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.639	SLV 15	No
V_SLV	0.029	SLV 15	No
PF_SLU	1.191	SLU 83	Si
V_SLU	0.021	SLU 84	No

Trave di accoppiamento 17

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-652.8	104.6	114	173	59	-742.8	104.6	114	173	59	90	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3282	-71843	69831	SLU 76	0.97	No
fin.	3	-1924	-37160	69831	SLU 76	1.88	Si
ini.	3	-3277	-71069	69831	SLU 73	0.98	No
fin.	3	-1923	-36387	69831	SLU 73	1.92	Si
ini.	3	-3128	-71439	69831	SLU 77	0.98	No
fin.	3	-1926	-42254	69831	SLU 77	1.65	Si
ini.	3	-3234	-71765	69831	SLU 75	0.97	No
fin.	3	-1926	-38856	69831	SLU 75	1.8	Si
ini.	3	-3239	-72539	69831	SLU 78	0.96	No
fin.	3	-1927	-39628	69831	SLU 78	1.76	Si
ini.	3	-3387	-74598	69831	SLU 82	0.94	No
fin.	3	-2006	-39701	69831	SLU 82	1.76	Si
ini.	3	-3276	-73498	69831	SLU 81	0.95	No
fin.	3	-2005	-42327	69831	SLU 81	1.65	Si
ini.	3	-3391	-75372	69831	SLU 84	0.93	No
fin.	3	-2007	-40474	69831	SLU 84	1.73	Si
ini.	3	-3281	-74272	69831	SLU 83	0.94	No
fin.	3	-2006	-43099	69831	SLU 83	1.62	Si
ini.	3	-3213	-71883	69831	SLU 80	0.97	No
fin.	3	-1924	-39683	69831	SLU 80	1.76	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-71765	8160			682	257	SLU 75	0.03	No
fin.	3	0	-38856	-3203			682	257	SLU 75	0.08	No
ini.	3	0	-74272	8533			682	257	SLU 83	0.03	No
fin.	3	0	-43099	-3449			682	257	SLU 83	0.07	No
ini.	3	0	-72539	8281			682	257	SLU 78	0.03	No
fin.	3	0	-39628	-3263			682	257	SLU 78	0.08	No
ini.	3	0	-75372	8566			682	257	SLU 84	0.03	No
fin.	3	0	-40474	-3344			682	257	SLU 84	0.08	No
ini.	3	0	-74598	8445			682	257	SLU 82	0.03	No
fin.	3	0	-39701	-3284			682	257	SLU 82	0.08	No
ini.	3	0	-70783	8174			682	257	SLU 79	0.03	No
fin.	3	0	-42308	-3354			682	257	SLU 79	0.08	No
ini.	3	0	-71883	8207			682	257	SLU 80	0.03	No
fin.	3	0	-39683	-3249			682	257	SLU 80	0.08	No
ini.	3	0	-71439	8248			682	257	SLU 77	0.03	No
fin.	3	0	-42254	-3368			682	257	SLU 77	0.08	No
ini.	3	0	-70665	8127			682	257	SLU 74	0.03	No
fin.	3	0	-41481	-3308			682	257	SLU 74	0.08	No
ini.	3	0	-73498	8412			682	257	SLU 81	0.03	No
fin.	3	0	-42327	-3389			682	257	SLU 81	0.08	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-5779	-83015	80971	SLV 14	0.98	No
fin.	2	-289	104939	80971	SLV 14	0.77	No
ini.	2	1101	-11250	80971	SLV 2	7.2	Si
fin.	2	-2715	-163758	80971	SLV 2	0.49	No
ini.	2	-734	-31537	80971	SLD 2	2.57	Si
fin.	2	-1929	-86228	80971	SLD 2	0.94	No
ini.	2	-5305	-81934	80971	SLV 16	0.99	No
fin.	2	20	106569	80971	SLV 16	0.76	No
ini.	2	-5305	-81934	80971	SLV 15	0.99	No
fin.	2	20	106569	80971	SLV 15	0.76	No
ini.	2	1575	-10170	80971	SLV 3	7.96	Si
fin.	2	-2406	-162127	80971	SLV 3	0.5	No
ini.	2	1575	-10170	80971	SLV 4	7.96	Si
fin.	2	-2406	-162127	80971	SLV 4	0.5	No
ini.	2	1101	-11250	80971	SLV 1	7.2	Si
fin.	2	-2715	-163758	80971	SLV 1	0.49	No
ini.	2	-734	-31537	80971	SLD 1	2.57	Si
fin.	2	-1929	-86228	80971	SLD 1	0.94	No
ini.	2	-5779	-83015	80971	SLV 13	0.98	No
fin.	2	-289	104939	80971	SLV 13	0.77	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-10170	2837			1022	385	SLV 3	0.14	No
fin.	2	0	-162127	-6622			1022	385	SLV 3	0.06	No
ini.	2	0	-61647	6555			1022	385	SLD 15	0.06	No
fin.	2	0	29039	-481			1022	385	SLD 15	0.8	No
ini.	2	0	-61647	6555			1022	385	SLD 16	0.06	No
fin.	2	0	29039	-481			1022	385	SLD 16	0.8	No
ini.	2	0	-81934	8187			1022	385	SLV 16	0.05	No
fin.	2	0	106569	1868			1022	385	SLV 16	0.21	No
ini.	2	0	-55556	6705			1022	385	SLV 11	0.06	No
fin.	2	0	14428	-1445			1022	385	SLV 11	0.27	No
ini.	2	0	-81934	8187			1022	385	SLV 15	0.05	No
fin.	2	0	106569	1868			1022	385	SLV 15	0.21	No
ini.	2	0	-83015	7853			1022	385	SLV 14	0.05	No
fin.	2	0	104939	2161			1022	385	SLV 14	0.18	No
ini.	2	0	-10170	2837			1022	385	SLV 4	0.14	No
fin.	2	0	-162127	-6622			1022	385	SLV 4	0.06	No
ini.	2	0	-83015	7853			1022	385	SLV 13	0.05	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	104939	2161			1022	385	SLV 13	0.18	No
ini.	2	0	-55556	6705			1022	385	SLV 12	0.06	No
fin.	2	0	14428	-1445			1022	385	SLV 12	0.27	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.494	SLV 1	No
V_SLV	0.047	SLV 15	No
PF_SLU	0.926	SLU 84	No
V_SLU	0.03	SLU 84	No

Trave di accoppiamento 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-508.8	104.6	114	173	59	-598.8	104.6	114	173	59	90	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	μ	ϕ	f _{vk,lim}	E	G	FC	
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-5601	-52026	69831	SLU 77	1.34	Si
fin.	3	-3390	-48902	69831	SLU 77	1.43	Si
ini.	3	-5720	-52122	69831	SLU 84	1.34	Si
fin.	3	-3667	-52487	69831	SLU 84	1.33	Si
ini.	3	-5574	-51105	69831	SLU 78	1.37	Si
fin.	3	-3504	-50009	69831	SLU 78	1.4	Si
ini.	3	-5747	-53044	69831	SLU 83	1.32	Si
fin.	3	-3553	-51381	69831	SLU 83	1.36	Si
ini.	3	-5642	-51981	69831	SLU 81	1.34	Si
fin.	3	-3544	-51209	69831	SLU 81	1.36	Si
ini.	3	-5543	-51425	69831	SLU 79	1.36	Si
fin.	3	-3360	-48542	69831	SLU 79	1.44	Si
ini.	3	-5392	-48826	69831	SLU 76	1.43	Si
fin.	3	-3540	-50214	69831	SLU 76	1.39	Si
ini.	3	-5515	-50503	69831	SLU 80	1.38	Si
fin.	3	-3474	-49648	69831	SLU 80	1.41	Si
ini.	3	-5615	-51059	69831	SLU 82	1.37	Si
fin.	3	-3658	-52316	69831	SLU 82	1.33	Si
ini.	3	-5495	-50963	69831	SLU 74	1.37	Si
fin.	3	-3381	-48731	69831	SLU 74	1.43	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-50963	11247			682	257	SLU 74	0.02	No
fin.	3	0	-48731	-7710			682	257	SLU 74	0.03	No
ini.	3	0	-53044	11748			682	257	SLU 83	0.02	No
fin.	3	0	-51381	-8083			682	257	SLU 83	0.03	No
ini.	3	0	-52122	11575			682	257	SLU 84	0.02	No
fin.	3	0	-52487	-8097			682	257	SLU 84	0.03	No
ini.	3	0	-51059	11304			682	257	SLU 82	0.02	No
fin.	3	0	-52316	-7983			682	257	SLU 82	0.03	No
ini.	3	0	-52026	11518			682	257	SLU 77	0.02	No
fin.	3	0	-48902	-7823			682	257	SLU 77	0.03	No
ini.	3	0	-51425	11422			682	257	SLU 79	0.02	No
fin.	3	0	-48542	-7768			682	257	SLU 79	0.03	No
ini.	3	0	-50042	11074			682	257	SLU 75	0.02	No
fin.	3	0	-49837	-7724			682	257	SLU 75	0.03	No
ini.	3	0	-50503	11249			682	257	SLU 80	0.02	No
fin.	3	0	-49648	-7782			682	257	SLU 80	0.03	No
ini.	3	0	-51981	11477			682	257	SLU 81	0.02	No
fin.	3	0	-51209	-7969			682	257	SLU 81	0.03	No
ini.	3	0	-51105	11345			682	257	SLU 78	0.02	No
fin.	3	0	-50009	-7837			682	257	SLU 78	0.03	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-8364	-69337	80971	SLD 15	1.17	Si
fin.	2	-4080	-28223	80971	SLD 15	2.87	Si
ini.	2	-7820	-60787	80971	SLD 14	1.33	Si
fin.	2	-4190	-30868	80971	SLD 14	2.62	Si
ini.	2	-13452	-97124	80971	SLV 13	0.83	No
fin.	2	-6782	-28854	80971	SLV 13	2.81	Si
ini.	2	-7820	-60787	80971	SLD 13	1.33	Si
fin.	2	-4190	-30868	80971	SLD 13	2.62	Si
ini.	2	-14743	-117513	80971	SLV 16	0.69	No
fin.	2	-6520	-22573	80971	SLV 16	3.59	Si
ini.	2	-13452	-97124	80971	SLV 14	0.83	No
fin.	2	-6782	-28854	80971	SLV 14	2.81	Si



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-8914	-89762	80971	SLV 12	0.9	No
fin.	2	-3143	-19924	80971	SLV 12	4.06	Si
ini.	2	-14743	-117513	80971	SLV 15	0.69	No
fin.	2	-6520	-22573	80971	SLV 15	3.59	Si
ini.	2	-8364	-69337	80971	SLD 16	1.17	Si
fin.	2	-4080	-28223	80971	SLD 16	2.87	Si
ini.	2	-8914	-89762	80971	SLV 11	0.9	No
fin.	2	-3143	-19924	80971	SLV 11	4.06	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-117513	14030			1022	385	SLV 15	0.03	No
fin.	2	0	-22573	-2448			1022	385	SLV 15	0.16	No
ini.	2	0	-97124	13010			1022	385	SLV 14	0.03	No
fin.	2	0	-28854	-3354			1022	385	SLV 14	0.11	No
ini.	2	0	-69337	10223			1022	385	SLD 16	0.04	No
fin.	2	0	-28223	-3979			1022	385	SLD 16	0.1	No
ini.	2	0	-69337	10223			1022	385	SLD 15	0.04	No
fin.	2	0	-28223	-3979			1022	385	SLD 15	0.1	No
ini.	2	0	-89762	10939			1022	385	SLV 12	0.04	No
fin.	2	0	-19924	-2939			1022	385	SLV 12	0.13	No
ini.	2	0	-60787	9808			1022	385	SLD 13	0.04	No
fin.	2	0	-30868	-4360			1022	385	SLD 13	0.09	No
ini.	2	0	-60787	9808			1022	385	SLD 14	0.04	No
fin.	2	0	-30868	-4360			1022	385	SLD 14	0.09	No
ini.	2	0	-97124	13010			1022	385	SLV 13	0.03	No
fin.	2	0	-28854	-3354			1022	385	SLV 13	0.11	No
ini.	2	0	-89762	10939			1022	385	SLV 11	0.04	No
fin.	2	0	-19924	-2939			1022	385	SLV 11	0.13	No
ini.	2	0	-117513	14030			1022	385	SLV 16	0.03	No
fin.	2	0	-22573	-2448			1022	385	SLV 16	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.689	SLV 15	No
V_SLV	0.027	SLV 15	No
PF_SLU	1.316	SLU 83	Si
V_SLU	0.022	SLU 83	No

Trave di accoppiamento 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1239.3	318.1	124	173	49	-1239.3	127.1	124	173	49	191	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	2385	-13416	36545	SLU 83	2.72	Si
fin.	3	1696	-24347	36545	SLU 83	1.5	Si
ini.	3	2238	-12659	36545	SLU 80	2.89	Si
fin.	3	1632	-23441	36545	SLU 80	1.56	Si
ini.	3	2281	-12889	36545	SLU 77	2.84	Si
fin.	3	1650	-23696	36545	SLU 77	1.54	Si
ini.	3	2389	-13443	36545	SLU 84	2.72	Si
fin.	3	1704	-24493	36545	SLU 84	1.49	Si
ini.	3	2287	-12844	36545	SLU 76	2.85	Si
fin.	3	1629	-23433	36545	SLU 76	1.56	Si
ini.	3	2285	-12916	36545	SLU 78	2.83	Si
fin.	3	1658	-23842	36545	SLU 78	1.53	Si
ini.	3	2328	-13056	36545	SLU 74	2.8	Si
fin.	3	1642	-23590	36545	SLU 74	1.55	Si
ini.	3	2432	-13583	36545	SLU 81	2.69	Si
fin.	3	1688	-24242	36545	SLU 81	1.51	Si
ini.	3	2436	-13611	36545	SLU 82	2.69	Si
fin.	3	1696	-24388	36545	SLU 82	1.5	Si
ini.	3	2332	-13083	36545	SLU 75	2.79	Si
fin.	3	1650	-23736	36545	SLU 75	1.54	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-12916	3649			377	142	SLU 78	0.04	No
fin.	3	0	-23842	-824			377	142	SLU 78	0.17	No
ini.	3	0	-13011	3725			377	142	SLU 73	0.04	No
fin.	3	0	-23327	-830			377	142	SLU 73	0.17	No
ini.	3	0	-13611	3887			377	142	SLU 82	0.04	No
fin.	3	0	-24388	-866			377	142	SLU 82	0.16	No
ini.	3	0	-13083	3722			377	142	SLU 75	0.04	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-23736	-834			377	142	SLU 75	0.17	No
ini.	3	0	-13056	3716			377	142	SLU 74	0.04	No
fin.	3	0	-23590	-834			377	142	SLU 74	0.17	No
ini.	3	0	-13443	3815			377	142	SLU 84	0.04	No
fin.	3	0	-24493	-855			377	142	SLU 84	0.17	No
ini.	3	0	-13583	3881			377	142	SLU 81	0.04	No
fin.	3	0	-24242	-865			377	142	SLU 81	0.16	No
ini.	3	0	-13416	3809			377	142	SLU 83	0.04	No
fin.	3	0	-24347	-855			377	142	SLU 83	0.17	No
ini.	3	0	-12844	3652			377	142	SLU 76	0.04	No
fin.	3	0	-23433	-820			377	142	SLU 76	0.17	No
ini.	3	0	-12889	3643			377	142	SLU 77	0.04	No
fin.	3	0	-23696	-824			377	142	SLU 77	0.17	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3169	-11600	52331	SLV 3	4.51	Si
fin.	2	4661	-84137	52331	SLV 3	0.62	No
ini.	2	-109	-11644	52331	SLV 6	4.49	Si
fin.	2	-2831	62103	52331	SLV 6	0.84	No
ini.	2	3169	-11600	52331	SLV 4	4.51	Si
fin.	2	4661	-84137	52331	SLV 4	0.62	No
ini.	2	3929	-8249	52331	SLV 8	6.34	Si
fin.	2	6355	-118603	52331	SLV 8	0.44	No
ini.	2	3369	-6394	52331	SLV 11	8.18	Si
fin.	2	5051	-93933	52331	SLV 11	0.56	No
ini.	2	-109	-11644	52331	SLV 5	4.49	Si
fin.	2	-2831	62103	52331	SLV 5	0.84	No
ini.	2	3929	-8249	52331	SLV 7	6.34	Si
fin.	2	6355	-118603	52331	SLV 7	0.44	No
ini.	2	-669	-9789	52331	SLV 9	5.35	Si
fin.	2	-4135	86772	52331	SLV 9	0.6	No
ini.	2	-669	-9789	52331	SLV 10	5.35	Si
fin.	2	-4135	86772	52331	SLV 10	0.6	No
ini.	2	3369	-6394	52331	SLV 12	8.18	Si
fin.	2	5051	-93933	52331	SLV 12	0.56	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-8901	3543			566	213	SLD 8	0.06	No
fin.	2	0	-59464	-425			566	213	SLD 8	0.5	No
ini.	2	0	-10217	3380			566	213	SLD 3	0.06	No
fin.	2	0	-44910	-448			566	213	SLD 3	0.48	No
ini.	2	0	-11600	4437			566	213	SLV 4	0.05	No
fin.	2	0	-84137	-263			566	213	SLV 4	0.81	No
ini.	2	0	-8901	3543			566	213	SLD 7	0.06	No
fin.	2	0	-59464	-425			566	213	SLD 7	0.5	No
ini.	2	0	-6394	4060			566	213	SLV 12	0.05	No
fin.	2	0	-93933	-349			566	213	SLV 12	0.61	No
ini.	2	0	-10217	3380			566	213	SLD 4	0.06	No
fin.	2	0	-44910	-448			566	213	SLD 4	0.48	No
ini.	2	0	-11600	4437			566	213	SLV 3	0.05	No
fin.	2	0	-84137	-263			566	213	SLV 3	0.81	No
ini.	2	0	-8249	4830			566	213	SLV 7	0.04	No
fin.	2	0	-118603	-211			566	213	SLV 7	1.01	Si
ini.	2	0	-8249	4830			566	213	SLV 8	0.04	No
fin.	2	0	-118603	-211			566	213	SLV 8	1.01	Si
ini.	2	0	-6394	4060			566	213	SLV 11	0.05	No
fin.	2	0	-93933	-349			566	213	SLV 11	0.61	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.441	SLV 7	No
V_SLV	0.044	SLV 7	No
PF_SLU	1.492	SLU 84	Si
V_SLU	0.037	SLU 82	No

Trave di accoppiamento 20

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1475.8	333.1	124	173	49	-1375.8	333.1	124	173	49	100	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{tk}	f _{vk0}	f _{mmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	35	-3090	36545	SLU 83	11.83	Si
fin.	3	620	-16510	36545	SLU 83	2.21	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	61	-3444	36545	SLU 61	10.61	Si
fin.	3	599	-15928	36545	SLU 61	2.29	Si
ini.	3	44	-3179	36545	SLU 76	11.5	Si
fin.	3	592	-15742	36545	SLU 76	2.32	Si
ini.	3	57	-3509	36545	SLU 73	10.41	Si
fin.	3	621	-16536	36545	SLU 73	2.21	Si
ini.	3	48	-3420	36545	SLU 81	10.68	Si
fin.	3	650	-17304	36545	SLU 81	2.11	Si
ini.	3	48	-3429	36545	SLU 82	10.66	Si
fin.	3	650	-17319	36545	SLU 82	2.11	Si
ini.	3	61	-3436	36545	SLU 60	10.64	Si
fin.	3	599	-15912	36545	SLU 60	2.3	Si
ini.	3	50	-3365	36545	SLU 75	10.86	Si
fin.	3	604	-16102	36545	SLU 75	2.27	Si
ini.	3	35	-3098	36545	SLU 84	11.8	Si
fin.	3	621	-16526	36545	SLU 84	2.21	Si
ini.	3	50	-3356	36545	SLU 74	10.89	Si
fin.	3	604	-16086	36545	SLU 74	2.27	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt_lim	Comb.	c.s.	Verifica
ini.	3	0	-3098	765			377	142	SLU 84	0.19	No
fin.	3	0	-16526	-812			377	142	SLU 84	0.17	No
ini.	3	0	-2243	726			377	142	SLU 42	0.2	No
fin.	3	0	-13832	-745			377	142	SLU 42	0.19	No
ini.	3	0	-2843	697			377	142	SLU 80	0.2	No
fin.	3	0	-14938	-742			377	142	SLU 80	0.19	No
ini.	3	0	-2565	711			377	142	SLU 39	0.2	No
fin.	3	0	-14610	-741			377	142	SLU 39	0.19	No
ini.	3	0	-2834	698			377	142	SLU 79	0.2	No
fin.	3	0	-14922	-742			377	142	SLU 79	0.19	No
ini.	3	0	-3429	750			377	142	SLU 82	0.19	No
fin.	3	0	-17319	-809			377	142	SLU 82	0.18	No
ini.	3	0	-2574	711			377	142	SLU 40	0.2	No
fin.	3	0	-14625	-741			377	142	SLU 40	0.19	No
ini.	3	0	-3420	751			377	142	SLU 81	0.19	No
fin.	3	0	-17304	-809			377	142	SLU 81	0.18	No
ini.	3	0	-3090	766			377	142	SLU 83	0.19	No
fin.	3	0	-16510	-812			377	142	SLU 83	0.17	No
ini.	3	0	-2235	726			377	142	SLU 41	0.2	No
fin.	3	0	-13816	-745			377	142	SLU 41	0.19	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	329	-13583	52331	SLV 6	3.85	Si
fin.	2	1117	-19880	52331	SLV 6	2.63	Si
ini.	2	-225	-5328	52331	SLV 9	9.82	Si
fin.	2	357	-23817	52331	SLV 9	2.2	Si
ini.	2	-868	8979	52331	SLV 14	5.83	Si
fin.	2	-743	-21164	52331	SLV 14	2.47	Si
ini.	2	-63	-3768	52331	SLD 10	13.89	Si
fin.	2	395	-16624	52331	SLD 10	3.15	Si
ini.	2	-868	8979	52331	SLV 13	5.83	Si
fin.	2	-743	-21164	52331	SLV 13	2.47	Si
ini.	2	-63	-3768	52331	SLD 9	13.89	Si
fin.	2	395	-16624	52331	SLD 9	3.15	Si
ini.	2	978	-18540	52331	SLV 1	2.82	Si
fin.	2	1790	-8042	52331	SLV 1	6.51	Si
ini.	2	-225	-5328	52331	SLV 10	9.82	Si
fin.	2	357	-23817	52331	SLV 10	2.2	Si
ini.	2	978	-18540	52331	SLV 2	2.82	Si
fin.	2	1790	-8042	52331	SLV 2	6.51	Si
ini.	2	329	-13583	52331	SLV 5	3.85	Si
fin.	2	1117	-19880	52331	SLV 5	2.63	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt_lim	Comb.	c.s.	Verifica
ini.	2	0	-227	650			566	213	SLV 7	0.33	No
fin.	2	0	821	-460			566	213	SLV 7	0.46	No
ini.	2	0	8979	19			566	213	SLV 14	11.09	Si
fin.	2	0	-21164	-672			566	213	SLV 14	0.32	No
ini.	2	0	-227	650			566	213	SLV 8	0.33	No
fin.	2	0	821	-460			566	213	SLV 8	0.46	No
ini.	2	0	-18540	659			566	213	SLV 2	0.32	No
fin.	2	0	-8042	-189			566	213	SLV 2	1.12	Si
ini.	2	0	-18540	659			566	213	SLV 1	0.32	No
fin.	2	0	-8042	-189			566	213	SLV 1	1.12	Si
ini.	2	0	8979	19			566	213	SLV 13	11.09	Si
fin.	2	0	-21164	-672			566	213	SLV 13	0.32	No
ini.	2	0	-14533	758			566	213	SLV 4	0.28	No
fin.	2	0	-1832	-236			566	213	SLV 4	0.9	No
ini.	2	0	-14533	758			566	213	SLV 3	0.28	No
fin.	2	0	-1832	-236			566	213	SLV 3	0.9	No
ini.	2	0	12986	118			566	213	SLV 16	1.8	Si
fin.	2	0	-14954	-718			566	213	SLV 16	0.3	No
ini.	2	0	12986	118			566	213	SLV 15	1.8	Si
fin.	2	0	-14954	-718			566	213	SLV 15	0.3	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.197	SLV 9	Si
V_SLV	0.281	SLV 3	No
PF_SLU	2.11	SLU 82	Si
V_SLU	0.175	SLU 83	No

Trave di accoppiamento 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1776.8	657.6	-96	104	200	-1676.8	657.6	-96	104	200	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3809	-261992	316581	SLU 78	1.21	Si
fin.	3	-7150	-13490	316581	SLU 78	23.47	Si
ini.	3	-3798	-259504	316581	SLU 79	1.22	Si
fin.	3	-7110	-13725	316581	SLU 79	23.07	Si
ini.	3	-3854	-269770	316581	SLU 83	1.17	Si
fin.	3	-7275	-13545	316581	SLU 83	23.37	Si
ini.	3	-3740	-260494	316581	SLU 74	1.22	Si
fin.	3	-7037	-13574	316581	SLU 74	23.32	Si
ini.	3	-3778	-268142	316581	SLU 81	1.18	Si
fin.	3	-7154	-13517	316581	SLU 81	23.42	Si
ini.	3	-3733	-260365	316581	SLU 75	1.22	Si
fin.	3	-7029	-13462	316581	SLU 75	23.52	Si
ini.	3	-3771	-268013	316581	SLU 82	1.18	Si
fin.	3	-7147	-13406	316581	SLU 82	23.62	Si
ini.	3	-3791	-259375	316581	SLU 80	1.22	Si
fin.	3	-7103	-13613	316581	SLU 80	23.26	Si
ini.	3	-3847	-269640	316581	SLU 84	1.17	Si
fin.	3	-7268	-13434	316581	SLU 84	23.57	Si
ini.	3	-3816	-262122	316581	SLU 77	1.21	Si
fin.	3	-7157	-13602	316581	SLU 77	23.27	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-268013	1914			3466	1304	SLU 82	0.68	No
fin.	3	0	-13406	11978			3466	1304	SLU 82	0.11	No
ini.	3	0	-260365	1834			3466	1304	SLU 75	0.71	No
fin.	3	0	-13462	11722			3466	1304	SLU 75	0.11	No
ini.	3	0	-260494	1828			3466	1304	SLU 74	0.71	No
fin.	3	0	-13574	11729			3466	1304	SLU 74	0.11	No
ini.	3	0	-261992	1829			3466	1304	SLU 78	0.71	No
fin.	3	0	-13490	11877			3466	1304	SLU 78	0.11	No
ini.	3	0	-259504	1799			3466	1304	SLU 79	0.73	No
fin.	3	0	-13725	11785			3466	1304	SLU 79	0.11	No
ini.	3	0	-268142	1908			3466	1304	SLU 81	0.68	No
fin.	3	0	-13517	11985			3466	1304	SLU 81	0.11	No
ini.	3	0	-262122	1823			3466	1304	SLU 77	0.72	No
fin.	3	0	-13602	11884			3466	1304	SLU 77	0.11	No
ini.	3	0	-259375	1804			3466	1304	SLU 80	0.72	No
fin.	3	0	-13613	11778			3466	1304	SLU 80	0.11	No
ini.	3	0	-269770	1903			3466	1304	SLU 83	0.69	No
fin.	3	0	-13545	12140			3466	1304	SLU 83	0.11	No
ini.	3	0	-269640	1909			3466	1304	SLU 84	0.68	No
fin.	3	0	-13434	12133			3466	1304	SLU 84	0.11	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2217	-297902	327721	SLD 3	1.1	Si
fin.	2	-6361	71758	327721	SLD 3	4.57	Si
ini.	2	-956	-381847	327721	SLV 1	0.86	No
fin.	2	-6575	124873	327721	SLV 1	2.62	Si
ini.	2	-2217	-297902	327721	SLD 4	1.1	Si
fin.	2	-6361	71758	327721	SLD 4	4.57	Si
ini.	2	-1725	-459083	327721	SLV 3	0.71	No
fin.	2	-8438	182640	327721	SLV 3	1.79	Si
ini.	2	-1883	-266114	327721	SLD 2	1.23	Si
fin.	2	-5572	47255	327721	SLD 2	6.94	Si
ini.	2	-1883	-266114	327721	SLD 1	1.23	Si
fin.	2	-5572	47255	327721	SLD 1	6.94	Si
ini.	2	-1725	-459083	327721	SLV 4	0.71	No
fin.	2	-8438	182640	327721	SLV 4	1.79	Si
ini.	2	-956	-381847	327721	SLV 2	0.86	No
fin.	2	-6575	124873	327721	SLV 2	2.62	Si
ini.	2	-3494	-379567	327721	SLV 8	0.86	No

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Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-8730	134894	327721	SLV 8	2.43	Si
ini.	2	-3494	-379567	327721	SLV 7	0.86	No
fin.	2	-8730	134894	327721	SLV 7	2.43	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-297902	4470			5199	1957	SLD 4	0.44	No
fin.	2	0	71758	12303			5199	1957	SLD 4	0.16	No
ini.	2	0	-266114	4531			5199	1957	SLD 2	0.43	No
fin.	2	0	47255	11304			5199	1957	SLD 2	0.17	No
ini.	2	0	-381847	8924			5199	1957	SLV 2	0.22	No
fin.	2	0	124873	15698			5199	1957	SLV 2	0.12	No
ini.	2	0	-266114	4531			5199	1957	SLD 1	0.43	No
fin.	2	0	47255	11304			5199	1957	SLD 1	0.17	No
ini.	2	0	-459083	8780			5199	1957	SLV 4	0.22	No
fin.	2	0	182640	18060			5199	1957	SLV 4	0.11	No
ini.	2	0	-381847	8924			5199	1957	SLV 1	0.22	No
fin.	2	0	124873	15698			5199	1957	SLV 1	0.12	No
ini.	2	0	-379567	3282			5199	1957	SLV 8	0.6	No
fin.	2	0	134894	14603			5199	1957	SLV 8	0.13	No
ini.	2	0	-297902	4470			5199	1957	SLD 3	0.44	No
fin.	2	0	71758	12303			5199	1957	SLD 3	0.16	No
ini.	2	0	-459083	8780			5199	1957	SLV 3	0.22	No
fin.	2	0	182640	18060			5199	1957	SLV 3	0.11	No
ini.	2	0	-379567	3282			5199	1957	SLV 7	0.6	No
fin.	2	0	134894	14603			5199	1957	SLV 7	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.714	SLV 3	No
V_SLV	0.108	SLV 3	No
PF_SLU	1.174	SLU 83	Si
V_SLU	0.107	SLU 83	No

Trave di accoppiamento 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1776.8	657.6	144	173	29	-1676.8	657.6	144	173	29	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1205	-29199	19201	SLU 77	0.66	No
fin.	3	2123	1406	19201	SLU 77	13.66	Si
ini.	3	1195	-28918	19201	SLU 79	0.66	No
fin.	3	2102	1328	19201	SLU 79	14.46	Si
ini.	3	1192	-28911	19201	SLU 80	0.66	No
fin.	3	2101	1352	19201	SLU 80	14.2	Si
ini.	3	1235	-29931	19201	SLU 84	0.64	No
fin.	3	2187	1717	19201	SLU 84	11.18	Si
ini.	3	1238	-29939	19201	SLU 83	0.64	No
fin.	3	2188	1693	19201	SLU 83	11.34	Si
ini.	3	1202	-29191	19201	SLU 78	0.66	No
fin.	3	2122	1430	19201	SLU 78	13.43	Si
ini.	3	1225	-29688	19201	SLU 81	0.65	No
fin.	3	2171	1836	19201	SLU 81	10.46	Si
ini.	3	1222	-29681	19201	SLU 82	0.65	No
fin.	3	2169	1860	19201	SLU 82	10.32	Si
ini.	3	1189	-28940	19201	SLU 75	0.66	No
fin.	3	2104	1573	19201	SLU 75	12.21	Si
ini.	3	1191	-28948	19201	SLU 74	0.66	No
fin.	3	2106	1549	19201	SLU 74	12.4	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-29199	1401			335	126	SLU 77	0.09	No
fin.	3	0	1406	-324			335	126	SLU 77	0.39	No
ini.	3	0	-28918	1389			335	126	SLU 79	0.09	No
fin.	3	0	1328	-324			335	126	SLU 79	0.39	No
ini.	3	0	-29939	1433			335	126	SLU 83	0.09	No
fin.	3	0	1693	-319			335	126	SLU 83	0.39	No
ini.	3	0	-28948	1389			335	126	SLU 74	0.09	No
fin.	3	0	1549	-314			335	126	SLU 74	0.4	No
ini.	3	0	-29688	1421			335	126	SLU 81	0.09	No
fin.	3	0	1836	-310			335	126	SLU 81	0.41	No
ini.	3	0	-29931	1432			335	126	SLU 84	0.09	No
fin.	3	0	1717	-318			335	126	SLU 84	0.4	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-28911	1388			335	126	SLU 80	0.09	No
fin.	3	0	1352	-323			335	126	SLU 80	0.39	No
ini.	3	0	-29681	1420			335	126	SLU 82	0.09	No
fin.	3	0	1860	-309			335	126	SLU 82	0.41	No
ini.	3	0	-29191	1400			335	126	SLU 78	0.09	No
fin.	3	0	1430	-323			335	126	SLU 78	0.39	No
ini.	3	0	-28940	1388			335	126	SLU 75	0.09	No
fin.	3	0	1573	-313			335	126	SLU 75	0.4	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	961	9985	28471	SLV 14	2.85	Si
fin.	2	-488	-31831	28471	SLV 14	0.89	No
ini.	2	234	-32944	28471	SLD 2	0.86	No
fin.	2	1713	12878	28471	SLD 2	2.21	Si
ini.	2	-530	-50450	28471	SLV 1	0.56	No
fin.	2	2073	28819	28471	SLV 1	0.99	No
ini.	2	-530	-50450	28471	SLV 2	0.56	No
fin.	2	2073	28819	28471	SLV 2	0.99	No
ini.	2	234	-32944	28471	SLD 1	0.86	No
fin.	2	1713	12878	28471	SLD 1	2.21	Si
ini.	2	736	-32522	28471	SLD 3	0.88	No
fin.	2	2235	14758	28471	SLD 3	1.93	Si
ini.	2	650	-49620	28471	SLV 4	0.57	No
fin.	2	3335	33659	28471	SLV 4	0.85	No
ini.	2	961	9985	28471	SLV 13	2.85	Si
fin.	2	-488	-31831	28471	SLV 13	0.89	No
ini.	2	650	-49620	28471	SLV 3	0.57	No
fin.	2	3335	33659	28471	SLV 3	0.85	No
ini.	2	736	-32522	28471	SLD 4	0.88	No
fin.	2	2235	14758	28471	SLD 4	1.93	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-32944	1334			503	189	SLD 2	0.14	No
fin.	2	0	12878	176			503	189	SLD 2	1.08	Si
ini.	2	0	-32944	1334			503	189	SLD 1	0.14	No
fin.	2	0	12878	176			503	189	SLD 1	1.08	Si
ini.	2	0	-32522	1476			503	189	SLD 4	0.13	No
fin.	2	0	14758	81			503	189	SLD 4	2.34	Si
ini.	2	0	-49620	2169			503	189	SLV 3	0.09	No
fin.	2	0	33659	492			503	189	SLV 3	0.38	No
ini.	2	0	-50450	1835			503	189	SLV 2	0.1	No
fin.	2	0	28819	714			503	189	SLV 2	0.26	No
ini.	2	0	-32522	1476			503	189	SLD 3	0.13	No
fin.	2	0	14758	81			503	189	SLD 3	2.34	Si
ini.	2	0	-49620	2169			503	189	SLV 4	0.09	No
fin.	2	0	33659	492			503	189	SLV 4	0.38	No
ini.	2	0	-27500	1828			503	189	SLV 7	0.1	No
fin.	2	0	18079	-348			503	189	SLV 7	0.54	No
ini.	2	0	-27500	1828			503	189	SLV 8	0.1	No
fin.	2	0	18079	-348			503	189	SLV 8	0.54	No
ini.	2	0	-50450	1835			503	189	SLV 1	0.1	No
fin.	2	0	28819	714			503	189	SLV 1	0.26	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.564	SLV 1	No
V_SLV	0.087	SLV 3	No
PF_SLU	0.641	SLU 83	No
V_SLU	0.088	SLU 83	No

Trave di accoppiamento 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1288.8	657.6	-96	104	200	-1188.8	657.6	-96	104	200	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-6927	-45006	316581	SLU 81	7.03	Si
fin.	3	-6946	-23934	316581	SLU 81	13.23	Si
ini.	3	-6962	-44007	316581	SLU 78	7.19	Si
fin.	3	-6986	-24647	316581	SLU 78	12.84	Si
ini.	3	-7060	-45183	316581	SLU 84	7.01	Si
fin.	3	-7083	-24668	316581	SLU 84	12.83	Si
ini.	3	-6819	-43893	316581	SLU 75	7.21	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-6838	-24061	316581	SLU 75	13.16	Si
ini.	3	-7070	-45120	316581	SLU 83	7.02	Si
fin.	3	-7094	-24520	316581	SLU 83	12.91	Si
ini.	3	-6971	-43944	316581	SLU 77	7.2	Si
fin.	3	-6998	-24499	316581	SLU 77	12.92	Si
ini.	3	-6829	-43830	316581	SLU 74	7.22	Si
fin.	3	-6849	-23913	316581	SLU 74	13.24	Si
ini.	3	-6935	-43547	316581	SLU 79	7.27	Si
fin.	3	-6962	-24404	316581	SLU 79	12.97	Si
ini.	3	-6925	-43610	316581	SLU 80	7.26	Si
fin.	3	-6950	-24553	316581	SLU 80	12.89	Si
ini.	3	-6917	-45068	316581	SLU 82	7.02	Si
fin.	3	-6935	-24082	316581	SLU 82	13.15	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-43830	-5803			3466	1304	SLU 74	0.22	No
fin.	3	0	-23913	5918			3466	1304	SLU 74	0.22	No
ini.	3	0	-43610	-5874			3466	1304	SLU 80	0.22	No
fin.	3	0	-24553	5986			3466	1304	SLU 80	0.22	No
ini.	3	0	-45068	-5927			3466	1304	SLU 82	0.22	No
fin.	3	0	-24082	6049			3466	1304	SLU 82	0.22	No
ini.	3	0	-43893	-5799			3466	1304	SLU 75	0.22	No
fin.	3	0	-24061	5909			3466	1304	SLU 75	0.22	No
ini.	3	0	-43547	-5878			3466	1304	SLU 79	0.22	No
fin.	3	0	-24404	5994			3466	1304	SLU 79	0.22	No
ini.	3	0	-45120	-6037			3466	1304	SLU 83	0.22	No
fin.	3	0	-24520	6169			3466	1304	SLU 83	0.21	No
ini.	3	0	-43944	-5909			3466	1304	SLU 77	0.22	No
fin.	3	0	-24499	6029			3466	1304	SLU 77	0.22	No
ini.	3	0	-45006	-5930			3466	1304	SLU 81	0.22	No
fin.	3	0	-23934	6058			3466	1304	SLU 81	0.22	No
ini.	3	0	-45183	-6033			3466	1304	SLU 84	0.22	No
fin.	3	0	-24668	6160			3466	1304	SLU 84	0.21	No
ini.	3	0	-44007	-5905			3466	1304	SLU 78	0.22	No
fin.	3	0	-24647	6020			3466	1304	SLU 78	0.22	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1561	-320332	327721	SLV 5	1.02	Si
fin.	2	228	-184286	327721	SLV 5	1.78	Si
ini.	2	-5159	80394	327721	SLV 13	4.08	Si
fin.	2	-881	-270488	327721	SLV 13	1.21	Si
ini.	2	-821	-282890	327721	SLV 2	1.16	Si
fin.	2	-5136	102901	327721	SLV 2	3.18	Si
ini.	2	260	-211347	327721	SLV 10	1.55	Si
fin.	2	1504	-296303	327721	SLV 10	1.11	Si
ini.	2	260	-211347	327721	SLV 9	1.55	Si
fin.	2	1504	-296303	327721	SLV 9	1.11	Si
ini.	2	-5159	80394	327721	SLV 14	4.08	Si
fin.	2	-881	-270488	327721	SLV 14	1.21	Si
ini.	2	1561	-320332	327721	SLV 6	1.02	Si
fin.	2	228	-184286	327721	SLV 6	1.78	Si
ini.	2	-821	-282890	327721	SLV 1	1.16	Si
fin.	2	-5136	102901	327721	SLV 1	3.18	Si
ini.	2	-9584	149930	327721	SLV 8	2.19	Si
fin.	2	-10842	262858	327721	SLV 8	1.25	Si
ini.	2	-9584	149930	327721	SLV 7	2.19	Si
fin.	2	-10842	262858	327721	SLV 7	1.25	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-282890	4478			5199	1957	SLV 1	0.44	No
fin.	2	0	102901	11020			5199	1957	SLV 1	0.18	No
ini.	2	0	221473	-12339			5199	1957	SLV 16	0.16	No
fin.	2	0	-136345	-3051			5199	1957	SLV 16	0.64	No
ini.	2	0	-141812	3268			5199	1957	SLV 4	0.6	No
fin.	2	0	237044	12168			5199	1957	SLV 4	0.16	No
ini.	2	0	258915	-8287			5199	1957	SLV 12	0.24	No
fin.	2	0	150842	3615			5199	1957	SLV 12	0.54	No
ini.	2	0	221473	-12339			5199	1957	SLV 15	0.16	No
fin.	2	0	-136345	-3051			5199	1957	SLV 15	0.64	No
ini.	2	0	80394	-11129			5199	1957	SLV 14	0.18	No
fin.	2	0	-270488	-4199			5199	1957	SLV 14	0.47	No
ini.	2	0	80394	-11129			5199	1957	SLV 13	0.18	No
fin.	2	0	-270488	-4199			5199	1957	SLV 13	0.47	No
ini.	2	0	-141812	3268			5199	1957	SLV 3	0.6	No
fin.	2	0	237044	12168			5199	1957	SLV 3	0.16	No
ini.	2	0	-282890	4478			5199	1957	SLV 2	0.44	No
fin.	2	0	102901	11020			5199	1957	SLV 2	0.18	No
ini.	2	0	258915	-8287			5199	1957	SLV 11	0.24	No
fin.	2	0	150842	3615			5199	1957	SLV 11	0.54	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.023	SLV 5	Si
V_SLV	0.159	SLV 15	No



Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.007	SLU 84	Si
V_SLU	0.211	SLU 83	No

Trave di accoppiamento 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1288.8	657.6	144	173	29	-1188.8	657.6	144	173	29	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	59	-22221	19201	SLU 78	0.86	No
fin.	3	161	-21928	19201	SLU 78	0.88	No
ini.	3	18	-23108	19201	SLU 81	0.83	No
fin.	3	122	-22515	19201	SLU 81	0.85	No
ini.	3	47	-22050	19201	SLU 74	0.87	No
fin.	3	148	-21596	19201	SLU 74	0.89	No
ini.	3	19	-23088	19201	SLU 82	0.83	No
fin.	3	122	-22504	19201	SLU 82	0.85	No
ini.	3	55	-22126	19201	SLU 79	0.87	No
fin.	3	156	-21865	19201	SLU 79	0.88	No
ini.	3	58	-22241	19201	SLU 77	0.86	No
fin.	3	160	-21939	19201	SLU 77	0.88	No
ini.	3	30	-23279	19201	SLU 84	0.82	No
fin.	3	135	-22847	19201	SLU 84	0.84	No
ini.	3	29	-23299	19201	SLU 83	0.82	No
fin.	3	134	-22858	19201	SLU 83	0.84	No
ini.	3	48	-22030	19201	SLU 75	0.87	No
fin.	3	148	-21585	19201	SLU 75	0.89	No
ini.	3	56	-22106	19201	SLU 80	0.87	No
fin.	3	156	-21854	19201	SLU 80	0.88	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-22030	1291			335	126	SLU 75	0.1	No
fin.	3	0	-21585	-1303			335	126	SLU 75	0.1	No
ini.	3	0	-23279	1362			335	126	SLU 84	0.09	No
fin.	3	0	-22847	-1376			335	126	SLU 84	0.09	No
ini.	3	0	-23299	1363			335	126	SLU 83	0.09	No
fin.	3	0	-22858	-1377			335	126	SLU 83	0.09	No
ini.	3	0	-22221	1302			335	126	SLU 78	0.1	No
fin.	3	0	-21928	-1321			335	126	SLU 78	0.1	No
ini.	3	0	-23108	1353			335	126	SLU 81	0.09	No
fin.	3	0	-22515	-1358			335	126	SLU 81	0.09	No
ini.	3	0	-23088	1352			335	126	SLU 82	0.09	No
fin.	3	0	-22504	-1358			335	126	SLU 82	0.09	No
ini.	3	0	-22126	1296			335	126	SLU 79	0.1	No
fin.	3	0	-21865	-1318			335	126	SLU 79	0.1	No
ini.	3	0	-22241	1303			335	126	SLU 77	0.1	No
fin.	3	0	-21939	-1322			335	126	SLU 77	0.1	No
ini.	3	0	-22050	1292			335	126	SLU 74	0.1	No
fin.	3	0	-21596	-1304			335	126	SLU 74	0.1	No
ini.	3	0	-22106	1295			335	126	SLU 80	0.1	No
fin.	3	0	-21854	-1317			335	126	SLU 80	0.1	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-160	19953	28471	SLV 15	1.43	Si
fin.	2	-2454	-40976	28471	SLV 15	0.69	No
ini.	2	2502	15528	28471	SLV 13	1.83	Si
fin.	2	165	-45294	28471	SLV 13	0.63	No
ini.	2	-2413	-44748	28471	SLV 3	0.64	No
fin.	2	60	16896	28471	SLV 3	1.69	Si
ini.	2	249	-49173	28471	SLV 1	0.58	No
fin.	2	2679	12578	28471	SLV 1	2.26	Si
ini.	2	-2413	-44748	28471	SLV 4	0.64	No
fin.	2	60	16896	28471	SLV 4	1.69	Si
ini.	2	249	-49173	28471	SLV 2	0.58	No
fin.	2	2679	12578	28471	SLV 2	2.26	Si
ini.	2	-160	19953	28471	SLV 16	1.43	Si
fin.	2	-2454	-40976	28471	SLV 16	0.69	No
ini.	2	2502	15528	28471	SLV 14	1.83	Si
fin.	2	165	-45294	28471	SLV 14	0.63	No
ini.	2	4143	-31690	28471	SLV 5	0.9	No
fin.	2	4856	-12715	28471	SLV 5	2.24	Si
ini.	2	4143	-31690	28471	SLV 6	0.9	No
fin.	2	4856	-12715	28471	SLV 6	2.24	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	15528	-355			503	189	SLV 13	0.53	No
fin.	2	0	-45294	-1742			503	189	SLV 13	0.11	No
ini.	2	0	-16940	1746			503	189	SLV 7	0.11	No
fin.	2	0	1679	-1077			503	189	SLV 7	0.18	No
ini.	2	0	-44748	2076			503	189	SLV 4	0.09	No
fin.	2	0	16896	15			503	189	SLV 4	12.64	Si
ini.	2	0	-16940	1746			503	189	SLV 8	0.11	No
fin.	2	0	1679	-1077			503	189	SLV 8	0.18	No
ini.	2	0	15528	-355			503	189	SLV 14	0.53	No
fin.	2	0	-45294	-1742			503	189	SLV 14	0.11	No
ini.	2	0	19953	-11			503	189	SLV 16	16.57	Si
fin.	2	0	-40976	-2056			503	189	SLV 16	0.09	No
ini.	2	0	-49173	1732			503	189	SLV 2	0.11	No
fin.	2	0	12578	330			503	189	SLV 2	0.57	No
ini.	2	0	-49173	1732			503	189	SLV 1	0.11	No
fin.	2	0	12578	330			503	189	SLV 1	0.57	No
ini.	2	0	-44748	2076			503	189	SLV 3	0.09	No
fin.	2	0	16896	15			503	189	SLV 3	12.64	Si
ini.	2	0	19953	-11			503	189	SLV 15	16.57	Si
fin.	2	0	-40976	-2056			503	189	SLV 15	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.579	SLV 1	No
V_SLV	0.091	SLV 3	No
PF_SLU	0.824	SLU 83	No
V_SLU	0.092	SLU 83	No

Trave di accoppiamento 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-800.8	657.6	-96	104	200	-700.8	657.6	-96	104	200	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-5893	77138	316581	SLU 77	4.1	Si
fin.	3	-3397	-175669	316581	SLU 77	1.8	Si
ini.	3	-5884	77167	316581	SLU 78	4.1	Si
fin.	3	-3388	-176017	316581	SLU 78	1.8	Si
ini.	3	-5857	76624	316581	SLU 80	4.13	Si
fin.	3	-3375	-174911	316581	SLU 80	1.81	Si
ini.	3	-5732	74377	316581	SLU 75	4.26	Si
fin.	3	-3304	-171444	316581	SLU 75	1.85	Si
ini.	3	-5781	75028	316581	SLU 82	4.22	Si
fin.	3	-3326	-172997	316581	SLU 82	1.83	Si
ini.	3	-5933	77818	316581	SLU 84	4.07	Si
fin.	3	-3409	-177570	316581	SLU 84	1.78	Si
ini.	3	-5866	76595	316581	SLU 79	4.13	Si
fin.	3	-3384	-174563	316581	SLU 79	1.81	Si
ini.	3	-5790	74999	316581	SLU 81	4.22	Si
fin.	3	-3335	-172649	316581	SLU 81	1.83	Si
ini.	3	-5942	77789	316581	SLU 83	4.07	Si
fin.	3	-3419	-177222	316581	SLU 83	1.79	Si
ini.	3	-5741	74348	316581	SLU 74	4.26	Si
fin.	3	-3314	-171095	316581	SLU 74	1.85	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	74377	-7943			3466	1304	SLU 75	0.16	No
fin.	3	0	-171444	-1901			3466	1304	SLU 75	0.69	No
ini.	3	0	77138	-8181			3466	1304	SLU 77	0.16	No
fin.	3	0	-175669	-1941			3466	1304	SLU 77	0.67	No
ini.	3	0	77167	-8179			3466	1304	SLU 78	0.16	No
fin.	3	0	-176017	-1950			3466	1304	SLU 78	0.67	No
ini.	3	0	77818	-8253			3466	1304	SLU 84	0.16	No
fin.	3	0	-177570	-1976			3466	1304	SLU 84	0.66	No
ini.	3	0	76624	-8130			3466	1304	SLU 80	0.16	No
fin.	3	0	-174911	-1937			3466	1304	SLU 80	0.67	No
ini.	3	0	74999	-8018			3466	1304	SLU 81	0.16	No
fin.	3	0	-172649	-1917			3466	1304	SLU 81	0.68	No
ini.	3	0	77789	-8255			3466	1304	SLU 83	0.16	No
fin.	3	0	-177222	-1967			3466	1304	SLU 83	0.66	No
ini.	3	0	76595	-8131			3466	1304	SLU 79	0.16	No
fin.	3	0	-174563	-1927			3466	1304	SLU 79	0.68	No
ini.	3	0	74348	-7944			3466	1304	SLU 74	0.16	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-171095	-1891			3466	1304	SLU 74	0.69	No
ini.	3	0	75028	-8016			3466	1304	SLU 82	0.16	No
fin.	3	0	-172997	-1927			3466	1304	SLU 82	0.68	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-6889	302517	327721	SLV 16	1.08	Si
fin.	2	-2250	-408235	327721	SLV 16	0.8	No
ini.	2	-6889	302517	327721	SLV 15	1.08	Si
fin.	2	-2250	-408235	327721	SLV 15	0.8	No
ini.	2	-4286	130959	327721	SLD 13	2.5	Si
fin.	2	-1333	-275564	327721	SLD 13	1.19	Si
ini.	2	-4782	241349	327721	SLV 13	1.36	Si
fin.	2	-50	-490157	327721	SLV 13	0.67	No
ini.	2	-4286	130959	327721	SLD 14	2.5	Si
fin.	2	-1333	-275564	327721	SLD 14	1.19	Si
ini.	2	-971	13279	327721	SLV 9	24.68	Si
fin.	2	1726	-352144	327721	SLV 9	0.93	No
ini.	2	-4782	241349	327721	SLV 14	1.36	Si
fin.	2	-50	-490157	327721	SLV 14	0.67	No
ini.	2	-3024	-145218	327721	SLV 3	2.26	Si
fin.	2	-4507	259163	327721	SLV 3	1.26	Si
ini.	2	-3024	-145218	327721	SLV 4	2.26	Si
fin.	2	-4507	259163	327721	SLV 4	1.26	Si
ini.	2	-971	13279	327721	SLV 10	24.68	Si
fin.	2	1726	-352144	327721	SLV 10	0.93	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	156856	-9620			5199	1957	SLD 15	0.2	No
fin.	2	0	-241307	-4549			5199	1957	SLD 15	0.43	No
ini.	2	0	217173	-10116			5199	1957	SLV 11	0.19	No
fin.	2	0	-79069	-2885			5199	1957	SLV 11	0.68	No
ini.	2	0	156856	-9620			5199	1957	SLD 16	0.2	No
fin.	2	0	-241307	-4549			5199	1957	SLD 16	0.43	No
ini.	2	0	217173	-10116			5199	1957	SLV 12	0.19	No
fin.	2	0	-79069	-2885			5199	1957	SLV 12	0.68	No
ini.	2	0	302517	-15398			5199	1957	SLV 15	0.13	No
fin.	2	0	-408235	-8929			5199	1957	SLV 15	0.22	No
ini.	2	0	241349	-14220			5199	1957	SLV 14	0.14	No
fin.	2	0	-490157	-9376			5199	1957	SLV 14	0.21	No
ini.	2	0	302517	-15398			5199	1957	SLV 16	0.13	No
fin.	2	0	-408235	-8929			5199	1957	SLV 16	0.22	No
ini.	2	0	130959	-9123			5199	1957	SLD 13	0.21	No
fin.	2	0	-275564	-4739			5199	1957	SLD 13	0.41	No
ini.	2	0	130959	-9123			5199	1957	SLD 14	0.21	No
fin.	2	0	-275564	-4739			5199	1957	SLD 14	0.41	No
ini.	2	0	241349	-14220			5199	1957	SLV 13	0.14	No
fin.	2	0	-490157	-9376			5199	1957	SLV 13	0.21	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.669	SLV 13	No
V_SLV	0.127	SLV 15	No
PF_SLU	1.783	SLU 84	Si
V_SLU	0.158	SLU 83	No

Trave di accoppiamento 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-800.8	657.6	144	173	29	-700.8	657.6	144	173	29	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	922	-1219	19201	SLU 78	15.75	Si
fin.	3	-122	-29222	19201	SLU 78	0.66	No
ini.	3	905	-1336	19201	SLU 81	14.37	Si
fin.	3	-113	-28554	19201	SLU 81	0.67	No
ini.	3	892	-1322	19201	SLU 74	14.53	Si
fin.	3	-117	-28378	19201	SLU 74	0.68	No
ini.	3	912	-1266	19201	SLU 79	15.17	Si
fin.	3	-123	-29064	19201	SLU 79	0.66	No
ini.	3	915	-1228	19201	SLU 80	15.63	Si
fin.	3	-121	-29053	19201	SLU 80	0.66	No
ini.	3	895	-1284	19201	SLU 75	14.95	Si
fin.	3	-116	-28367	19201	SLU 75	0.68	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	932	-1272	19201	SLU 83	15.1	Si
fin.	3	-119	-29408	19201	SLU 83	0.65	No
ini.	3	919	-1257	19201	SLU 77	15.27	Si
fin.	3	-123	-29233	19201	SLU 77	0.66	No
ini.	3	909	-1299	19201	SLU 82	14.79	Si
fin.	3	-112	-28543	19201	SLU 82	0.67	No
ini.	3	935	-1234	19201	SLU 84	15.56	Si
fin.	3	-118	-29397	19201	SLU 84	0.65	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-1228	388			335	126	SLU 80	0.33	No
fin.	3	0	-29053	-1491			335	126	SLU 80	0.08	No
ini.	3	0	-1272	393			335	126	SLU 83	0.32	No
fin.	3	0	-29408	-1509			335	126	SLU 83	0.08	No
ini.	3	0	-1219	389			335	126	SLU 78	0.32	No
fin.	3	0	-29222	-1499			335	126	SLU 78	0.08	No
ini.	3	0	-1322	386			335	126	SLU 74	0.33	No
fin.	3	0	-28378	-1459			335	126	SLU 74	0.09	No
ini.	3	0	-1234	392			335	126	SLU 84	0.32	No
fin.	3	0	-29397	-1507			335	126	SLU 84	0.08	No
ini.	3	0	-1257	390			335	126	SLU 77	0.32	No
fin.	3	0	-29233	-1500			335	126	SLU 77	0.08	No
ini.	3	0	-1266	389			335	126	SLU 79	0.32	No
fin.	3	0	-29064	-1492			335	126	SLU 79	0.08	No
ini.	3	0	-1299	387			335	126	SLU 82	0.33	No
fin.	3	0	-28543	-1466			335	126	SLU 82	0.09	No
ini.	3	0	-1284	384			335	126	SLU 75	0.33	No
fin.	3	0	-28367	-1458			335	126	SLU 75	0.09	No
ini.	3	0	-1336	388			335	126	SLU 81	0.32	No
fin.	3	0	-28554	-1467			335	126	SLU 81	0.09	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-331	-37572	28471	SLV 2	0.76	No
fin.	2	1392	15883	28471	SLV 2	1.79	Si
ini.	2	990	14426	28471	SLD 15	1.97	Si
fin.	2	-708	-34018	28471	SLD 15	0.84	No
ini.	2	3035	31369	28471	SLV 14	0.91	No
fin.	2	263	-49516	28471	SLV 14	0.57	No
ini.	2	990	14426	28471	SLD 16	1.97	Si
fin.	2	-708	-34018	28471	SLD 16	0.84	No
ini.	2	-1458	15648	28471	SLV 11	1.82	Si
fin.	2	-3271	-36374	28471	SLV 11	0.78	No
ini.	2	3035	31369	28471	SLV 13	0.91	No
fin.	2	263	-49516	28471	SLV 13	0.57	No
ini.	2	-1458	15648	28471	SLV 12	1.82	Si
fin.	2	-3271	-36374	28471	SLV 12	0.78	No
ini.	2	-331	-37572	28471	SLV 1	0.76	No
fin.	2	1392	15883	28471	SLV 1	1.79	Si
ini.	2	1505	35249	28471	SLV 16	0.81	No
fin.	2	-1551	-54015	28471	SLV 16	0.53	No
ini.	2	1505	35249	28471	SLV 15	0.81	No
fin.	2	-1551	-54015	28471	SLV 15	0.53	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	35249	-538			503	189	SLV 15	0.35	No
fin.	2	0	-54015	-2314			503	189	SLV 15	0.08	No
ini.	2	0	12648	-170			503	189	SLD 14	1.11	Si
fin.	2	0	-32079	-1426			503	189	SLD 14	0.13	No
ini.	2	0	14426	-71			503	189	SLD 16	2.66	Si
fin.	2	0	-34018	-1555			503	189	SLD 16	0.12	No
ini.	2	0	31369	-770			503	189	SLV 14	0.25	No
fin.	2	0	-49516	-2012			503	189	SLV 14	0.09	No
ini.	2	0	14426	-71			503	189	SLD 15	2.66	Si
fin.	2	0	-34018	-1555			503	189	SLD 15	0.12	No
ini.	2	0	31369	-770			503	189	SLV 13	0.25	No
fin.	2	0	-49516	-2012			503	189	SLV 13	0.09	No
ini.	2	0	15648	385			503	189	SLV 11	0.49	No
fin.	2	0	-36374	-1845			503	189	SLV 11	0.1	No
ini.	2	0	12648	-170			503	189	SLD 13	1.11	Si
fin.	2	0	-32079	-1426			503	189	SLD 13	0.13	No
ini.	2	0	35249	-538			503	189	SLV 16	0.35	No
fin.	2	0	-54015	-2314			503	189	SLV 16	0.08	No
ini.	2	0	15648	385			503	189	SLV 12	0.49	No
fin.	2	0	-36374	-1845			503	189	SLV 12	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.527	SLV 15	No
V_SLV	0.082	SLV 15	No
PF_SLU	0.653	SLU 83	No
V_SLU	0.084	SLU 83	No



Trave di accoppiamento 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-972.8	127.1	124	173	49	-972.8	220.1	124	173	49	93	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	4	-1376	36545	SLU 76	26.55	Si
fin.	3	576	-69498	36545	SLU 76	0.53	No
ini.	3	22	-2510	36545	SLU 37	14.56	Si
fin.	3	571	-68948	36545	SLU 37	0.53	No
ini.	3	1	-1276	36545	SLU 74	28.65	Si
fin.	3	573	-69280	36545	SLU 74	0.53	No
ini.	3	19	-2383	36545	SLU 78	15.33	Si
fin.	3	628	-75397	36545	SLU 78	0.48	No
ini.	3	19	-2394	36545	SLU 77	15.27	Si
fin.	3	629	-75668	36545	SLU 77	0.48	No
ini.	3	-3	-1178	36545	SLU 83	31.03	Si
fin.	3	607	-73856	36545	SLU 83	0.49	No
ini.	3	1	-1265	36545	SLU 75	28.89	Si
fin.	3	572	-69009	36545	SLU 75	0.53	No
ini.	3	21	-2502	36545	SLU 80	14.61	Si
fin.	3	633	-76067	36545	SLU 80	0.48	No
ini.	3	21	-2513	36545	SLU 79	14.54	Si
fin.	3	634	-76338	36545	SLU 79	0.48	No
ini.	3	-2	-1167	36545	SLU 84	31.31	Si
fin.	3	606	-73585	36545	SLU 84	0.5	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-2383	-197			377	142	SLU 78	0.72	No
fin.	3	0	-75397	-1337			377	142	SLU 78	0.11	No
ini.	3	0	-49	-73			377	142	SLU 82	1.94	Si
fin.	3	0	-67197	-1303			377	142	SLU 82	0.11	No
ini.	3	0	-2502	-204			377	142	SLU 80	0.7	No
fin.	3	0	-76067	-1347			377	142	SLU 80	0.11	No
ini.	3	0	-2394	-200			377	142	SLU 77	0.71	No
fin.	3	0	-75668	-1340			377	142	SLU 77	0.11	No
ini.	3	0	-1276	-138			377	142	SLU 74	1.03	Si
fin.	3	0	-69280	-1273			377	142	SLU 74	0.11	No
ini.	3	0	-59	-76			377	142	SLU 81	1.86	Si
fin.	3	0	-67468	-1306			377	142	SLU 81	0.11	No
ini.	3	0	-1376	-139			377	142	SLU 76	1.02	Si
fin.	3	0	-69498	-1278			377	142	SLU 76	0.11	No
ini.	3	0	-1167	-136			377	142	SLU 84	1.05	Si
fin.	3	0	-73585	-1370			377	142	SLU 84	0.1	No
ini.	3	0	-2513	-207			377	142	SLU 79	0.69	No
fin.	3	0	-76338	-1350			377	142	SLU 79	0.11	No
ini.	3	0	-1178	-139			377	142	SLU 83	1.02	Si
fin.	3	0	-73856	-1373			377	142	SLU 83	0.1	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-436	8366	52331	SLD 11	6.26	Si
fin.	2	208	-72087	52331	SLD 11	0.73	No
ini.	2	-1057	21218	52331	SLV 11	2.47	Si
fin.	2	14	-113673	52331	SLV 11	0.46	No
ini.	2	-436	8366	52331	SLD 12	6.26	Si
fin.	2	208	-72087	52331	SLD 12	0.73	No
ini.	2	-924	14806	52331	SLV 7	3.53	Si
fin.	2	148	-126548	52331	SLV 7	0.41	No
ini.	2	-1057	21218	52331	SLV 12	2.47	Si
fin.	2	14	-113673	52331	SLV 12	0.46	No
ini.	2	-924	14806	52331	SLV 8	3.53	Si
fin.	2	148	-126548	52331	SLV 8	0.41	No
ini.	2	-80	-5547	52331	SLV 4	9.43	Si
fin.	2	493	-87021	52331	SLV 4	0.6	No
ini.	2	-80	-5547	52331	SLV 3	9.43	Si
fin.	2	493	-87021	52331	SLV 3	0.6	No
ini.	2	-382	5719	52331	SLD 8	9.15	Si
fin.	2	264	-77533	52331	SLD 8	0.67	No
ini.	2	-382	5719	52331	SLD 7	9.15	Si
fin.	2	264	-77533	52331	SLD 7	0.67	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	21218	-1036			566	213	SLV 11	0.21	No
fin.	2	0	-113673	-1305			566	213	SLV 11	0.16	No
ini.	2	0	5719	-542			566	213	SLD 7	0.39	No

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Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-77533	-1025			566	213	SLD 7	0.21	No
ini.	2	0	5719	-542			566	213	SLD 8	0.39	No
fin.	2	0	-77533	-1025			566	213	SLD 8	0.21	No
ini.	2	0	14806	-1212			566	213	SLV 8	0.18	No
fin.	2	0	-126548	-1363			566	213	SLV 8	0.16	No
ini.	2	0	21218	-1036			566	213	SLV 12	0.21	No
fin.	2	0	-113673	-1305			566	213	SLV 12	0.16	No
ini.	2	0	-15561	1084			566	213	SLV 10	0.2	No
fin.	2	0	42174	-220			566	213	SLV 10	0.97	No
ini.	2	0	-5547	-676			566	213	SLV 4	0.32	No
fin.	2	0	-87021	-1049			566	213	SLV 4	0.2	No
ini.	2	0	14806	-1212			566	213	SLV 7	0.18	No
fin.	2	0	-126548	-1363			566	213	SLV 7	0.16	No
ini.	2	0	-5547	-676			566	213	SLV 3	0.32	No
fin.	2	0	-87021	-1049			566	213	SLV 3	0.2	No
ini.	2	0	-15561	1084			566	213	SLV 9	0.2	No
fin.	2	0	42174	-220			566	213	SLV 9	0.97	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 7	No
V_SLV	0.156	SLV 7	No
PF_SLU	0.479	SLU 79	No
V_SLU	0.103	SLU 83	No

Trave di accoppiamento 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1055.3	-328.4	109	173	64	-825.3	-328.4	109	173	64	230	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{tk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	707	-102891	78581	SLU 76	0.76	No
fin.	3	2114	-77667	78581	SLU 76	1.01	Si
ini.	3	677	-101409	78581	SLU 81	0.77	No
fin.	3	2159	-86780	78581	SLU 81	0.91	No
ini.	3	706	-104419	78581	SLU 82	0.75	No
fin.	3	2177	-82729	78581	SLU 82	0.95	No
ini.	3	675	-102292	78581	SLU 83	0.77	No
fin.	3	2169	-89520	78581	SLU 83	0.88	No
ini.	3	703	-105302	78581	SLU 84	0.75	No
fin.	3	2187	-85469	78581	SLU 84	0.92	No
ini.	3	686	-101767	78581	SLU 80	0.77	No
fin.	3	2112	-83108	78581	SLU 80	0.95	No
ini.	3	694	-102228	78581	SLU 78	0.77	No
fin.	3	2125	-82707	78581	SLU 78	0.95	No
ini.	3	709	-102009	78581	SLU 73	0.77	No
fin.	3	2104	-74927	78581	SLU 73	1.05	Si
ini.	3	665	-99218	78581	SLU 77	0.79	No
fin.	3	2107	-86758	78581	SLU 77	0.91	No
ini.	3	696	-101346	78581	SLU 75	0.78	No
fin.	3	2115	-79967	78581	SLU 75	0.98	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-101409	3551			739	278	SLU 81	0.08	No
fin.	3	0	-86780	-2644			739	278	SLU 81	0.11	No
ini.	3	0	-105302	3630			739	278	SLU 84	0.08	No
fin.	3	0	-85469	-2692			739	278	SLU 84	0.1	No
ini.	3	0	-104419	3594			739	278	SLU 82	0.08	No
fin.	3	0	-82729	-2649			739	278	SLU 82	0.11	No
ini.	3	0	-101346	3463			739	278	SLU 75	0.08	No
fin.	3	0	-79967	-2566			739	278	SLU 75	0.11	No
ini.	3	0	-102891	3484			739	278	SLU 76	0.08	No
fin.	3	0	-77667	-2569			739	278	SLU 76	0.11	No
ini.	3	0	-101767	3491			739	278	SLU 80	0.08	No
fin.	3	0	-83108	-2608			739	278	SLU 80	0.11	No
ini.	3	0	-102228	3499			739	278	SLU 78	0.08	No
fin.	3	0	-82707	-2608			739	278	SLU 78	0.11	No
ini.	3	0	-98757	3449			739	278	SLU 79	0.08	No
fin.	3	0	-87158	-2603			739	278	SLU 79	0.11	No
ini.	3	0	-102292	3587			739	278	SLU 83	0.08	No
fin.	3	0	-89520	-2686			739	278	SLU 83	0.1	No
ini.	3	0	-99218	3457			739	278	SLU 77	0.08	No
fin.	3	0	-86758	-2602			739	278	SLU 77	0.11	No



Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1595	36028	89721	SLV 16	2.49	Si
fin.	2	-2751	-205523	89721	SLV 16	0.44	No
ini.	2	2553	-171479	89721	SLV 2	0.52	No
fin.	2	5661	94390	89721	SLV 2	0.95	No
ini.	2	2470	-149381	89721	SLV 3	0.6	No
fin.	2	3856	93431	89721	SLV 3	0.96	No
ini.	2	-1512	13931	89721	SLV 14	6.44	Si
fin.	2	-947	-204563	89721	SLV 14	0.44	No
ini.	2	-1595	36028	89721	SLV 15	2.49	Si
fin.	2	-2751	-205523	89721	SLV 15	0.44	No
ini.	2	-1512	13931	89721	SLV 13	6.44	Si
fin.	2	-947	-204563	89721	SLV 13	0.44	No
ini.	2	1226	-132366	89721	SLV 6	0.68	No
fin.	2	5453	-9125	89721	SLV 6	9.83	Si
ini.	2	2553	-171479	89721	SLV 1	0.52	No
fin.	2	5661	94390	89721	SLV 1	0.95	No
ini.	2	1226	-132366	89721	SLV 5	0.68	No
fin.	2	5453	-9125	89721	SLV 5	9.83	Si
ini.	2	2470	-149381	89721	SLV 4	0.6	No
fin.	2	3856	93431	89721	SLV 4	0.96	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	36028	465			1109	417	SLV 16	0.9	No
fin.	2	0	-205523	-3622			1109	417	SLV 16	0.12	No
ini.	2	0	-171479	4201			1109	417	SLV 2	0.1	No
fin.	2	0	94390	122			1109	417	SLV 2	3.42	Si
ini.	2	0	-111598	3125			1109	417	SLD 1	0.13	No
fin.	2	0	8493	-951			1109	417	SLD 1	0.44	No
ini.	2	0	-111598	3125			1109	417	SLD 2	0.13	No
fin.	2	0	8493	-951			1109	417	SLD 2	0.44	No
ini.	2	0	-149381	4051			1109	417	SLV 3	0.1	No
fin.	2	0	93431	192			1109	417	SLV 3	2.17	Si
ini.	2	0	13931	615			1109	417	SLV 13	0.68	No
fin.	2	0	-204563	-3692			1109	417	SLV 13	0.11	No
ini.	2	0	-149381	4051			1109	417	SLV 4	0.1	No
fin.	2	0	93431	192			1109	417	SLV 4	2.17	Si
ini.	2	0	-171479	4201			1109	417	SLV 1	0.1	No
fin.	2	0	94390	122			1109	417	SLV 1	3.42	Si
ini.	2	0	36028	465			1109	417	SLV 15	0.9	No
fin.	2	0	-205523	-3622			1109	417	SLV 15	0.12	No
ini.	2	0	13931	615			1109	417	SLV 14	0.68	No
fin.	2	0	-204563	-3692			1109	417	SLV 14	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.437	SLV 15	No
V_SLV	0.099	SLV 1	No
PF_SLU	0.746	SLU 84	No
V_SLU	0.077	SLU 84	No

Trave di accoppiamento 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-746.3	-328.4	-96	104	200	-646.3	-328.4	-96	104	200	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-324	-451397	316581	SLU 82	0.7	No
fin.	3	-538	-240771	316581	SLU 82	1.31	Si
ini.	3	-342	-439493	316581	SLU 78	0.72	No
fin.	3	-464	-240938	316581	SLU 78	1.31	Si
ini.	3	-8	-425329	316581	SLU 52	0.74	No
fin.	3	-85	-233892	316581	SLU 52	1.35	Si
ini.	3	-295	-439282	316581	SLU 75	0.72	No
fin.	3	-471	-236722	316581	SLU 75	1.34	Si
ini.	3	59	-424467	316581	SLU 68	0.75	No
fin.	3	9	-236133	316581	SLU 68	1.34	Si
ini.	3	-361	-436145	316581	SLU 80	0.73	No
fin.	3	-468	-240252	316581	SLU 80	1.32	Si
ini.	3	-73	-461039	316581	SLU 76	0.69	No
fin.	3	-123	-257017	316581	SLU 76	1.23	Si
ini.	3	-55	-425540	316581	SLU 55	0.74	No
fin.	3	-79	-238108	316581	SLU 55	1.33	Si
ini.	3	-371	-451608	316581	SLU 84	0.7	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-531	-244987	316581	SLU 84	1.29	Si
ini.	3	-26	-460828	316581	SLU 73	0.69	No
fin.	3	-129	-252801	316581	SLU 73	1.25	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-436145	-6574			3466	1304	SLU 80	0.2	No
fin.	3	0	-240252	9205			3466	1304	SLU 80	0.14	No
ini.	3	0	-451608	-6708			3466	1304	SLU 84	0.19	No
fin.	3	0	-244987	9613			3466	1304	SLU 84	0.14	No
ini.	3	0	-413740	-6171			3466	1304	SLU 81	0.21	No
fin.	3	0	-209301	9521			3466	1304	SLU 81	0.14	No
ini.	3	0	-439493	-6574			3466	1304	SLU 78	0.2	No
fin.	3	0	-240938	9284			3466	1304	SLU 78	0.14	No
ini.	3	0	-461039	-6643			3466	1304	SLU 76	0.2	No
fin.	3	0	-257017	9329			3466	1304	SLU 76	0.14	No
ini.	3	0	-401625	-6037			3466	1304	SLU 74	0.22	No
fin.	3	0	-205252	9192			3466	1304	SLU 74	0.14	No
ini.	3	0	-451397	-6535			3466	1304	SLU 82	0.2	No
fin.	3	0	-240771	9651			3466	1304	SLU 82	0.14	No
ini.	3	0	-439282	-6401			3466	1304	SLU 75	0.2	No
fin.	3	0	-236722	9322			3466	1304	SLU 75	0.14	No
ini.	3	0	-413951	-6344			3466	1304	SLU 83	0.21	No
fin.	3	0	-213517	9484			3466	1304	SLU 83	0.14	No
ini.	3	0	-460828	-6469			3466	1304	SLU 73	0.2	No
fin.	3	0	-252801	9366			3466	1304	SLU 73	0.14	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	4418	-883669	327721	SLV 2	0.37	No
fin.	2	-1777	-16477	327721	SLV 2	19.89	Si
ini.	2	1641	-536790	327721	SLD 1	0.61	No
fin.	2	-1140	-88535	327721	SLD 1	3.7	Si
ini.	2	438	-476344	327721	SLD 5	0.69	No
fin.	2	-1688	-90586	327721	SLD 5	3.62	Si
ini.	2	4006	-693108	327721	SLV 3	0.47	No
fin.	2	-357	-74572	327721	SLV 3	4.39	Si
ini.	2	1641	-536790	327721	SLD 2	0.61	No
fin.	2	-1140	-88535	327721	SLD 2	3.7	Si
ini.	2	1658	-750621	327721	SLV 6	0.44	No
fin.	2	-3179	-14737	327721	SLV 6	22.24	Si
ini.	2	438	-476344	327721	SLD 6	0.69	No
fin.	2	-1688	-90586	327721	SLD 6	3.62	Si
ini.	2	4006	-693108	327721	SLV 4	0.47	No
fin.	2	-357	-74572	327721	SLV 4	4.39	Si
ini.	2	4418	-883669	327721	SLV 1	0.37	No
fin.	2	-1777	-16477	327721	SLV 1	19.89	Si
ini.	2	1658	-750621	327721	SLV 5	0.44	No
fin.	2	-3179	-14737	327721	SLV 5	22.24	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-883669	4972			5199	1957	SLV 2	0.39	No
fin.	2	0	-16477	19963			5199	1957	SLV 2	0.1	No
ini.	2	0	-750621	-3614			5199	1957	SLV 5	0.54	No
fin.	2	0	-14737	14159			5199	1957	SLV 5	0.14	No
ini.	2	0	131669	-14567			5199	1957	SLV 13	0.13	No
fin.	2	0	-205153	-4652			5199	1957	SLV 13	0.42	No
ini.	2	0	-693108	6469			5199	1957	SLV 4	0.3	No
fin.	2	0	-74572	17552			5199	1957	SLV 4	0.11	No
ini.	2	0	131669	-14567			5199	1957	SLV 14	0.13	No
fin.	2	0	-205153	-4652			5199	1957	SLV 14	0.42	No
ini.	2	0	-883669	4972			5199	1957	SLV 1	0.39	No
fin.	2	0	-16477	19963			5199	1957	SLV 1	0.1	No
ini.	2	0	322230	-13069			5199	1957	SLV 15	0.15	No
fin.	2	0	-263248	-7062			5199	1957	SLV 15	0.28	No
ini.	2	0	-693108	6469			5199	1957	SLV 3	0.3	No
fin.	2	0	-74572	17552			5199	1957	SLV 3	0.11	No
ini.	2	0	-750621	-3614			5199	1957	SLV 6	0.54	No
fin.	2	0	-14737	14159			5199	1957	SLV 6	0.14	No
ini.	2	0	322230	-13069			5199	1957	SLV 16	0.15	No
fin.	2	0	-263248	-7062			5199	1957	SLV 16	0.28	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.371	SLV 1	No
V_SLV	0.098	SLV 1	No
PF_SLU	0.687	SLU 76	No
V_SLU	0.135	SLU 82	No

Trave di accoppiamento 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-746.3	-328.4	144	173	29	-646.3	-328.4	144	173	29	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

f _b	f _{hk}	f _{vk0}	f _{mmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1323	-29571	19201	SLU 78	0.65	No
fin.	3	2156	-16329	19201	SLU 78	1.18	Si
ini.	3	1224	-30077	19201	SLU 81	0.64	No
fin.	3	1640	-17585	19201	SLU 81	1.09	Si
ini.	3	1343	-31652	19201	SLU 82	0.61	No
fin.	3	2211	-16267	19201	SLU 82	1.18	Si
ini.	3	1224	-28412	19201	SLU 61	0.68	No
fin.	3	2061	-14240	19201	SLU 61	1.35	Si
ini.	3	1242	-29774	19201	SLU 83	0.64	No
fin.	3	1633	-18322	19201	SLU 83	1.05	Si
ini.	3	1383	-30691	19201	SLU 76	0.63	No
fin.	3	2526	-14854	19201	SLU 76	1.29	Si
ini.	3	1362	-31348	19201	SLU 84	0.61	No
fin.	3	2204	-17004	19201	SLU 84	1.13	Si
ini.	3	1321	-29337	19201	SLU 80	0.65	No
fin.	3	2139	-16470	19201	SLU 80	1.17	Si
ini.	3	1364	-30994	19201	SLU 73	0.62	No
fin.	3	2533	-14117	19201	SLU 73	1.36	Si
ini.	3	1304	-29874	19201	SLU 75	0.64	No
fin.	3	2162	-15592	19201	SLU 75	1.23	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-30691	2546			335	126	SLU 76	0.05	No
fin.	3	0	-14854	-1668			335	126	SLU 76	0.08	No
ini.	3	0	-30994	2541			335	126	SLU 73	0.05	No
fin.	3	0	-14117	-1635			335	126	SLU 73	0.08	No
ini.	3	0	-30077	2398			335	126	SLU 81	0.05	No
fin.	3	0	-17585	-1785			335	126	SLU 81	0.07	No
ini.	3	0	-31348	2564			335	126	SLU 84	0.05	No
fin.	3	0	-17004	-1788			335	126	SLU 84	0.07	No
ini.	3	0	-29337	2444			335	126	SLU 80	0.05	No
fin.	3	0	-16470	-1720			335	126	SLU 80	0.07	No
ini.	3	0	-29874	2451			335	126	SLU 75	0.05	No
fin.	3	0	-15592	-1688			335	126	SLU 75	0.07	No
ini.	3	0	-31652	2559			335	126	SLU 82	0.05	No
fin.	3	0	-16267	-1756			335	126	SLU 82	0.07	No
ini.	3	0	-29774	2403			335	126	SLU 83	0.05	No
fin.	3	0	-18322	-1818			335	126	SLU 83	0.07	No
ini.	3	0	-28109	2327			335	126	SLU 63	0.05	No
fin.	3	0	-14977	-1609			335	126	SLU 63	0.08	No
ini.	3	0	-29571	2456			335	126	SLU 78	0.05	No
fin.	3	0	-16329	-1721			335	126	SLU 78	0.07	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2640	11440	28471	SLV 11	2.49	Si
fin.	2	-5747	-45122	28471	SLV 11	0.63	No
ini.	2	4248	-49808	28471	SLV 6	0.57	No
fin.	2	7981	23783	28471	SLV 6	1.2	Si
ini.	2	1532	-60128	28471	SLV 1	0.47	No
fin.	2	6474	36718	28471	SLV 1	0.78	No
ini.	2	1532	-60128	28471	SLV 2	0.47	No
fin.	2	6474	36718	28471	SLV 2	0.78	No
ini.	2	-595	-48035	28471	SLV 4	0.59	No
fin.	2	3008	23375	28471	SLV 4	1.22	Si
ini.	2	4248	-49808	28471	SLV 5	0.57	No
fin.	2	7981	23783	28471	SLV 5	1.2	Si
ini.	2	77	21759	28471	SLV 15	1.31	Si
fin.	2	-4240	-58057	28471	SLV 15	0.49	No
ini.	2	-2640	11440	28471	SLV 12	2.49	Si
fin.	2	-5747	-45122	28471	SLV 12	0.63	No
ini.	2	-595	-48035	28471	SLV 3	0.59	No
fin.	2	3008	23375	28471	SLV 3	1.22	Si
ini.	2	77	21759	28471	SLV 16	1.31	Si
fin.	2	-4240	-58057	28471	SLV 16	0.49	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-60128	4073			503	189	SLV 1	0.05	No
fin.	2	0	36718	163			503	189	SLV 1	1.16	Si
ini.	2	0	-48035	3979			503	189	SLV 3	0.05	No
fin.	2	0	23375	362			503	189	SLV 3	0.52	No
ini.	2	0	9667	-871			503	189	SLV 14	0.22	No
fin.	2	0	-44715	-2646			503	189	SLV 14	0.07	No
ini.	2	0	9667	-871			503	189	SLV 13	0.22	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-44715	-2646			503	189	SLV 13	0.07	No
ini.	2	0	-31778	2571			503	189	SLD 3	0.07	No
fin.	2	0	4297	-504			503	189	SLD 3	0.38	No
ini.	2	0	-60128	4073			503	189	SLV 2	0.05	No
fin.	2	0	36718	163			503	189	SLV 2	1.16	Si
ini.	2	0	-48035	3979			503	189	SLV 4	0.05	No
fin.	2	0	23375	362			503	189	SLV 4	0.52	No
ini.	2	0	-36339	2613			503	189	SLD 2	0.07	No
fin.	2	0	9365	-585			503	189	SLD 2	0.32	No
ini.	2	0	-36339	2613			503	189	SLD 1	0.07	No
fin.	2	0	9365	-585			503	189	SLD 1	0.32	No
ini.	2	0	-31778	2571			503	189	SLD 4	0.07	No
fin.	2	0	4297	-504			503	189	SLD 4	0.38	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 1	No
V_SLV	0.474	SLV 1	No
PF_SLU	0.046	SLU 82	No
V_SLU	0.607	SLU 84	No

Trave di accoppiamento 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-323.3	-328.4	-96	104	200	-223.3	-328.4	-96	104	200	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2901	-42238	316581	SLU 79	7.5	Si
fin.	3	-2161	-221091	316581	SLU 79	1.43	Si
ini.	3	-2972	-44266	316581	SLU 83	7.15	Si
fin.	3	-2211	-225762	316581	SLU 83	1.4	Si
ini.	3	-2690	-39590	316581	SLU 56	8	Si
fin.	3	-2017	-202607	316581	SLU 56	1.56	Si
ini.	3	-2753	-41281	316581	SLU 62	7.67	Si
fin.	3	-2061	-205835	316581	SLU 62	1.54	Si
ini.	3	-2709	-42075	316581	SLU 60	7.52	Si
fin.	3	-2034	-201824	316581	SLU 60	1.57	Si
ini.	3	-2909	-42574	316581	SLU 77	7.44	Si
fin.	3	-2167	-222533	316581	SLU 77	1.42	Si
ini.	3	-2681	-39253	316581	SLU 58	8.07	Si
fin.	3	-2011	-201165	316581	SLU 58	1.57	Si
ini.	3	-2928	-45059	316581	SLU 81	7.03	Si
fin.	3	-2184	-221750	316581	SLU 81	1.43	Si
ini.	3	-2865	-43368	316581	SLU 74	7.3	Si
fin.	3	-2140	-218521	316581	SLU 74	1.45	Si
ini.	3	-2640	-39693	316581	SLU 69	7.98	Si
fin.	3	-1987	-202275	316581	SLU 69	1.57	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-43368	-5124			3466	1304	SLU 74	0.25	No
fin.	3	0	-218521	-619			3466	1304	SLU 74	2.11	Si
ini.	3	0	-10718	-5135			3466	1304	SLU 82	0.25	No
fin.	3	0	-180514	-434			3466	1304	SLU 82	3	Si
ini.	3	0	-44266	-5359			3466	1304	SLU 83	0.24	No
fin.	3	0	-225762	-606			3466	1304	SLU 83	2.15	Si
ini.	3	0	-9925	-5234			3466	1304	SLU 84	0.25	No
fin.	3	0	-184525	-469			3466	1304	SLU 84	2.78	Si
ini.	3	0	-45059	-5260			3466	1304	SLU 81	0.25	No
fin.	3	0	-221750	-571			3466	1304	SLU 81	2.28	Si
ini.	3	0	-42238	-5196			3466	1304	SLU 79	0.25	No
fin.	3	0	-221091	-651			3466	1304	SLU 79	2	Si
ini.	3	0	-42574	-5223			3466	1304	SLU 77	0.25	No
fin.	3	0	-222533	-653			3466	1304	SLU 77	2	Si
ini.	3	0	-9027	-4999			3466	1304	SLU 75	0.26	No
fin.	3	0	-177285	-482			3466	1304	SLU 75	2.71	Si
ini.	3	0	-8234	-5098			3466	1304	SLU 78	0.26	No
fin.	3	0	-181296	-516			3466	1304	SLU 78	2.53	Si
ini.	3	0	-7897	-5070			3466	1304	SLU 80	0.26	No
fin.	3	0	-179855	-514			3466	1304	SLU 80	2.54	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-7309	328655	327721	SLV 14	1	No
fin.	2	-3028	-423177	327721	SLV 14	0.77	No



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2688	162746	327721	SLV 16	2.01	Si
fin.	2	1973	-644544	327721	SLV 16	0.51	No
ini.	2	4813	-224968	327721	SLV 12	1.46	Si
fin.	2	7126	-633911	327721	SLV 12	0.52	No
ini.	2	3339	-391979	327721	SLV 4	0.84	No
fin.	2	26	123728	327721	SLV 4	2.65	Si
ini.	2	4813	-224968	327721	SLV 11	1.46	Si
fin.	2	7126	-633911	327721	SLV 11	0.52	No
ini.	2	3339	-391979	327721	SLV 3	0.84	No
fin.	2	26	123728	327721	SLV 3	2.65	Si
ini.	2	-2688	162746	327721	SLV 15	2.01	Si
fin.	2	1973	-644544	327721	SLV 15	0.51	No
ini.	2	6621	-391386	327721	SLV 7	0.84	No
fin.	2	6541	-403429	327721	SLV 7	0.81	No
ini.	2	6621	-391386	327721	SLV 8	0.84	No
fin.	2	6541	-403429	327721	SLV 8	0.81	No
ini.	2	-7309	328655	327721	SLV 13	1	No
fin.	2	-3028	-423177	327721	SLV 13	0.77	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	162746	-14499			5199	1957	SLV 15	0.13	No
fin.	2	0	-644544	-11294			5199	1957	SLV 15	0.17	No
ini.	2	0	119288	-8418			5199	1957	SLD 14	0.23	No
fin.	2	0	-270253	-4561			5199	1957	SLD 14	0.43	No
ini.	2	0	162746	-14499			5199	1957	SLV 16	0.13	No
fin.	2	0	-644544	-11294			5199	1957	SLV 16	0.17	No
ini.	2	0	328655	-15095			5199	1957	SLV 14	0.13	No
fin.	2	0	-423177	-10013			5199	1957	SLV 14	0.2	No
ini.	2	0	-391979	8234			5199	1957	SLV 3	0.24	No
fin.	2	0	123728	9090			5199	1957	SLV 3	0.22	No
ini.	2	0	-226069	7638			5199	1957	SLV 2	0.26	No
fin.	2	0	345096	10370			5199	1957	SLV 2	0.19	No
ini.	2	0	328655	-15095			5199	1957	SLV 13	0.13	No
fin.	2	0	-423177	-10013			5199	1957	SLV 13	0.2	No
ini.	2	0	119288	-8418			5199	1957	SLD 13	0.23	No
fin.	2	0	-270253	-4561			5199	1957	SLD 13	0.43	No
ini.	2	0	-391979	8234			5199	1957	SLV 4	0.24	No
fin.	2	0	123728	9090			5199	1957	SLV 4	0.22	No
ini.	2	0	-226069	7638			5199	1957	SLV 1	0.26	No
fin.	2	0	345096	10370			5199	1957	SLV 1	0.19	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.508	SLV 15	No
V_SLV	0.13	SLV 13	No
PF_SLU	1.402	SLU 83	Si
V_SLU	0.243	SLU 83	No

Trave di accoppiamento 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-323.3	-328.4	144	173	29	-223.3	-328.4	144	173	29	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{mmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	993	-12825	19201	SLU 83	1.5	Si
fin.	3	616	-21139	19201	SLU 83	0.91	No
ini.	3	969	-12920	19201	SLU 81	1.49	Si
fin.	3	603	-20807	19201	SLU 81	0.92	No
ini.	3	942	-10225	19201	SLU 56	1.88	Si
fin.	3	611	-17713	19201	SLU 56	1.08	Si
ini.	3	925	-11252	19201	SLU 62	1.71	Si
fin.	3	589	-18596	19201	SLU 62	1.03	Si
ini.	3	902	-11347	19201	SLU 60	1.69	Si
fin.	3	577	-18264	19201	SLU 60	1.05	Si
ini.	3	987	-11892	19201	SLU 74	1.61	Si
fin.	3	625	-19924	19201	SLU 74	0.96	No
ini.	3	792	-11441	19201	SLU 39	1.68	Si
fin.	3	477	-18255	19201	SLU 39	1.05	Si
ini.	3	815	-11346	19201	SLU 41	1.69	Si
fin.	3	489	-18587	19201	SLU 41	1.03	Si
ini.	3	998	-11788	19201	SLU 79	1.63	Si
fin.	3	630	-20180	19201	SLU 79	0.95	No
ini.	3	1010	-11798	19201	SLU 77	1.63	Si
fin.	3	638	-20256	19201	SLU 77	0.95	No



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-12825	1363			335	126	SLU 83	0.09	No
fin.	3	0	-21139	-1376			335	126	SLU 83	0.09	No
ini.	3	0	-12920	1360			335	126	SLU 81	0.09	No
fin.	3	0	-20807	-1361			335	126	SLU 81	0.09	No
ini.	3	0	-11892	1285			335	126	SLU 74	0.1	No
fin.	3	0	-19924	-1301			335	126	SLU 74	0.1	No
ini.	3	0	-10225	1139			335	126	SLU 56	0.11	No
fin.	3	0	-17713	-1162			335	126	SLU 56	0.11	No
ini.	3	0	-11788	1284			335	126	SLU 79	0.1	No
fin.	3	0	-20180	-1312			335	126	SLU 79	0.1	No
ini.	3	0	-11347	1211			335	126	SLU 60	0.1	No
fin.	3	0	-18264	-1207			335	126	SLU 60	0.1	No
ini.	3	0	-11252	1215			335	126	SLU 62	0.1	No
fin.	3	0	-18596	-1223			335	126	SLU 62	0.1	No
ini.	3	0	-11798	1288			335	126	SLU 77	0.1	No
fin.	3	0	-20256	-1316			335	126	SLU 77	0.1	No
ini.	3	0	-11441	1183			335	126	SLU 39	0.11	No
fin.	3	0	-18255	-1184			335	126	SLU 39	0.11	No
ini.	3	0	-11346	1186			335	126	SLU 41	0.11	No
fin.	3	0	-18587	-1199			335	126	SLU 41	0.11	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	609	-53156	28471	SLV 3	0.54	No
fin.	2	3284	33690	28471	SLV 3	0.85	No
ini.	2	4372	39730	28471	SLV 16	0.72	No
fin.	2	514	-73479	28471	SLV 16	0.39	No
ini.	2	7237	9767	28471	SLV 12	2.92	Si
fin.	2	4840	-52060	28471	SLV 12	0.55	No
ini.	2	788	37547	28471	SLV 14	0.76	No
fin.	2	-2363	-59688	28471	SLV 14	0.48	No
ini.	2	7237	9767	28471	SLV 11	2.92	Si
fin.	2	4840	-52060	28471	SLV 11	0.55	No
ini.	2	-2976	-55339	28471	SLV 1	0.51	No
fin.	2	406	47481	28471	SLV 1	0.6	No
ini.	2	4372	39730	28471	SLV 15	0.72	No
fin.	2	514	-73479	28471	SLV 15	0.39	No
ini.	2	609	-53156	28471	SLV 4	0.54	No
fin.	2	3284	33690	28471	SLV 4	0.85	No
ini.	2	-2976	-55339	28471	SLV 2	0.51	No
fin.	2	406	47481	28471	SLV 2	0.6	No
ini.	2	788	37547	28471	SLV 13	0.76	No
fin.	2	-2363	-59688	28471	SLV 13	0.48	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	9767	1727			503	189	SLV 12	0.11	No
fin.	2	0	-52060	-2277			503	189	SLV 12	0.08	No
ini.	2	0	39730	-86			503	189	SLV 16	2.2	Si
fin.	2	0	-73479	-2597			503	189	SLV 16	0.07	No
ini.	2	0	37547	-846			503	189	SLV 13	0.22	No
fin.	2	0	-59688	-2008			503	189	SLV 13	0.09	No
ini.	2	0	-53156	2561			503	189	SLV 3	0.07	No
fin.	2	0	33690	284			503	189	SLV 3	0.67	No
ini.	2	0	39730	-86			503	189	SLV 15	2.2	Si
fin.	2	0	-73479	-2597			503	189	SLV 15	0.07	No
ini.	2	0	-18099	2521			503	189	SLV 7	0.08	No
fin.	2	0	-19909	-1412			503	189	SLV 7	0.13	No
ini.	2	0	-53156	2561			503	189	SLV 4	0.07	No
fin.	2	0	33690	284			503	189	SLV 4	0.67	No
ini.	2	0	-18099	2521			503	189	SLV 8	0.08	No
fin.	2	0	-19909	-1412			503	189	SLV 8	0.13	No
ini.	2	0	9767	1727			503	189	SLV 11	0.11	No
fin.	2	0	-52060	-2277			503	189	SLV 11	0.08	No
ini.	2	0	37547	-846			503	189	SLV 14	0.22	No
fin.	2	0	-59688	-2008			503	189	SLV 14	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.387	SLV 15	No
V_SLV	0.073	SLV 15	No
PF_SLU	0.908	SLU 83	No
V_SLU	0.092	SLU 83	No

Trave di accoppiamento 33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	127.1	114	173	59	-515.8	207.1	114	173	59	80	30	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC	
12			17.25	0.9		2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	386	15773	52983	SLU 77	3.36	Si
fin.	3	-654	-74208	52983	SLU 77	0.71	No
ini.	3	392	15173	52983	SLU 80	3.49	Si
fin.	3	-618	-72507	52983	SLU 80	0.73	No
ini.	3	394	15318	52983	SLU 78	3.46	Si
fin.	3	-625	-73068	52983	SLU 78	0.73	No
ini.	3	384	15629	52983	SLU 79	3.39	Si
fin.	3	-647	-73647	52983	SLU 79	0.72	No
ini.	3	384	14974	52983	SLU 75	3.54	Si
fin.	3	-612	-71421	52983	SLU 75	0.74	No
ini.	3	387	16286	52983	SLU 83	3.25	Si
fin.	3	-682	-76002	52983	SLU 83	0.7	No
ini.	3	378	15942	52983	SLU 81	3.32	Si
fin.	3	-669	-74355	52983	SLU 81	0.71	No
ini.	3	395	15831	52983	SLU 84	3.35	Si
fin.	3	-653	-74863	52983	SLU 84	0.71	No
ini.	3	386	15487	52983	SLU 82	3.42	Si
fin.	3	-640	-73216	52983	SLU 82	0.72	No
ini.	3	376	15429	52983	SLU 74	3.43	Si
fin.	3	-641	-72561	52983	SLU 74	0.73	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	15773	248			503	189	SLU 77	0.76	No
fin.	3	0	-74208	-3289			503	189	SLU 77	0.06	No
ini.	3	0	14974	258			503	189	SLU 75	0.73	No
fin.	3	0	-71421	-3177			503	189	SLU 75	0.06	No
ini.	3	0	15831	262			503	189	SLU 84	0.72	No
fin.	3	0	-74863	-3328			503	189	SLU 84	0.06	No
ini.	3	0	15429	245			503	189	SLU 74	0.77	No
fin.	3	0	-72561	-3219			503	189	SLU 74	0.06	No
ini.	3	0	16286	249			503	189	SLU 83	0.76	No
fin.	3	0	-76002	-3370			503	189	SLU 83	0.06	No
ini.	3	0	15487	259			503	189	SLU 82	0.73	No
fin.	3	0	-73216	-3258			503	189	SLU 82	0.06	No
ini.	3	0	15318	261			503	189	SLU 78	0.72	No
fin.	3	0	-73068	-3247			503	189	SLU 78	0.06	No
ini.	3	0	15629	249			503	189	SLU 79	0.76	No
fin.	3	0	-73647	-3266			503	189	SLU 79	0.06	No
ini.	3	0	15173	262			503	189	SLU 80	0.72	No
fin.	3	0	-72507	-3224			503	189	SLU 80	0.06	No
ini.	3	0	15942	246			503	189	SLU 81	0.77	No
fin.	3	0	-74355	-3300			503	189	SLU 81	0.06	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-626	21357	69831	SLD 11	3.27	Si
fin.	2	-1804	-74916	69831	SLD 11	0.93	No
ini.	2	-506	18676	69831	SLD 7	3.74	Si
fin.	2	-1619	-71349	69831	SLD 7	0.98	No
ini.	2	-1864	36479	69831	SLV 11	1.91	Si
fin.	2	-3727	-111859	69831	SLV 11	0.62	No
ini.	2	-819	27272	69831	SLV 16	2.56	Si
fin.	2	-2062	-79595	69831	SLV 16	0.88	No
ini.	2	-1864	36479	69831	SLV 12	1.91	Si
fin.	2	-3727	-111859	69831	SLV 12	0.62	No
ini.	2	-506	18676	69831	SLD 8	3.74	Si
fin.	2	-1619	-71349	69831	SLD 8	0.98	No
ini.	2	-626	21357	69831	SLD 12	3.27	Si
fin.	2	-1804	-74916	69831	SLD 12	0.93	No
ini.	2	-819	27272	69831	SLV 15	2.56	Si
fin.	2	-2062	-79595	69831	SLV 15	0.88	No
ini.	2	-1572	30288	69831	SLV 8	2.31	Si
fin.	2	-3291	-103502	69831	SLV 8	0.67	No
ini.	2	-1572	30288	69831	SLV 7	2.31	Si
fin.	2	-3291	-103502	69831	SLV 7	0.67	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	27272	-410			754	284	SLV 15	0.69	No
fin.	2	0	-79595	-3391			754	284	SLV 15	0.08	No
ini.	2	0	27272	-410			754	284	SLV 16	0.69	No
fin.	2	0	-79595	-3391			754	284	SLV 16	0.08	No
ini.	2	0	30288	-1045			754	284	SLV 7	0.27	No
fin.	2	0	-103502	-3902			754	284	SLV 7	0.07	No
ini.	2	0	21357	-384			754	284	SLD 12	0.74	No
fin.	2	0	-74916	-3048			754	284	SLD 12	0.09	No
ini.	2	0	21357	-384			754	284	SLD 11	0.74	No
fin.	2	0	-74916	-3048			754	284	SLD 11	0.09	No
ini.	2	0	36479	-1167			754	284	SLV 12	0.24	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-111859	-4306			754	284	SLV 12	0.07	No
ini.	2	0	18676	-332			754	284	SLD 7	0.85	No
fin.	2	0	-71349	-2876			754	284	SLD 7	0.1	No
ini.	2	0	36479	-1167			754	284	SLV 11	0.24	No
fin.	2	0	-111859	-4306			754	284	SLV 11	0.07	No
ini.	2	0	18676	-332			754	284	SLD 8	0.85	No
fin.	2	0	-71349	-2876			754	284	SLD 8	0.1	No
ini.	2	0	30288	-1045			754	284	SLV 8	0.27	No
fin.	2	0	-103502	-3902			754	284	SLV 8	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.624	SLV 11	No
V_SLV	0.066	SLV 11	No
PF_SLU	0.697	SLU 83	No
V_SLU	0.056	SLU 83	No

Trave di accoppiamento 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-301.3	587.6	-96	104	200	-201.3	587.6	-96	104	200	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3		-2732	-17867	316581	SLU 83	17.72
fin.	3		-2302	-193357	316581	SLU 83	1.64
ini.	3		-2537	-15898	316581	SLU 73	19.91
fin.	3		-2106	-182626	316581	SLU 73	1.73
ini.	3		-2705	-16080	316581	SLU 81	19.69
fin.	3		-2268	-194869	316581	SLU 81	1.62
ini.	3		-2652	-16403	316581	SLU 74	19.3
fin.	3		-2237	-187529	316581	SLU 74	1.69
ini.	3		-2637	-18390	316581	SLU 78	17.21
fin.	3		-2218	-183429	316581	SLU 78	1.73
ini.	3		-2659	-19139	316581	SLU 79	16.54
fin.	3		-2261	-183914	316581	SLU 79	1.72
ini.	3		-2690	-18067	316581	SLU 84	17.52
fin.	3		-2249	-190769	316581	SLU 84	1.66
ini.	3		-2678	-18190	316581	SLU 77	17.4
fin.	3		-2271	-186017	316581	SLU 77	1.7
ini.	3		-2610	-16603	316581	SLU 75	19.07
fin.	3		-2185	-184942	316581	SLU 75	1.71
ini.	3		-2664	-16280	316581	SLU 82	19.45
fin.	3		-2216	-192282	316581	SLU 82	1.65

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-18390	-4621			3466	1304	SLU 78	0.28	No
fin.	3	0	-183429	-47			3466	1304	SLU 78	27.52	Si
ini.	3	0	-17867	-4869			3466	1304	SLU 83	0.27	No
fin.	3	0	-193357	-49			3466	1304	SLU 83	26.8	Si
ini.	3	0	-18067	-4817			3466	1304	SLU 84	0.27	No
fin.	3	0	-190769	-63			3466	1304	SLU 84	20.61	Si
ini.	3	0	-16603	-4622			3466	1304	SLU 75	0.28	No
fin.	3	0	-184942	-115			3466	1304	SLU 75	11.34	Si
ini.	3	0	-19339	-4567			3466	1304	SLU 80	0.29	No
fin.	3	0	-181327	-21			3466	1304	SLU 80	63.11	Si
ini.	3	0	-19139	-4619			3466	1304	SLU 79	0.28	No
fin.	3	0	-183914	-6			3466	1304	SLU 79	215.27	Si
ini.	3	0	-18190	-4672			3466	1304	SLU 77	0.28	No
fin.	3	0	-186017	-33			3466	1304	SLU 77	39.79	Si
ini.	3	0	-16403	-4674			3466	1304	SLU 74	0.28	No
fin.	3	0	-187529	-100			3466	1304	SLU 74	12.99	Si
ini.	3	0	-16280	-4819			3466	1304	SLU 82	0.27	No
fin.	3	0	-192282	-131			3466	1304	SLU 82	9.96	Si
ini.	3	0	-16080	-4870			3466	1304	SLU 81	0.27	No
fin.	3	0	-194869	-116			3466	1304	SLU 81	11.22	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2		-5701	480965	327721	SLV 16	0.68
fin.	2		-1646	-558347	327721	SLV 16	0.59
ini.	2		-9571	701008	327721	SLV 12	0.47
fin.	2		-5142	-477227	327721	SLV 12	0.69
ini.	2		-5701	480965	327721	SLV 15	0.68
fin.	2		-1646	-558347	327721	SLV 15	0.59



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	5880	-723353	327721	SLV 5	0.45	No
fin.	2	2009	214424	327721	SLV 5	1.53	Si
ini.	2	4866	-539737	327721	SLV 9	0.61	No
fin.	2	2664	1326	327721	SLV 9	247.09	Si
ini.	2	5880	-723353	327721	SLV 6	0.45	No
fin.	2	2009	214424	327721	SLV 6	1.53	Si
ini.	2	4866	-539737	327721	SLV 10	0.61	No
fin.	2	2664	1326	327721	SLV 10	247.09	Si
ini.	2	-8557	517393	327721	SLV 8	0.63	No
fin.	2	-5796	-264129	327721	SLV 8	1.24	Si
ini.	2	-8557	517393	327721	SLV 7	0.63	No
fin.	2	-5796	-264129	327721	SLV 7	1.24	Si
ini.	2	-9571	701008	327721	SLV 11	0.47	No
fin.	2	-5142	-477227	327721	SLV 11	0.69	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-503309	8306			5199	1957	SLV 1	0.24	No
fin.	2	0	295544	10173			5199	1957	SLV 1	0.19	No
ini.	2	0	701008	-10564			5199	1957	SLV 12	0.19	No
fin.	2	0	-477227	-5041			5199	1957	SLV 12	0.39	No
ini.	2	0	701008	-10564			5199	1957	SLV 11	0.19	No
fin.	2	0	-477227	-5041			5199	1957	SLV 11	0.39	No
ini.	2	0	-131085	5696			5199	1957	SLV 3	0.34	No
fin.	2	0	151978	8989			5199	1957	SLV 3	0.22	No
ini.	2	0	-503309	8306			5199	1957	SLV 2	0.24	No
fin.	2	0	295544	10173			5199	1957	SLV 2	0.19	No
ini.	2	0	480965	-14634			5199	1957	SLV 16	0.13	No
fin.	2	0	-558347	-10472			5199	1957	SLV 16	0.19	No
ini.	2	0	-131085	5696			5199	1957	SLV 4	0.34	No
fin.	2	0	151978	8989			5199	1957	SLV 4	0.22	No
ini.	2	0	480965	-14634			5199	1957	SLV 15	0.13	No
fin.	2	0	-558347	-10472			5199	1957	SLV 15	0.19	No
ini.	2	0	108741	-12024			5199	1957	SLV 14	0.16	No
fin.	2	0	-414781	-9289			5199	1957	SLV 14	0.21	No
ini.	2	0	108741	-12024			5199	1957	SLV 13	0.16	No
fin.	2	0	-414781	-9289			5199	1957	SLV 13	0.21	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 5	No
V_SLV	0.134	SLV 15	No
PF_SLU	1.625	SLU 81	Si
V_SLU	0.268	SLU 81	No

Trave di accoppiamento 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-301.3	587.6	144	173	29	-201.3	587.6	144	173	29	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	283	-19514	19201	SLU 79	0.98	No
fin.	3	152	-23929	19201	SLU 79	0.8	No
ini.	3	292	-19452	19201	SLU 77	0.99	No
fin.	3	154	-24124	19201	SLU 77	0.8	No
ini.	3	292	-20233	19201	SLU 83	0.95	No
fin.	3	133	-25705	19201	SLU 83	0.75	No
ini.	3	273	-20295	19201	SLU 84	0.95	No
fin.	3	115	-25415	19201	SLU 84	0.76	No
ini.	3	309	-18859	19201	SLU 74	1.02	Si
fin.	3	154	-24309	19201	SLU 74	0.79	No
ini.	3	289	-18922	19201	SLU 75	1.01	Si
fin.	3	136	-24019	19201	SLU 75	0.8	No
ini.	3	290	-19702	19201	SLU 82	0.97	No
fin.	3	115	-25601	19201	SLU 82	0.75	No
ini.	3	272	-19514	19201	SLU 78	0.98	No
fin.	3	136	-23833	19201	SLU 78	0.81	No
ini.	3	284	-18433	19201	SLU 73	1.04	Si
fin.	3	121	-23816	19201	SLU 73	0.81	No
ini.	3	309	-19640	19201	SLU 81	0.98	No
fin.	3	133	-25891	19201	SLU 81	0.74	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-19640	1446			335	126	SLU 81	0.09	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-25891	-1417			335	126	SLU 81	0.09	No
ini.	3	0	-19576	1419			335	126	SLU 80	0.09	No
fin.	3	0	-23638	-1304			335	126	SLU 80	0.1	No
ini.	3	0	-19702	1446			335	126	SLU 82	0.09	No
fin.	3	0	-25601	-1403			335	126	SLU 82	0.09	No
ini.	3	0	-19514	1419			335	126	SLU 78	0.09	No
fin.	3	0	-23833	-1312			335	126	SLU 78	0.1	No
ini.	3	0	-19025	1389			335	126	SLU 76	0.09	No
fin.	3	0	-23630	-1300			335	126	SLU 76	0.1	No
ini.	3	0	-19452	1419			335	126	SLU 77	0.09	No
fin.	3	0	-24124	-1326			335	126	SLU 77	0.1	No
ini.	3	0	-20233	1476			335	126	SLU 83	0.09	No
fin.	3	0	-25705	-1411			335	126	SLU 83	0.09	No
ini.	3	0	-18922	1389			335	126	SLU 75	0.09	No
fin.	3	0	-24019	-1318			335	126	SLU 75	0.1	No
ini.	3	0	-19514	1419			335	126	SLU 79	0.09	No
fin.	3	0	-23929	-1318			335	126	SLU 79	0.1	No
ini.	3	0	-20295	1476			335	126	SLU 84	0.09	No
fin.	3	0	-25415	-1397			335	126	SLU 84	0.09	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	734	-129001	28471	SLV 9	0.22	No
fin.	2	7677	-40236	28471	SLV 9	0.71	No
ini.	2	104	-153109	28471	SLV 5	0.19	No
fin.	2	8285	-14179	28471	SLV 5	2.01	Si
ini.	2	404	129017	28471	SLV 12	0.22	No
fin.	2	-8000	-18347	28471	SLV 12	1.55	Si
ini.	2	404	129017	28471	SLV 11	0.22	No
fin.	2	-8000	-18347	28471	SLV 11	1.55	Si
ini.	2	-226	104909	28471	SLV 7	0.27	No
fin.	2	-7391	7710	28471	SLV 7	3.69	Si
ini.	2	-746	-90928	28471	SLV 2	0.31	No
fin.	2	3509	23882	28471	SLV 2	1.19	Si
ini.	2	-226	104909	28471	SLV 8	0.27	No
fin.	2	-7391	7710	28471	SLV 8	3.69	Si
ini.	2	734	-129001	28471	SLV 10	0.22	No
fin.	2	7677	-40236	28471	SLV 10	0.71	No
ini.	2	-746	-90928	28471	SLV 1	0.31	No
fin.	2	3509	23882	28471	SLV 1	1.19	Si
ini.	2	104	-153109	28471	SLV 6	0.19	No
fin.	2	8285	-14179	28471	SLV 6	2.01	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-10569	127			503	189	SLV 14	1.48	Si
fin.	2	0	-62975	-2010			503	189	SLV 14	0.09	No
ini.	2	0	66836	-488			503	189	SLV 16	0.39	No
fin.	2	0	-56408	-2381			503	189	SLV 16	0.08	No
ini.	2	0	-90928	2302			503	189	SLV 1	0.08	No
fin.	2	0	23882	599			503	189	SLV 1	0.32	No
ini.	2	0	66836	-488			503	189	SLV 15	0.39	No
fin.	2	0	-56408	-2381			503	189	SLV 15	0.08	No
ini.	2	0	-90928	2302			503	189	SLV 2	0.08	No
fin.	2	0	23882	599			503	189	SLV 2	0.32	No
ini.	2	0	-153109	2259			503	189	SLV 6	0.08	No
fin.	2	0	-14179	119			503	189	SLV 6	1.59	Si
ini.	2	0	-153109	2259			503	189	SLV 5	0.08	No
fin.	2	0	-14179	119			503	189	SLV 5	1.59	Si
ini.	2	0	129017	-445			503	189	SLV 12	0.43	No
fin.	2	0	-18347	-1901			503	189	SLV 12	0.1	No
ini.	2	0	-10569	127			503	189	SLV 13	1.48	Si
fin.	2	0	-62975	-2010			503	189	SLV 13	0.09	No
ini.	2	0	129017	-445			503	189	SLV 11	0.43	No
fin.	2	0	-18347	-1901			503	189	SLV 11	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.186	SLV 5	No
V_SLV	0.079	SLV 15	No
PF_SLU	0.742	SLU 81	No
V_SLU	0.085	SLU 84	No

Trave di accoppiamento 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.3	227.1	124	173	49	-12.3	127.1	124	173	49	100	45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1375	-61987	52331	SLU 82	0.84	No
fin.	3	-1854	-51048	52331	SLU 82	1.03	Si
ini.	3	-1323	-62052	52331	SLU 74	0.84	No
fin.	3	-1746	-49142	52331	SLU 74	1.06	Si
ini.	3	-1362	-63754	52331	SLU 81	0.82	No
fin.	3	-1764	-49519	52331	SLU 81	1.06	Si
ini.	3	-1336	-60285	52331	SLU 75	0.87	No
fin.	3	-1837	-50672	52331	SLU 75	1.03	Si
ini.	3	-1316	-62100	52331	SLU 79	0.84	No
fin.	3	-1742	-49236	52331	SLU 79	1.06	Si
ini.	3	-1340	-60942	52331	SLU 78	0.86	No
fin.	3	-1845	-51170	52331	SLU 78	1.02	Si
ini.	3	-1327	-62709	52331	SLU 77	0.83	No
fin.	3	-1755	-49640	52331	SLU 77	1.05	Si
ini.	3	-1366	-64411	52331	SLU 83	0.81	No
fin.	3	-1772	-50017	52331	SLU 83	1.05	Si
ini.	3	-1379	-62645	52331	SLU 84	0.84	No
fin.	3	-1863	-51547	52331	SLU 84	1.02	Si
ini.	3	-1329	-60333	52331	SLU 80	0.87	No
fin.	3	-1833	-50766	52331	SLU 80	1.03	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-60285	1821			566	213	SLU 75	0.12	No
fin.	3	0	-50672	-4337			566	213	SLU 75	0.05	No
ini.	3	0	-63754	1924			566	213	SLU 81	0.11	No
fin.	3	0	-49519	-4283			566	213	SLU 81	0.05	No
ini.	3	0	-62645	1890			566	213	SLU 84	0.11	No
fin.	3	0	-51547	-4421			566	213	SLU 84	0.05	No
ini.	3	0	-57840	1748			566	213	SLU 73	0.12	No
fin.	3	0	-50789	-4319			566	213	SLU 73	0.05	No
ini.	3	0	-64411	1944			566	213	SLU 83	0.11	No
fin.	3	0	-50017	-4328			566	213	SLU 83	0.05	No
ini.	3	0	-60333	1824			566	213	SLU 80	0.12	No
fin.	3	0	-50766	-4347			566	213	SLU 80	0.05	No
ini.	3	0	-60942	1841			566	213	SLU 78	0.12	No
fin.	3	0	-51170	-4382			566	213	SLU 78	0.05	No
ini.	3	0	-62709	1896			566	213	SLU 77	0.11	No
fin.	3	0	-49640	-4289			566	213	SLU 77	0.05	No
ini.	3	0	-58498	1767			566	213	SLU 76	0.12	No
fin.	3	0	-51287	-4364			566	213	SLU 76	0.05	No
ini.	3	0	-61987	1870			566	213	SLU 82	0.11	No
fin.	3	0	-51048	-4376			566	213	SLU 82	0.05	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1935	-93855	63471	SLV 15	0.68	No
fin.	2	-1699	-41307	63471	SLV 15	1.54	Si
ini.	2	-507	-5430	63471	SLV 9	11.69	Si
fin.	2	-2497	-73133	63471	SLV 9	0.87	No
ini.	2	-1823	-101057	63471	SLV 12	0.63	No
fin.	2	-471	-6562	63471	SLV 12	9.67	Si
ini.	2	-1332	-78542	63471	SLV 8	0.81	No
fin.	2	-26	3249	63471	SLV 8	19.53	Si
ini.	2	-507	-5430	63471	SLV 10	11.69	Si
fin.	2	-2497	-73133	63471	SLV 10	0.87	No
ini.	2	-1935	-93855	63471	SLV 16	0.68	No
fin.	2	-1699	-41307	63471	SLV 16	1.54	Si
ini.	2	-1332	-78542	63471	SLV 7	0.81	No
fin.	2	-26	3249	63471	SLV 7	19.53	Si
ini.	2	-1823	-101057	63471	SLV 11	0.63	No
fin.	2	-471	-6562	63471	SLV 11	9.67	Si
ini.	2	-1306	-67271	63471	SLD 11	0.94	No
fin.	2	-921	-22756	63471	SLD 11	2.79	Si
ini.	2	-1306	-67271	63471	SLD 12	0.94	No
fin.	2	-921	-22756	63471	SLD 12	2.79	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-93855	2722			849	320	SLV 15	0.12	No
fin.	2	0	-41307	-4029			849	320	SLV 15	0.08	No
ini.	2	0	-5430	325			849	320	SLV 9	0.98	No
fin.	2	0	-73133	-5167			849	320	SLV 9	0.06	No
ini.	2	0	-5430	325			849	320	SLV 10	0.98	No
fin.	2	0	-73133	-5167			849	320	SLV 10	0.06	No
ini.	2	0	17085	-314			849	320	SLV 5	1.02	Si
fin.	2	0	-63322	-4245			849	320	SLV 5	0.08	No
ini.	2	0	17085	-314			849	320	SLV 6	1.02	Si
fin.	2	0	-63322	-4245			849	320	SLV 6	0.08	No
ini.	2	0	-65167	1960			849	320	SLV 13	0.16	No
fin.	2	0	-61279	-5051			849	320	SLV 13	0.06	No
ini.	2	0	-26305	867			849	320	SLD 9	0.37	No
fin.	2	0	-51320	-3929			849	320	SLD 9	0.08	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-93855	2722			849	320	SLV 16	0.12	No
fin.	2	0	-41307	-4029			849	320	SLV 16	0.08	No
ini.	2	0	-26305	867			849	320	SLD 10	0.37	No
fin.	2	0	-51320	-3929			849	320	SLD 10	0.08	No
ini.	2	0	-65167	1960			849	320	SLV 14	0.16	No
fin.	2	0	-61279	-5051			849	320	SLV 14	0.06	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.628	SLV 11	No
V_SLV	0.062	SLV 9	No
PF_SLU	0.812	SLU 83	No
V_SLU	0.048	SLU 84	No

Trave di accoppiamento 37

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2176.3	595.1	173	263	90	-2276.3	595.1	173	263	90	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	5915	83468	103792	SLU 82	1.24	Si
fin.	3	6244	6226	103792	SLU 82	16.67	Si
ini.	3	5976	87192	103792	SLU 84	1.19	Si
fin.	3	6324	4257	103792	SLU 84	24.38	Si
ini.	3	5935	87469	103792	SLU 77	1.19	Si
fin.	3	6298	4934	103792	SLU 77	21.04	Si
ini.	3	5842	87902	103792	SLU 78	1.18	Si
fin.	3	6195	2881	103792	SLU 78	36.02	Si
ini.	3	6070	86759	103792	SLU 83	1.2	Si
fin.	3	6427	6309	103792	SLU 83	16.45	Si
ini.	3	5675	84021	103792	SLU 76	1.24	Si
fin.	3	6001	3286	103792	SLU 76	31.59	Si
ini.	3	5892	87024	103792	SLU 79	1.19	Si
fin.	3	6253	4738	103792	SLU 79	21.91	Si
ini.	3	5781	84178	103792	SLU 75	1.23	Si
fin.	3	6115	4850	103792	SLU 75	21.4	Si
ini.	3	5799	87456	103792	SLU 80	1.19	Si
fin.	3	6150	2685	103792	SLU 80	38.66	Si
ini.	3	5874	83746	103792	SLU 74	1.24	Si
fin.	3	6217	6903	103792	SLU 74	15.04	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	83746	-1217			873	329	SLU 74	0.27	No
fin.	3	0	6903	-848			873	329	SLU 74	0.39	No
ini.	3	0	87024	-1286			873	329	SLU 79	0.26	No
fin.	3	0	4738	-909			873	329	SLU 79	0.36	No
ini.	3	0	83468	-1209			873	329	SLU 82	0.27	No
fin.	3	0	6226	-863			873	329	SLU 82	0.38	No
ini.	3	0	87192	-1287			873	329	SLU 84	0.26	No
fin.	3	0	4257	-923			873	329	SLU 84	0.36	No
ini.	3	0	84178	-1235			873	329	SLU 75	0.27	No
fin.	3	0	4850	-882			873	329	SLU 75	0.37	No
ini.	3	0	84021	-1238			873	329	SLU 76	0.27	No
fin.	3	0	3286	-907			873	329	SLU 76	0.36	No
ini.	3	0	86759	-1269			873	329	SLU 83	0.26	No
fin.	3	0	6309	-888			873	329	SLU 83	0.37	No
ini.	3	0	87469	-1295			873	329	SLU 77	0.25	No
fin.	3	0	4934	-908			873	329	SLU 77	0.36	No
ini.	3	0	87902	-1313			873	329	SLU 78	0.25	No
fin.	3	0	2881	-942			873	329	SLU 78	0.35	No
ini.	3	0	87456	-1304			873	329	SLU 80	0.25	No
fin.	3	0	2685	-944			873	329	SLU 80	0.35	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	11331	-92659	121694	SLV 16	1.31	Si
fin.	2	10942	217376	121694	SLV 16	0.56	No
ini.	2	24654	254035	121694	SLV 7	0.48	No
fin.	2	25479	93250	121694	SLV 7	1.31	Si
ini.	2	24654	254035	121694	SLV 8	0.48	No
fin.	2	25479	93250	121694	SLV 8	1.31	Si
ini.	2	9313	288160	121694	SLV 4	0.42	No
fin.	2	10376	-120508	121694	SLV 4	1.01	Si
ini.	2	25259	139789	121694	SLV 11	0.87	No



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	25648	194615	121694	SLV 11	0.63	No
ini.	2	11331	-92659	121694	SLV 15	1.31	Si
fin.	2	10942	217376	121694	SLV 15	0.56	No
ini.	2	25259	139789	121694	SLV 12	0.87	No
fin.	2	25648	194615	121694	SLV 12	0.63	No
ini.	2	-3230	203164	121694	SLV 1	0.6	No
fin.	2	-2399	-202364	121694	SLV 1	0.6	No
ini.	2	9313	288160	121694	SLV 3	0.42	No
fin.	2	10376	-120508	121694	SLV 3	1.01	Si
ini.	2	-3230	203164	121694	SLV 2	0.6	No
fin.	2	-2399	-202364	121694	SLV 2	0.6	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	254035	-8095			1310	493	SLV 8	0.06	No
fin.	2	0	93250	-5956			1310	493	SLV 8	0.08	No
ini.	2	0	139789	-5224			1310	493	SLV 11	0.09	No
fin.	2	0	194615	-3330			1310	493	SLV 11	0.15	No
ini.	2	0	-177655	5791			1310	493	SLV 13	0.09	No
fin.	2	0	135520	5070			1310	493	SLV 13	0.1	No
ini.	2	0	-143529	6568			1310	493	SLV 10	0.08	No
fin.	2	0	-78238	4879			1310	493	SLV 10	0.1	No
ini.	2	0	288160	-7318			1310	493	SLV 3	0.07	No
fin.	2	0	-120508	-6146			1310	493	SLV 3	0.08	No
ini.	2	0	139789	-5224			1310	493	SLV 12	0.09	No
fin.	2	0	194615	-3330			1310	493	SLV 12	0.15	No
ini.	2	0	288160	-7318			1310	493	SLV 4	0.07	No
fin.	2	0	-120508	-6146			1310	493	SLV 4	0.08	No
ini.	2	0	-177655	5791			1310	493	SLV 14	0.09	No
fin.	2	0	135520	5070			1310	493	SLV 14	0.1	No
ini.	2	0	-143529	6568			1310	493	SLV 9	0.08	No
fin.	2	0	-78238	4879			1310	493	SLV 9	0.1	No
ini.	2	0	254035	-8095			1310	493	SLV 7	0.06	No
fin.	2	0	93250	-5956			1310	493	SLV 7	0.08	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.422	SLV 3	No
V_SLV	0.061	SLV 7	No
PF_SLU	1.181	SLU 78	Si
V_SLU	0.25	SLU 78	No

Trave di accoppiamento 38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2176.3	595.1	453	546	93	-2276.3	595.1	453	546	93	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1675	-10958	109042	SLU 81	9.95	Si
fin.	3	-2309	-43359	109042	SLU 81	2.51	Si
ini.	3	-1883	-9205	109042	SLU 79	11.85	Si
fin.	3	-2483	-44768	109042	SLU 79	2.44	Si
ini.	3	-1873	-9374	109042	SLU 77	11.63	Si
fin.	3	-2486	-45120	109042	SLU 77	2.42	Si
ini.	3	-1702	-9334	109042	SLU 75	11.68	Si
fin.	3	-2323	-43370	109042	SLU 75	2.51	Si
ini.	3	-1749	-9256	109042	SLU 84	11.78	Si
fin.	3	-2402	-44868	109042	SLU 84	2.43	Si
ini.	3	-1825	-8503	109042	SLU 78	12.82	Si
fin.	3	-2451	-45000	109042	SLU 78	2.42	Si
ini.	3	-1797	-10127	109042	SLU 83	10.77	Si
fin.	3	-2437	-44989	109042	SLU 83	2.42	Si
ini.	3	-1834	-8335	109042	SLU 80	13.08	Si
fin.	3	-2448	-44648	109042	SLU 80	2.44	Si
ini.	3	-1751	-10205	109042	SLU 74	10.69	Si
fin.	3	-2358	-43491	109042	SLU 74	2.51	Si
ini.	3	-1627	-10087	109042	SLU 82	10.81	Si
fin.	3	-2274	-43239	109042	SLU 82	2.52	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-9334	2014			933	351	SLU 75	0.17	No
fin.	3	0	-43370	-3873			933	351	SLU 75	0.09	No
ini.	3	0	-8503	2017			933	351	SLU 78	0.17	No
fin.	3	0	-45000	-3954			933	351	SLU 78	0.09	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-10127	2136			933	351	SLU 83	0.16	No
fin.	3	0	-44989	-4070			933	351	SLU 83	0.09	No
ini.	3	0	-9256	2094			933	351	SLU 84	0.17	No
fin.	3	0	-44868	-4043			933	351	SLU 84	0.09	No
ini.	3	0	-9374	2059			933	351	SLU 77	0.17	No
fin.	3	0	-45120	-3981			933	351	SLU 77	0.09	No
ini.	3	0	-10087	2091			933	351	SLU 82	0.17	No
fin.	3	0	-43239	-3962			933	351	SLU 82	0.09	No
ini.	3	0	-9205	2045			933	351	SLU 79	0.17	No
fin.	3	0	-44768	-3949			933	351	SLU 79	0.09	No
ini.	3	0	-10958	2133			933	351	SLU 81	0.16	No
fin.	3	0	-43359	-3988			933	351	SLU 81	0.09	No
ini.	3	0	-10205	2056			933	351	SLU 74	0.17	No
fin.	3	0	-43491	-3899			933	351	SLU 74	0.09	No
ini.	3	0	-8335	2003			933	351	SLU 80	0.18	No
fin.	3	0	-44648	-3923			933	351	SLU 80	0.09	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1888	119130	126944	SLV 2	1.07	Si
fin.	2	-4451	-130010	126944	SLV 2	0.98	No
ini.	2	-2637	15926	126944	SLV 7	7.97	Si
fin.	2	-4980	-92384	126944	SLV 7	1.37	Si
ini.	2	-2955	-128003	126944	SLV 13	0.99	No
fin.	2	2718	90742	126944	SLV 13	1.4	Si
ini.	2	-2637	15926	126944	SLV 8	7.97	Si
fin.	2	-4980	-92384	126944	SLV 8	1.37	Si
ini.	2	-2955	-128003	126944	SLV 14	0.99	No
fin.	2	2718	90742	126944	SLV 14	1.4	Si
ini.	2	1888	119130	126944	SLV 1	1.07	Si
fin.	2	-4451	-130010	126944	SLV 1	0.98	No
ini.	2	582	111419	126944	SLV 4	1.14	Si
fin.	2	-5853	-148304	126944	SLV 4	0.86	No
ini.	2	582	111419	126944	SLV 3	1.14	Si
fin.	2	-5853	-148304	126944	SLV 3	0.86	No
ini.	2	-4261	-135714	126944	SLV 15	0.94	No
fin.	2	1316	72447	126944	SLV 15	1.75	Si
ini.	2	-4261	-135714	126944	SLV 16	0.94	No
fin.	2	1316	72447	126944	SLV 16	1.75	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	119130	-4005			1399	526	SLV 1	0.13	No
fin.	2	0	-130010	-7424			1399	526	SLV 1	0.07	No
ini.	2	0	-128003	6047			1399	526	SLV 13	0.09	No
fin.	2	0	90742	3323			1399	526	SLV 13	0.16	No
ini.	2	0	-135714	6842			1399	526	SLV 16	0.08	No
fin.	2	0	72447	2255			1399	526	SLV 16	0.23	No
ini.	2	0	-128003	6047			1399	526	SLV 14	0.09	No
fin.	2	0	90742	3323			1399	526	SLV 14	0.16	No
ini.	2	0	-135714	6842			1399	526	SLV 15	0.08	No
fin.	2	0	72447	2255			1399	526	SLV 15	0.23	No
ini.	2	0	111419	-3210			1399	526	SLV 3	0.16	No
fin.	2	0	-148304	-8492			1399	526	SLV 3	0.06	No
ini.	2	0	15926	1236			1399	526	SLV 7	0.43	No
fin.	2	0	-92384	-5977			1399	526	SLV 7	0.09	No
ini.	2	0	111419	-3210			1399	526	SLV 4	0.16	No
fin.	2	0	-148304	-8492			1399	526	SLV 4	0.06	No
ini.	2	0	119130	-4005			1399	526	SLV 2	0.13	No
fin.	2	0	-130010	-7424			1399	526	SLV 2	0.07	No
ini.	2	0	15926	1236			1399	526	SLV 8	0.43	No
fin.	2	0	-92384	-5977			1399	526	SLV 8	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.856	SLV 3	No
V_SLV	0.062	SLV 3	No
PF_SLU	2.417	SLU 77	Si
V_SLU	0.086	SLU 83	No

Trave di accoppiamento 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2154.3	-335.9	173	263	90	-2254.3	-335.9	173	263	90	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	11605	112444	103792	SLU 68	0.92	No
fin.	3	11825	-24912	103792	SLU 68	4.17	Si
ini.	3	10617	114110	103792	SLU 75	0.91	No
fin.	3	10887	-35330	103792	SLU 75	2.94	Si
ini.	3	11630	112480	103792	SLU 55	0.92	No
fin.	3	11841	-24980	103792	SLU 55	4.15	Si
ini.	3	12268	119881	103792	SLU 73	0.87	No
fin.	3	12493	-29237	103792	SLU 73	3.55	Si
ini.	3	12348	122797	103792	SLU 76	0.85	No
fin.	3	12597	-30877	103792	SLU 76	3.36	Si
ini.	3	10873	117973	103792	SLU 84	0.88	No
fin.	3	11156	-37635	103792	SLU 84	2.76	Si
ini.	3	10697	117025	103792	SLU 78	0.89	No
fin.	3	10991	-36970	103792	SLU 78	2.81	Si
ini.	3	11550	109565	103792	SLU 52	0.95	No
fin.	3	11737	-23340	103792	SLU 52	4.45	Si
ini.	3	10634	116452	103792	SLU 80	0.89	No
fin.	3	10929	-36719	103792	SLU 80	2.83	Si
ini.	3	10793	115057	103792	SLU 82	0.9	No
fin.	3	11051	-35995	103792	SLU 82	2.88	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	117025	-1705			873	329	SLU 78	0.19	No
fin.	3	0	-36970	-1770			873	329	SLU 78	0.19	No
ini.	3	0	119881	-1486			873	329	SLU 73	0.22	No
fin.	3	0	-29237	-1848			873	329	SLU 73	0.18	No
ini.	3	0	100219	-1765			873	329	SLU 74	0.19	No
fin.	3	0	-41633	-1458			873	329	SLU 74	0.23	No
ini.	3	0	101166	-1780			873	329	SLU 81	0.18	No
fin.	3	0	-42298	-1473			873	329	SLU 81	0.22	No
ini.	3	0	102561	-1815			873	329	SLU 79	0.18	No
fin.	3	0	-43022	-1500			873	329	SLU 79	0.22	No
ini.	3	0	103135	-1827			873	329	SLU 77	0.18	No
fin.	3	0	-43273	-1505			873	329	SLU 77	0.22	No
ini.	3	0	104082	-1842			873	329	SLU 83	0.18	No
fin.	3	0	-43938	-1520			873	329	SLU 83	0.22	No
ini.	3	0	116452	-1692			873	329	SLU 80	0.19	No
fin.	3	0	-36719	-1765			873	329	SLU 80	0.19	No
ini.	3	0	117973	-1720			873	329	SLU 84	0.19	No
fin.	3	0	-37635	-1785			873	329	SLU 84	0.18	No
ini.	3	0	122797	-1548			873	329	SLU 76	0.21	No
fin.	3	0	-30877	-1895			873	329	SLU 76	0.17	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-908	299744	121694	SLV 3	0.41	No
fin.	2	1207	-293410	121694	SLV 3	0.41	No
ini.	2	23965	205579	121694	SLV 5	0.59	No
fin.	2	23930	-36640	121694	SLV 5	3.32	Si
ini.	2	11849	-165475	121694	SLV 14	0.74	No
fin.	2	10117	240628	121694	SLV 14	0.51	No
ini.	2	10326	337539	121694	SLV 1	0.36	No
fin.	2	11998	-254957	121694	SLV 1	0.48	No
ini.	2	11849	-165475	121694	SLV 13	0.74	No
fin.	2	10117	240628	121694	SLV 13	0.51	No
ini.	2	-908	299744	121694	SLV 4	0.41	No
fin.	2	1207	-293410	121694	SLV 4	0.41	No
ini.	2	23965	205579	121694	SLV 6	0.59	No
fin.	2	23930	-36640	121694	SLV 6	3.32	Si
ini.	2	615	-203270	121694	SLV 16	0.6	No
fin.	2	-674	202175	121694	SLV 16	0.6	No
ini.	2	10326	337539	121694	SLV 2	0.36	No
fin.	2	11998	-254957	121694	SLV 2	0.48	No
ini.	2	615	-203270	121694	SLV 15	0.6	No
fin.	2	-674	202175	121694	SLV 15	0.6	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	166622	-3814			1310	493	SLD 3	0.13	No
fin.	2	0	-139165	-3280			1310	493	SLD 3	0.15	No
ini.	2	0	-165475	5112			1310	493	SLV 14	0.1	No
fin.	2	0	240628	4437			1310	493	SLV 14	0.11	No
ini.	2	0	-165475	5112			1310	493	SLV 13	0.1	No
fin.	2	0	240628	4437			1310	493	SLV 13	0.11	No
ini.	2	0	337539	-6931			1310	493	SLV 2	0.07	No
fin.	2	0	-254957	-6671			1310	493	SLV 2	0.07	No
ini.	2	0	-203270	4629			1310	493	SLV 16	0.11	No
fin.	2	0	202175	4726			1310	493	SLV 16	0.1	No
ini.	2	0	337539	-6931			1310	493	SLV 1	0.07	No
fin.	2	0	-254957	-6671			1310	493	SLV 1	0.07	No
ini.	2	0	-203270	4629			1310	493	SLV 15	0.11	No
fin.	2	0	202175	4726			1310	493	SLV 15	0.1	No
ini.	2	0	299744	-7414			1310	493	SLV 4	0.07	No
fin.	2	0	-293410	-6382			1310	493	SLV 4	0.08	No
ini.	2	0	299744	-7414			1310	493	SLV 3	0.07	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-293410	-6382			1310	493	SLV 3	0.08	No
ini.	2	0	166622	-3814			1310	493	SLD 4	0.13	No
fin.	2	0	-139165	-3280			1310	493	SLD 4	0.15	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.361	SLV 1	No
V_SLV	0.066	SLV 3	No
PF_SLU	0.845	SLU 76	No
V_SLU	0.173	SLU 76	No

Trave di accoppiamento 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2154.3	-335.9	453	546	93	-2254.3	-335.9	453	546	93	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	226	36392	109042	SLU 75	3	Si
fin.	3	-2718	-71102	109042	SLU 75	1.53	Si
ini.	3	131	31508	109042	SLU 83	3.46	Si
fin.	3	-2648	-72791	109042	SLU 83	1.5	Si
ini.	3	212	37140	109042	SLU 78	2.94	Si
fin.	3	-2803	-73219	109042	SLU 78	1.49	Si
ini.	3	276	40438	109042	SLU 76	2.7	Si
fin.	3	-2814	-71234	109042	SLU 76	1.53	Si
ini.	3	110	30766	109042	SLU 77	3.54	Si
fin.	3	-2645	-72229	109042	SLU 77	1.51	Si
ini.	3	234	37882	109042	SLU 84	2.88	Si
fin.	3	-2806	-73781	109042	SLU 84	1.48	Si
ini.	3	194	36937	109042	SLU 80	2.95	Si
fin.	3	-2794	-72690	109042	SLU 80	1.5	Si
ini.	3	91	30563	109042	SLU 79	3.57	Si
fin.	3	-2635	-71701	109042	SLU 79	1.52	Si
ini.	3	145	30761	109042	SLU 81	3.54	Si
fin.	3	-2563	-70675	109042	SLU 81	1.54	Si
ini.	3	248	37135	109042	SLU 82	2.94	Si
fin.	3	-2721	-71664	109042	SLU 82	1.52	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	36392	993			933	351	SLU 75	0.35	No
fin.	3	0	-71102	-4800			933	351	SLU 75	0.07	No
ini.	3	0	37882	1064			933	351	SLU 84	0.33	No
fin.	3	0	-73781	-4993			933	351	SLU 84	0.07	No
ini.	3	0	37135	1078			933	351	SLU 82	0.33	No
fin.	3	0	-71664	-4888			933	351	SLU 82	0.07	No
ini.	3	0	36937	965			933	351	SLU 80	0.36	No
fin.	3	0	-72690	-4865			933	351	SLU 80	0.07	No
ini.	3	0	31508	1494			933	351	SLU 83	0.23	No
fin.	3	0	-72791	-4929			933	351	SLU 83	0.07	No
ini.	3	0	30761	1508			933	351	SLU 81	0.23	No
fin.	3	0	-70675	-4825			933	351	SLU 81	0.07	No
ini.	3	0	30563	1395			933	351	SLU 79	0.25	No
fin.	3	0	-71701	-4802			933	351	SLU 79	0.07	No
ini.	3	0	40438	693			933	351	SLU 76	0.51	No
fin.	3	0	-71234	-4803			933	351	SLU 76	0.07	No
ini.	3	0	37140	979			933	351	SLU 78	0.36	No
fin.	3	0	-73219	-4904			933	351	SLU 78	0.07	No
ini.	3	0	30766	1409			933	351	SLU 77	0.25	No
fin.	3	0	-72229	-4840			933	351	SLU 77	0.07	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3997	124252	126944	SLV 4	1.02	Si
fin.	2	-5980	-213213	126944	SLV 4	0.6	No
ini.	2	-3908	-85119	126944	SLV 14	1.49	Si
fin.	2	2512	120088	126944	SLV 14	1.06	Si
ini.	2	1683	73141	126944	SLD 2	1.74	Si
fin.	2	-3765	-122827	126944	SLD 2	1.03	Si
ini.	2	1683	73141	126944	SLD 1	1.74	Si
fin.	2	-3765	-122827	126944	SLD 1	1.03	Si
ini.	2	3892	145836	126944	SLV 1	0.87	No
fin.	2	-6495	-225496	126944	SLV 1	0.56	No
ini.	2	-3908	-85119	126944	SLV 13	1.49	Si
fin.	2	2512	120088	126944	SLV 13	1.06	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3803	-106703	126944	SLV 16	1.19	Si
fin.	2	3027	132371	126944	SLV 16	0.96	No
ini.	2	3892	145836	126944	SLV 2	0.87	No
fin.	2	-6495	-225496	126944	SLV 2	0.56	No
ini.	2	-3803	-106703	126944	SLV 15	1.19	Si
fin.	2	3027	132371	126944	SLV 15	0.96	No
ini.	2	3997	124252	126944	SLV 3	1.02	Si
fin.	2	-5980	-213213	126944	SLV 3	0.6	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-85119	8292			1399	526	SLV 13	0.06	No
fin.	2	0	120088	3841			1399	526	SLV 13	0.14	No
ini.	2	0	-85119	8292			1399	526	SLV 14	0.06	No
fin.	2	0	120088	3841			1399	526	SLV 14	0.14	No
ini.	2	0	124252	-6359			1399	526	SLV 4	0.08	No
fin.	2	0	-213213	-10146			1399	526	SLV 4	0.05	No
ini.	2	0	145836	-5048			1399	526	SLV 1	0.1	No
fin.	2	0	-225496	-10602			1399	526	SLV 1	0.05	No
ini.	2	0	124252	-6359			1399	526	SLV 3	0.08	No
fin.	2	0	-213213	-10146			1399	526	SLV 3	0.05	No
ini.	2	0	73141	-1615			1399	526	SLD 2	0.33	No
fin.	2	0	-122827	-6329			1399	526	SLD 2	0.08	No
ini.	2	0	-106703	6982			1399	526	SLV 15	0.08	No
fin.	2	0	132371	4297			1399	526	SLV 15	0.12	No
ini.	2	0	145836	-5048			1399	526	SLV 2	0.1	No
fin.	2	0	-225496	-10602			1399	526	SLV 2	0.05	No
ini.	2	0	-106703	6982			1399	526	SLV 16	0.08	No
fin.	2	0	132371	4297			1399	526	SLV 16	0.12	No
ini.	2	0	73141	-1615			1399	526	SLD 1	0.33	No
fin.	2	0	-122827	-6329			1399	526	SLD 1	0.08	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.563	SLV 1	No
V_SLV		0.05	SLV 1	No
PF_SLU		1.478	SLU 84	Si
V_SLU		0.07	SLU 84	No

Trave di accoppiamento 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	173	373	200	-1936.8	-335.9	173	373	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2541	-118713	296292	SLU 83	2.5	Si
fin.	3	765	427075	296292	SLU 83	0.69	No
ini.	3	-3389	-206250	296292	SLU 78	1.44	Si
fin.	3	991	430704	296292	SLU 78	0.69	No
ini.	3	-3825	-256745	296292	SLU 73	1.15	Si
fin.	3	1157	440821	296292	SLU 73	0.67	No
ini.	3	-3331	-202068	296292	SLU 82	1.47	Si
fin.	3	1029	446276	296292	SLU 82	0.66	No
ini.	3	-2486	-115607	296292	SLU 81	2.56	Si
fin.	3	762	427953	296292	SLU 81	0.69	No
ini.	3	-3386	-205174	296292	SLU 84	1.44	Si
fin.	3	1033	445398	296292	SLU 84	0.67	No
ini.	3	-3372	-205315	296292	SLU 80	1.44	Si
fin.	3	986	426851	296292	SLU 80	0.69	No
ini.	3	-3334	-203144	296292	SLU 75	1.46	Si
fin.	3	988	431581	296292	SLU 75	0.69	No
ini.	3	-2489	-116683	296292	SLU 74	2.54	Si
fin.	3	720	413258	296292	SLU 74	0.72	No
ini.	3	-3880	-259850	296292	SLU 76	1.14	Si
fin.	3	1161	439944	296292	SLU 76	0.67	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-115607	1462			2157	812	SLU 81	0.55	No
fin.	3	0	427953	8354			2157	812	SLU 81	0.1	No
ini.	3	0	-116683	1358			2157	812	SLU 74	0.6	No
fin.	3	0	413258	8059			2157	812	SLU 74	0.1	No
ini.	3	0	-259850	1257			2157	812	SLU 76	0.65	No
fin.	3	0	439944	8024			2157	812	SLU 76	0.1	No
ini.	3	0	-205174	1336			2157	812	SLU 84	0.61	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	445398	8339			2157	812	SLU 84	0.1	No
ini.	3	0	-118713	1384			2157	812	SLU 83	0.59	No
fin.	3	0	427075	8309			2157	812	SLU 83	0.1	No
ini.	3	0	-119789	1279			2157	812	SLU 77	0.63	No
fin.	3	0	412381	8014			2157	812	SLU 77	0.1	No
ini.	3	0	-202068	1415			2157	812	SLU 82	0.57	No
fin.	3	0	446276	8384			2157	812	SLU 82	0.1	No
ini.	3	0	-256745	1336			2157	812	SLU 73	0.61	No
fin.	3	0	440821	8069			2157	812	SLU 73	0.1	No
ini.	3	0	-206250	1232			2157	812	SLU 78	0.66	No
fin.	3	0	430704	8044			2157	812	SLU 78	0.1	No
ini.	3	0	-203144	1310			2157	812	SLU 75	0.62	No
fin.	3	0	431581	8089			2157	812	SLU 75	0.1	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	8509	608528	314194	SLV 11	0.52	No
fin.	2	747	185131	314194	SLV 11	1.7	Si
ini.	2	-11525	-760174	314194	SLV 10	0.41	No
fin.	2	-1429	516045	314194	SLV 10	0.61	No
ini.	2	-11525	-760174	314194	SLV 9	0.41	No
fin.	2	-1429	516045	314194	SLV 9	0.61	No
ini.	2	8029	597341	314194	SLV 8	0.53	No
fin.	2	2356	59925	314194	SLV 8	5.24	Si
ini.	2	-12005	-771361	314194	SLV 6	0.41	No
fin.	2	179	390839	314194	SLV 6	0.8	No
ini.	2	-3953	-268078	314194	SLV 14	1.17	Si
fin.	2	-2544	546299	314194	SLV 14	0.58	No
ini.	2	8509	608528	314194	SLV 12	0.52	No
fin.	2	747	185131	314194	SLV 12	1.7	Si
ini.	2	-12005	-771361	314194	SLV 5	0.41	No
fin.	2	179	390839	314194	SLV 5	0.8	No
ini.	2	-3953	-268078	314194	SLV 13	1.17	Si
fin.	2	-2544	546299	314194	SLV 13	0.58	No
ini.	2	8029	597341	314194	SLV 7	0.53	No
fin.	2	2356	59925	314194	SLV 7	5.24	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-760174	2327			3235	1217	SLV 9	0.52	No
fin.	2	0	516045	11423			3235	1217	SLV 9	0.11	No
ini.	2	0	5913	5637			3235	1217	SLD 15	0.22	No
fin.	2	0	357470	9929			3235	1217	SLD 15	0.12	No
ini.	2	0	-154249	5208			3235	1217	SLD 13	0.23	No
fin.	2	0	398051	10534			3235	1217	SLD 13	0.12	No
ini.	2	0	-268078	10819			3235	1217	SLV 13	0.11	No
fin.	2	0	546299	17164			3235	1217	SLV 13	0.07	No
ini.	2	0	142533	11895			3235	1217	SLV 15	0.1	No
fin.	2	0	447025	15633			3235	1217	SLV 15	0.08	No
ini.	2	0	142533	11895			3235	1217	SLV 16	0.1	No
fin.	2	0	447025	15633			3235	1217	SLV 16	0.08	No
ini.	2	0	-154249	5208			3235	1217	SLD 14	0.23	No
fin.	2	0	398051	10534			3235	1217	SLD 14	0.12	No
ini.	2	0	-268078	10819			3235	1217	SLV 14	0.11	No
fin.	2	0	546299	17164			3235	1217	SLV 14	0.07	No
ini.	2	0	5913	5637			3235	1217	SLD 16	0.22	No
fin.	2	0	357470	9929			3235	1217	SLD 16	0.12	No
ini.	2	0	-760174	2327			3235	1217	SLV 10	0.52	No
fin.	2	0	516045	11423			3235	1217	SLV 10	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.407	SLV 5	No
V_SLV	0.071	SLV 13	No
PF_SLU	0.664	SLU 82	No
V_SLU	0.097	SLU 82	No

Trave di accoppiamento 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	453	546	93	-1936.8	-335.9	453	546	93	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _w	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	2046	-28644	109042	SLU 75	3.81	Si
fin.	3	2440	50021	109042	SLU 75	2.18	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	2122	-25359	109042	SLU 65	4.3	Si
fin.	3	2500	52376	109042	SLU 65	2.08	Si
ini.	3	2185	-28378	109042	SLU 82	3.84	Si
fin.	3	2583	52951	109042	SLU 82	2.06	Si
ini.	3	1981	-27977	109042	SLU 55	3.9	Si
fin.	3	2386	50680	109042	SLU 55	2.15	Si
ini.	3	2022	-26032	109042	SLU 61	4.19	Si
fin.	3	2390	49562	109042	SLU 61	2.2	Si
ini.	3	2049	-30272	109042	SLU 84	3.6	Si
fin.	3	2463	50746	109042	SLU 84	2.15	Si
ini.	3	2144	-30323	109042	SLU 76	3.6	Si
fin.	3	2579	54069	109042	SLU 76	2.02	Si
ini.	3	2280	-28428	109042	SLU 73	3.84	Si
fin.	3	2699	56274	109042	SLU 73	1.94	Si
ini.	3	2117	-26082	109042	SLU 52	4.18	Si
fin.	3	2506	52885	109042	SLU 52	2.06	Si
ini.	3	1987	-27254	109042	SLU 68	4	Si
fin.	3	2380	50171	109042	SLU 68	2.17	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-30851	3007			1003	377	SLU 80	0.13	No
fin.	3	0	46871	-491			1003	377	SLU 80	0.77	No
ini.	3	0	-30272	3116			1003	377	SLU 84	0.12	No
fin.	3	0	50746	-525			1003	377	SLU 84	0.72	No
ini.	3	0	-30323	3137			1003	377	SLU 76	0.12	No
fin.	3	0	54069	-273			1003	377	SLU 76	1.38	Si
ini.	3	0	-27977	2898			1003	377	SLU 55	0.13	No
fin.	3	0	50680	-168			1003	377	SLU 55	2.25	Si
ini.	3	0	-28644	3012			1003	377	SLU 75	0.13	No
fin.	3	0	50021	-494			1003	377	SLU 75	0.76	No
ini.	3	0	-30538	3028			1003	377	SLU 78	0.12	No
fin.	3	0	47816	-506			1003	377	SLU 78	0.75	No
ini.	3	0	-26082	2882			1003	377	SLU 52	0.13	No
fin.	3	0	52885	-156			1003	377	SLU 52	2.42	Si
ini.	3	0	-28223	2897			1003	377	SLU 83	0.13	No
fin.	3	0	43255	-835			1003	377	SLU 83	0.45	No
ini.	3	0	-28378	3100			1003	377	SLU 82	0.12	No
fin.	3	0	52951	-513			1003	377	SLU 82	0.74	No
ini.	3	0	-28428	3121			1003	377	SLU 73	0.12	No
fin.	3	0	56274	-260			1003	377	SLU 73	1.45	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4499	-23217	126944	SLV 3	5.47	Si
fin.	2	-4939	-106345	126944	SLV 3	1.19	Si
ini.	2	5529	33169	126944	SLV 9	3.83	Si
fin.	2	5976	132382	126944	SLV 9	0.96	No
ini.	2	7157	-11266	126944	SLV 13	11.27	Si
fin.	2	8041	168453	126944	SLV 13	0.75	No
ini.	2	3793	-15183	126944	SLD 14	8.36	Si
fin.	2	4297	89050	126944	SLD 14	1.43	Si
ini.	2	5540	-43322	126944	SLV 15	2.93	Si
fin.	2	6407	128821	126944	SLV 15	0.99	No
ini.	2	3793	-15183	126944	SLD 13	8.36	Si
fin.	2	4297	89050	126944	SLD 13	1.43	Si
ini.	2	5540	-43322	126944	SLV 16	2.93	Si
fin.	2	6407	128821	126944	SLV 16	0.99	No
ini.	2	-4499	-23217	126944	SLV 4	5.47	Si
fin.	2	-4939	-106345	126944	SLV 4	1.19	Si
ini.	2	7157	-11266	126944	SLV 14	11.27	Si
fin.	2	8041	168453	126944	SLV 14	0.75	No
ini.	2	5529	33169	126944	SLV 10	3.83	Si
fin.	2	5976	132382	126944	SLV 10	0.96	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	33169	3657			1504	566	SLV 10	0.15	No
fin.	2	0	132382	-1410			1504	566	SLV 10	0.4	No
ini.	2	0	-43322	5335			1504	566	SLV 15	0.11	No
fin.	2	0	128821	3572			1504	566	SLV 15	0.16	No
ini.	2	0	-11266	5724			1504	566	SLV 14	0.1	No
fin.	2	0	168453	2406			1504	566	SLV 14	0.24	No
ini.	2	0	33169	3657			1504	566	SLV 9	0.15	No
fin.	2	0	132382	-1410			1504	566	SLV 9	0.4	No
ini.	2	0	-11266	5724			1504	566	SLV 13	0.1	No
fin.	2	0	168453	2406			1504	566	SLV 13	0.24	No
ini.	2	0	8839	-1480			1504	566	SLV 1	0.38	No
fin.	2	0	-66713	-4615			1504	566	SLV 1	0.12	No
ini.	2	0	8839	-1480			1504	566	SLV 2	0.38	No
fin.	2	0	-66713	-4615			1504	566	SLV 2	0.12	No
ini.	2	0	-43322	5335			1504	566	SLV 16	0.11	No
fin.	2	0	128821	3572			1504	566	SLV 16	0.16	No
ini.	2	0	-15183	3529			1504	566	SLD 13	0.16	No
fin.	2	0	89050	744			1504	566	SLD 13	0.76	No
ini.	2	0	-15183	3529			1504	566	SLD 14	0.16	No
fin.	2	0	89050	744			1504	566	SLD 14	0.76	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.754	SLV 13	No
V_SLV	0.099	SLV 13	No
PF_SLU	1.938	SLU 73	Si
V_SLU	0.12	SLU 76	No

Trave di accoppiamento 43

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1731.3	-335.9	173	263	90	-1831.3	-335.9	173	263	90	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3140	-146584	103792	SLU 82	0.71	No
fin.	3	-4300	-71490	103792	SLU 82	1.45	Si
ini.	3	-3254	-131167	103792	SLU 78	0.79	No
fin.	3	-4313	-79780	103792	SLU 78	1.3	Si
ini.	3	-3107	-135607	103792	SLU 65	0.77	No
fin.	3	-4656	-80432	103792	SLU 65	1.29	Si
ini.	3	-2707	-136958	103792	SLU 81	0.76	No
fin.	3	-3257	-48733	103792	SLU 81	2.13	Si
ini.	3	-2960	-136063	103792	SLU 61	0.76	No
fin.	3	-4090	-66190	103792	SLU 61	1.57	Si
ini.	3	-3332	-147783	103792	SLU 73	0.7	No
fin.	3	-4894	-84793	103792	SLU 73	1.22	Si
ini.	3	-3438	-141191	103792	SLU 76	0.74	No
fin.	3	-4940	-90253	103792	SLU 76	1.15	Si
ini.	3	-3152	-137262	103792	SLU 52	0.76	No
fin.	3	-4683	-79493	103792	SLU 52	1.31	Si
ini.	3	-3148	-137759	103792	SLU 75	0.75	No
fin.	3	-4267	-74320	103792	SLU 75	1.4	Si
ini.	3	-3246	-139992	103792	SLU 84	0.74	No
fin.	3	-4346	-76950	103792	SLU 84	1.35	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-137759	312			873	329	SLU 75	1.05	Si
fin.	3	0	-74320	3994			873	329	SLU 75	0.08	No
ini.	3	0	-137262	475			873	329	SLU 52	0.69	No
fin.	3	0	-79493	3951			873	329	SLU 52	0.08	No
ini.	3	0	-147783	473			873	329	SLU 73	0.69	No
fin.	3	0	-84793	4238			873	329	SLU 73	0.08	No
ini.	3	0	-136063	433			873	329	SLU 61	0.76	No
fin.	3	0	-66190	3901			873	329	SLU 61	0.08	No
ini.	3	0	-146584	432			873	329	SLU 82	0.76	No
fin.	3	0	-71490	4188			873	329	SLU 82	0.08	No
ini.	3	0	-131167	156			873	329	SLU 78	2.11	Si
fin.	3	0	-79780	3873			873	329	SLU 78	0.08	No
ini.	3	0	-141191	317			873	329	SLU 76	1.04	Si
fin.	3	0	-90253	4117			873	329	SLU 76	0.08	No
ini.	3	0	-139992	275			873	329	SLU 84	1.2	Si
fin.	3	0	-76950	4066			873	329	SLU 84	0.08	No
ini.	3	0	-135607	469			873	329	SLU 65	0.7	No
fin.	3	0	-80432	3902			873	329	SLU 65	0.08	No
ini.	3	0	-136958	367			873	329	SLU 81	0.9	No
fin.	3	0	-48733	3896			873	329	SLU 81	0.08	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1141	-395250	121694	SLV 14	0.31	No
fin.	2	-5770	123365	121694	SLV 14	0.99	No
ini.	2	-7694	-311382	121694	SLV 9	0.39	No
fin.	2	-13353	-49338	121694	SLV 9	2.47	Si
ini.	2	-1526	-221988	121694	SLD 14	0.55	No
fin.	2	-3670	34840	121694	SLD 14	3.49	Si
ini.	2	-7694	-311382	121694	SLV 10	0.39	No
fin.	2	-13353	-49338	121694	SLV 10	2.47	Si
ini.	2	2848	-311112	121694	SLV 16	0.39	No
fin.	2	847	165170	121694	SLV 16	0.74	No
ini.	2	-1526	-221988	121694	SLD 13	0.55	No
fin.	2	-3670	34840	121694	SLD 13	3.49	Si
ini.	2	-6567	124833	121694	SLV 2	0.97	No
fin.	2	-5378	-230722	121694	SLV 2	0.53	No
ini.	2	-1141	-395250	121694	SLV 13	0.31	No
fin.	2	-5770	123365	121694	SLV 13	0.99	No
ini.	2	-6567	124833	121694	SLV 1	0.97	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-5378	-230722	121694	SLV 1	0.53	No
ini.	2	2848	-311112	121694	SLV 15	0.39	No
fin.	2	847	165170	121694	SLV 15	0.74	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-311112	5021			1310	493	SLV 16	0.1	No
fin.	2	0	165170	7613			1310	493	SLV 16	0.06	No
ini.	2	0	-311382	6254			1310	493	SLV 10	0.08	No
fin.	2	0	-49338	7424			1310	493	SLV 10	0.07	No
ini.	2	0	125103	-5696			1310	493	SLV 7	0.09	No
fin.	2	0	-16214	-2102			1310	493	SLV 7	0.23	No
ini.	2	0	-395250	7527			1310	493	SLV 13	0.07	No
fin.	2	0	123365	9417			1310	493	SLV 13	0.05	No
ini.	2	0	208971	-6969			1310	493	SLV 3	0.07	No
fin.	2	0	-188917	-4096			1310	493	SLV 3	0.12	No
ini.	2	0	-395250	7527			1310	493	SLV 14	0.07	No
fin.	2	0	123365	9417			1310	493	SLV 14	0.05	No
ini.	2	0	125103	-5696			1310	493	SLV 8	0.09	No
fin.	2	0	-16214	-2102			1310	493	SLV 8	0.23	No
ini.	2	0	-311382	6254			1310	493	SLV 9	0.08	No
fin.	2	0	-49338	7424			1310	493	SLV 9	0.07	No
ini.	2	0	208971	-6969			1310	493	SLV 4	0.07	No
fin.	2	0	-188917	-4096			1310	493	SLV 4	0.12	No
ini.	2	0	-311112	5021			1310	493	SLV 15	0.1	No
fin.	2	0	165170	7613			1310	493	SLV 15	0.06	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.308	SLV 13	No
V_SLV	0.052	SLV 13	No
PF_SLU	0.702	SLU 73	No
V_SLU	0.078	SLU 73	No

Trave di accoppiamento 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1731.3	-335.9	453	546	93	-1831.3	-335.9	453	546	93	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	312	-30105	109042	SLU 56	3.62	Si
fin.	3	1373	6107	109042	SLU 56	17.85	Si
ini.	3	407	-31172	109042	SLU 77	3.5	Si
fin.	3	1532	6345	109042	SLU 77	17.19	Si
ini.	3	286	-32607	109042	SLU 60	3.34	Si
fin.	3	1688	13630	109042	SLU 60	8	Si
ini.	3	393	-30798	109042	SLU 79	3.54	Si
fin.	3	1462	5129	109042	SLU 79	21.26	Si
ini.	3	500	-30478	109042	SLU 82	3.58	Si
fin.	3	2107	17778	109042	SLU 82	6.13	Si
ini.	3	397	-32850	109042	SLU 83	3.32	Si
fin.	3	1685	9520	109042	SLU 83	11.45	Si
ini.	3	302	-31783	109042	SLU 62	3.43	Si
fin.	3	1526	9282	109042	SLU 62	11.75	Si
ini.	3	296	-30929	109042	SLU 53	3.53	Si
fin.	3	1536	10455	109042	SLU 53	10.43	Si
ini.	3	390	-31996	109042	SLU 74	3.41	Si
fin.	3	1695	10692	109042	SLU 74	10.2	Si
ini.	3	381	-33674	109042	SLU 81	3.24	Si
fin.	3	1847	13867	109042	SLU 81	7.86	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-26296	4304			933	351	SLU 76	0.08	No
fin.	3	0	15996	-2139			933	351	SLU 76	0.16	No
ini.	3	0	-32850	4402			933	351	SLU 83	0.08	No
fin.	3	0	9520	-2431			933	351	SLU 83	0.14	No
ini.	3	0	-33674	4488			933	351	SLU 81	0.08	No
fin.	3	0	13867	-2260			933	351	SLU 81	0.16	No
ini.	3	0	-28800	4330			933	351	SLU 75	0.08	No
fin.	3	0	14603	-2185			933	351	SLU 75	0.16	No
ini.	3	0	-31996	4280			933	351	SLU 74	0.08	No
fin.	3	0	10692	-2286			933	351	SLU 74	0.15	No
ini.	3	0	-27976	4244			933	351	SLU 78	0.08	No
fin.	3	0	10256	-2356			933	351	SLU 78	0.15	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-30478	4538			933	351	SLU 82	0.08	No
fin.	3	0	17778	-2159			933	351	SLU 82	0.16	No
ini.	3	0	-27120	4390			933	351	SLU 73	0.08	No
fin.	3	0	20343	-1967			933	351	SLU 73	0.18	No
ini.	3	0	-29411	4212			933	351	SLU 61	0.08	No
fin.	3	0	17541	-1906			933	351	SLU 61	0.18	No
ini.	3	0	-29654	4452			933	351	SLU 84	0.08	No
fin.	3	0	13431	-2330			933	351	SLU 84	0.15	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-538	-32895	126944	SLV 15	3.86	Si
fin.	2	5416	135678	126944	SLV 15	0.94	No
ini.	2	1250	65192	126944	SLV 4	1.95	Si
fin.	2	-4365	-151715	126944	SLV 4	0.84	No
ini.	2	-780	-111869	126944	SLV 14	1.13	Si
fin.	2	6908	172784	126944	SLV 14	0.73	No
ini.	2	-780	-111869	126944	SLV 13	1.13	Si
fin.	2	6908	172784	126944	SLV 13	0.73	No
ini.	2	-438	-169676	126944	SLV 10	0.75	No
fin.	2	5226	115486	126944	SLV 10	1.1	Si
ini.	2	1250	65192	126944	SLV 3	1.95	Si
fin.	2	-4365	-151715	126944	SLV 3	0.84	No
ini.	2	99	-140250	126944	SLV 6	0.91	No
fin.	2	2291	29268	126944	SLV 6	4.34	Si
ini.	2	99	-140250	126944	SLV 5	0.91	No
fin.	2	2291	29268	126944	SLV 5	4.34	Si
ini.	2	-438	-169676	126944	SLV 9	0.75	No
fin.	2	5226	115486	126944	SLV 9	1.1	Si
ini.	2	-538	-32895	126944	SLV 16	3.86	Si
fin.	2	5416	135678	126944	SLV 16	0.94	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-169676	7981			1399	526	SLV 10	0.07	No
fin.	2	0	115486	2517			1399	526	SLV 10	0.21	No
ini.	2	0	-140250	5752			1399	526	SLV 5	0.09	No
fin.	2	0	29268	-436			1399	526	SLV 5	1.21	Si
ini.	2	0	-13783	472			1399	526	SLV 2	1.12	Si
fin.	2	0	-114609	-5623			1399	526	SLV 2	0.09	No
ini.	2	0	65192	-1826			1399	526	SLV 3	0.29	No
fin.	2	0	-151715	-7116			1399	526	SLV 3	0.07	No
ini.	2	0	-111869	7900			1399	526	SLV 13	0.07	No
fin.	2	0	172784	4221			1399	526	SLV 13	0.12	No
ini.	2	0	-140250	5752			1399	526	SLV 6	0.09	No
fin.	2	0	29268	-436			1399	526	SLV 6	1.21	Si
ini.	2	0	-111869	7900			1399	526	SLV 14	0.07	No
fin.	2	0	172784	4221			1399	526	SLV 14	0.12	No
ini.	2	0	-169676	7981			1399	526	SLV 9	0.07	No
fin.	2	0	115486	2517			1399	526	SLV 9	0.21	No
ini.	2	0	-13783	472			1399	526	SLV 1	1.12	Si
fin.	2	0	-114609	-5623			1399	526	SLV 1	0.09	No
ini.	2	0	65192	-1826			1399	526	SLV 4	0.29	No
fin.	2	0	-151715	-7116			1399	526	SLV 4	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.735	SLV 13	No
V_SLV	0.066	SLV 9	No
PF_SLU	3.238	SLU 81	Si
V_SLU	0.077	SLU 82	No

Trave di accoppiamento 45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1705.3	-486.2	499	546	47	-1705.3	-377.2	499	546	47	109	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-580	1334	33622	SLU 23	25.2	Si
fin.	3	795	-16465	33622	SLU 23	2.04	Si
ini.	3	-573	1218	33622	SLU 2	27.61	Si
fin.	3	834	-18332	33622	SLU 2	1.83	Si
ini.	3	-585	1271	33622	SLU 13	26.45	Si
fin.	3	821	-17187	33622	SLU 13	1.96	Si
ini.	3	-718	1898	33622	SLU 44	17.71	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	891	-18415	33622	SLU 44	1.83	Si
ini.	3	-725	2015	33622	SLU 65	16.69	Si
fin.	3	852	-16548	33622	SLU 65	2.03	Si
ini.	3	-579	1141	33622	SLU 26	29.47	Si
fin.	3	866	-18909	33622	SLU 26	1.78	Si
ini.	3	-724	1821	33622	SLU 68	18.46	Si
fin.	3	923	-18992	33622	SLU 68	1.77	Si
ini.	3	-717	1705	33622	SLU 47	19.72	Si
fin.	3	962	-20859	33622	SLU 47	1.61	Si
ini.	3	-572	1024	33622	SLU 5	32.83	Si
fin.	3	905	-20776	33622	SLU 5	1.62	Si
ini.	3	-730	1952	33622	SLU 55	17.23	Si
fin.	3	878	-17270	33622	SLU 55	1.95	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	2262	-387			362	136	SLU 73	0.35	No
fin.	3	0	-12959	1312			362	136	SLU 73	0.1	No
ini.	3	0	2841	-262			362	136	SLU 82	0.52	No
fin.	3	0	-3345	1331			362	136	SLU 82	0.1	No
ini.	3	0	3358	-116			362	136	SLU 83	1.17	Si
fin.	3	0	6324	1237			362	136	SLU 83	0.11	No
ini.	3	0	2725	-277			362	136	SLU 61	0.49	No
fin.	3	0	-5212	1205			362	136	SLU 61	0.11	No
ini.	3	0	2068	-409			362	136	SLU 76	0.33	No
fin.	3	0	-15403	1297			362	136	SLU 76	0.11	No
ini.	3	0	3552	-94			362	136	SLU 81	1.45	Si
fin.	3	0	8767	1252			362	136	SLU 81	0.11	No
ini.	3	0	2603	-290			362	136	SLU 75	0.47	No
fin.	3	0	-6490	1266			362	136	SLU 75	0.11	No
ini.	3	0	2648	-284			362	136	SLU 84	0.48	No
fin.	3	0	-5789	1316			362	136	SLU 84	0.1	No
ini.	3	0	2409	-312			362	136	SLU 78	0.44	No
fin.	3	0	-8934	1251			362	136	SLU 78	0.11	No
ini.	3	0	2348	-319			362	136	SLU 80	0.43	No
fin.	3	0	-9771	1229			362	136	SLU 80	0.11	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	441	-16977	48831	SLV 5	2.88	Si
fin.	2	-5469	181578	48831	SLV 5	0.27	No
ini.	2	507	-6297	48831	SLV 9	7.76	Si
fin.	2	-6190	204360	48831	SLV 9	0.24	No
ini.	2	-1432	21988	48831	SLV 11	2.22	Si
fin.	2	5689	-174748	48831	SLV 11	0.28	No
ini.	2	-95	16064	48831	SLV 14	3.04	Si
fin.	2	-2873	98251	48831	SLV 14	0.5	No
ini.	2	-1432	21988	48831	SLV 12	2.22	Si
fin.	2	5689	-174748	48831	SLV 12	0.28	No
ini.	2	-95	16064	48831	SLV 13	3.04	Si
fin.	2	-2873	98251	48831	SLV 13	0.5	No
ini.	2	441	-16977	48831	SLV 6	2.88	Si
fin.	2	-5469	181578	48831	SLV 6	0.27	No
ini.	2	-1498	11307	48831	SLV 8	4.32	Si
fin.	2	6410	-197529	48831	SLV 8	0.25	No
ini.	2	507	-6297	48831	SLV 10	7.76	Si
fin.	2	-6190	204360	48831	SLV 10	0.24	No
ini.	2	-1498	11307	48831	SLV 7	4.32	Si
fin.	2	6410	-197529	48831	SLV 7	0.25	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-6297	2532			543	204	SLV 9	0.08	No
fin.	2	0	204360	809			543	204	SLV 9	0.25	No
ini.	2	0	21988	-2520			543	204	SLV 11	0.08	No
fin.	2	0	-174748	957			543	204	SLV 11	0.21	No
ini.	2	0	11307	-2731			543	204	SLV 7	0.07	No
fin.	2	0	-197529	793			543	204	SLV 7	0.26	No
ini.	2	0	-11053	-1210			543	204	SLV 4	0.17	No
fin.	2	0	-91420	550			543	204	SLV 4	0.37	No
ini.	2	0	-6297	2532			543	204	SLV 10	0.08	No
fin.	2	0	204360	809			543	204	SLV 10	0.25	No
ini.	2	0	11307	-2731			543	204	SLV 8	0.07	No
fin.	2	0	-197529	793			543	204	SLV 8	0.26	No
ini.	2	0	21988	-2520			543	204	SLV 12	0.08	No
fin.	2	0	-174748	957			543	204	SLV 12	0.21	No
ini.	2	0	-16977	2320			543	204	SLV 6	0.09	No
fin.	2	0	181578	645			543	204	SLV 6	0.32	No
ini.	2	0	-11053	-1210			543	204	SLV 3	0.17	No
fin.	2	0	-91420	550			543	204	SLV 3	0.37	No
ini.	2	0	-16977	2320			543	204	SLV 5	0.09	No
fin.	2	0	181578	645			543	204	SLV 5	0.32	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.239	SLV 9	No
V_SLV	0.075	SLV 7	No



Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	1.612	SLU 47	Si
V SLU	0.102	SLU 82	No

Trave di accoppiamento 46

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1548.3	-335.9	383	546	163	-1638.3	-335.9	383	546	163	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2156	-82426	231542	SLU 82	2.81	Si
fin.	3	-2099	-229887	231542	SLU 82	1.01	Si
ini.	3	-2194	-46181	231542	SLU 80	5.01	Si
fin.	3	-2184	-243056	231542	SLU 80	0.95	No
ini.	3	-2152	-29415	231542	SLU 77	7.87	Si
fin.	3	-2169	-237949	231542	SLU 77	0.97	No
ini.	3	-2125	-68764	231542	SLU 75	3.37	Si
fin.	3	-2080	-231769	231542	SLU 75	1	No
ini.	3	-2158	-78019	231542	SLU 76	2.97	Si
fin.	3	-2097	-235261	231542	SLU 76	0.98	No
ini.	3	-2167	-23649	231542	SLU 79	9.79	Si
fin.	3	-2191	-238212	231542	SLU 79	0.97	No
ini.	3	-2128	-37073	231542	SLU 59	6.25	Si
fin.	3	-2109	-228067	231542	SLU 59	1.02	Si
ini.	3	-2179	-51948	231542	SLU 78	4.46	Si
fin.	3	-2162	-242792	231542	SLU 78	0.95	No
ini.	3	-2210	-65609	231542	SLU 84	3.53	Si
fin.	3	-2181	-240910	231542	SLU 84	0.96	No
ini.	3	-2183	-43077	231542	SLU 83	5.38	Si
fin.	3	-2188	-236067	231542	SLU 83	0.98	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-46232	-873			1758	661	SLU 74	0.76	No
fin.	3	0	-226926	-6632			1758	661	SLU 74	0.1	No
ini.	3	0	-23649	-1288			1758	661	SLU 79	0.51	No
fin.	3	0	-238212	-6939			1758	661	SLU 79	0.1	No
ini.	3	0	-65609	-729			1758	661	SLU 84	0.91	No
fin.	3	0	-240910	-6836			1758	661	SLU 84	0.1	No
ini.	3	0	-43077	-963			1758	661	SLU 83	0.69	No
fin.	3	0	-236067	-6967			1758	661	SLU 83	0.09	No
ini.	3	0	-46181	-1054			1758	661	SLU 80	0.63	No
fin.	3	0	-243056	-6808			1758	661	SLU 80	0.1	No
ini.	3	0	-68764	-639			1758	661	SLU 75	1.03	Si
fin.	3	0	-231769	-6501			1758	661	SLU 75	0.1	No
ini.	3	0	-29415	-1211			1758	661	SLU 77	0.55	No
fin.	3	0	-237949	-6921			1758	661	SLU 77	0.1	No
ini.	3	0	-51948	-977			1758	661	SLU 78	0.68	No
fin.	3	0	-242792	-6790			1758	661	SLU 78	0.1	No
ini.	3	0	-82426	-391			1758	661	SLU 82	1.69	Si
fin.	3	0	-229887	-6547			1758	661	SLU 82	0.1	No
ini.	3	0	-59893	-625			1758	661	SLU 81	1.06	Si
fin.	3	0	-225044	-6677			1758	661	SLU 81	0.1	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1658	623808	249444	SLV 3	0.4	No
fin.	2	-2907	-423614	249444	SLV 3	0.59	No
ini.	2	-1320	-702037	249444	SLV 13	0.36	No
fin.	2	2	117671	249444	SLV 13	2.12	Si
ini.	2	-3436	568227	249444	SLV 1	0.44	No
fin.	2	-4674	-538574	249444	SLV 1	0.46	No
ini.	2	-4770	58790	249444	SLV 5	4.24	Si
fin.	2	-5099	-443009	249444	SLV 5	0.56	No
ini.	2	458	-646456	249444	SLV 15	0.39	No
fin.	2	1769	232632	249444	SLV 15	1.07	Si
ini.	2	-1658	623808	249444	SLV 4	0.4	No
fin.	2	-2907	-423614	249444	SLV 4	0.59	No
ini.	2	-1320	-702037	249444	SLV 14	0.36	No
fin.	2	2	117671	249444	SLV 14	2.12	Si
ini.	2	458	-646456	249444	SLV 16	0.39	No
fin.	2	1769	232632	249444	SLV 16	1.07	Si
ini.	2	-4770	58790	249444	SLV 6	4.24	Si
fin.	2	-5099	-443009	249444	SLV 6	0.56	No
ini.	2	-3436	568227	249444	SLV 2	0.44	No
fin.	2	-4674	-538574	249444	SLV 2	0.46	No



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	568227	-14004			2637	992	SLV 1	0.07	No
fin.	2	0	-538574	-14437			2637	992	SLV 1	0.07	No
ini.	2	0	623808	-10904			2637	992	SLV 4	0.09	No
fin.	2	0	-423614	-12525			2637	992	SLV 4	0.08	No
ini.	2	0	58790	-9231			2637	992	SLV 6	0.11	No
fin.	2	0	-443009	-10319			2637	992	SLV 6	0.1	No
ini.	2	0	-646456	13070			2637	992	SLV 16	0.08	No
fin.	2	0	232632	5613			2637	992	SLV 16	0.18	No
ini.	2	0	568227	-14004			2637	992	SLV 2	0.07	No
fin.	2	0	-538574	-14437			2637	992	SLV 2	0.07	No
ini.	2	0	-646456	13070			2637	992	SLV 15	0.08	No
fin.	2	0	232632	5613			2637	992	SLV 15	0.18	No
ini.	2	0	-702037	9969			2637	992	SLV 13	0.1	No
fin.	2	0	117671	3701			2637	992	SLV 13	0.27	No
ini.	2	0	-702037	9969			2637	992	SLV 14	0.1	No
fin.	2	0	117671	3701			2637	992	SLV 14	0.27	No
ini.	2	0	58790	-9231			2637	992	SLV 5	0.11	No
fin.	2	0	-443009	-10319			2637	992	SLV 5	0.1	No
ini.	2	0	623808	-10904			2637	992	SLV 3	0.09	No
fin.	2	0	-423614	-12525			2637	992	SLV 3	0.08	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.355	SLV 13	No
V_SLV		0.069	SLV 1	No
PF_SLU		0.953	SLU 80	No
V_SLU		0.095	SLU 83	No

Trave di accoppiamento 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1443.8	-485.9	499	546	47	-1627.8	-485.9	499	546	47	184	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	411	-5379	33622	SLU 47	6.25	Si
fin.	3	-76	8001	33622	SLU 47	4.2	Si
ini.	3	349	-4994	33622	SLU 2	6.73	Si
fin.	3	-79	7239	33622	SLU 2	4.64	Si
ini.	3	372	-3648	33622	SLU 52	9.22	Si
fin.	3	-38	6855	33622	SLU 52	4.9	Si
ini.	3	388	-4617	33622	SLU 64	7.28	Si
fin.	3	-51	6971	33622	SLU 64	4.82	Si
ini.	3	411	-5435	33622	SLU 46	6.19	Si
fin.	3	-74	7845	33622	SLU 46	4.29	Si
ini.	3	466	-7057	33622	SLU 44	4.76	Si
fin.	3	-113	9663	33622	SLU 44	3.48	Si
ini.	3	356	-3362	33622	SLU 68	10	Si
fin.	3	-33	6352	33622	SLU 68	5.29	Si
ini.	3	443	-6634	33622	SLU 43	5.07	Si
fin.	3	-95	8621	33622	SLU 43	3.9	Si
ini.	3	411	-5040	33622	SLU 65	6.67	Si
fin.	3	-69	8013	33622	SLU 65	4.2	Si
ini.	3	397	-5181	33622	SLU 45	6.49	Si
fin.	3	-63	7220	33622	SLU 45	4.66	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	1923	-984			362	136	SLU 77	0.14	No
fin.	3	0	1100	626			362	136	SLU 77	0.22	No
ini.	3	0	2149	-984			362	136	SLU 79	0.14	No
fin.	3	0	840	621			362	136	SLU 79	0.22	No
ini.	3	0	1678	-990			362	136	SLU 84	0.14	No
fin.	3	0	1923	664			362	136	SLU 84	0.21	No
ini.	3	0	1669	-973			362	136	SLU 78	0.14	No
fin.	3	0	1725	645			362	136	SLU 78	0.21	No
ini.	3	0	1932	-1001			362	136	SLU 83	0.14	No
fin.	3	0	1298	645			362	136	SLU 83	0.21	No
ini.	3	0	-9	-941			362	136	SLU 75	0.14	No
fin.	3	0	3387	659			362	136	SLU 75	0.21	No
ini.	3	0	245	-953			362	136	SLU 74	0.14	No
fin.	3	0	2762	639			362	136	SLU 74	0.21	No
ini.	3	0	1895	-973			362	136	SLU 80	0.14	No
fin.	3	0	1465	641			362	136	SLU 80	0.21	No
ini.	3	0	0	-959			362	136	SLU 82	0.14	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	3585	678			362	136	SLU 82	0.2	No
ini.	3	0	254	-970			362	136	SLU 81	0.14	No
fin.	3	0	2960	658			362	136	SLU 81	0.21	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	5516	-127299	48831	SLV 15	0.38	No
fin.	2	-3128	138706	48831	SLV 15	0.35	No
ini.	2	2924	-70839	48831	SLV 12	0.69	No
fin.	2	-1717	76339	48831	SLV 12	0.64	No
ini.	2	5516	-127299	48831	SLV 16	0.38	No
fin.	2	-3128	138706	48831	SLV 16	0.35	No
ini.	2	4810	-107166	48831	SLV 14	0.46	No
fin.	2	-2628	118081	48831	SLV 14	0.41	No
ini.	2	-4949	121257	48831	SLV 2	0.4	No
fin.	2	3073	-128860	48831	SLV 2	0.38	No
ini.	2	4810	-107166	48831	SLV 13	0.46	No
fin.	2	-2628	118081	48831	SLV 13	0.41	No
ini.	2	-4949	121257	48831	SLV 1	0.4	No
fin.	2	3073	-128860	48831	SLV 1	0.38	No
ini.	2	-4243	101124	48831	SLV 4	0.48	No
fin.	2	2573	-108235	48831	SLV 4	0.45	No
ini.	2	2924	-70839	48831	SLV 11	0.69	No
fin.	2	-1717	76339	48831	SLV 11	0.64	No
ini.	2	-4243	101124	48831	SLV 3	0.48	No
fin.	2	2573	-108235	48831	SLV 3	0.45	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	25778	-975			543	204	SLD 6	0.21	No
fin.	2	0	-25420	669			543	204	SLD 6	0.31	No
ini.	2	0	64798	-1441			543	204	SLV 6	0.14	No
fin.	2	0	-66494	925			543	204	SLV 6	0.22	No
ini.	2	0	49908	-893			543	204	SLD 1	0.23	No
fin.	2	0	-52079	562			543	204	SLD 1	0.36	No
ini.	2	0	121257	-1238			543	204	SLV 2	0.17	No
fin.	2	0	-128860	668			543	204	SLV 2	0.31	No
ini.	2	0	-3729	-1204			543	204	SLV 10	0.17	No
fin.	2	0	7589	891			543	204	SLV 10	0.23	No
ini.	2	0	-3729	-1204			543	204	SLV 9	0.17	No
fin.	2	0	7589	891			543	204	SLV 9	0.23	No
ini.	2	0	64798	-1441			543	204	SLV 5	0.14	No
fin.	2	0	-66494	925			543	204	SLV 5	0.22	No
ini.	2	0	121257	-1238			543	204	SLV 1	0.17	No
fin.	2	0	-128860	668			543	204	SLV 1	0.31	No
ini.	2	0	49908	-893			543	204	SLD 2	0.23	No
fin.	2	0	-52079	562			543	204	SLD 2	0.36	No
ini.	2	0	25778	-975			543	204	SLD 5	0.21	No
fin.	2	0	-25420	669			543	204	SLD 5	0.31	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.352	SLV 15	No
V_SLV		0.142	SLV 5	No
PF_SLU		3.479	SLU 44	Si
V_SLU		0.136	SLU 83	No

Trave di accoppiamento 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1375.3	-22.8	383	546	163	-1375.3	67.2	383	546	163	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9		0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	119	-186498	231542	SLU 71	1.24	Si
fin.	3	119	48758	231542	SLU 71	4.75	Si
ini.	3	120	-171780	231542	SLU 72	1.35	Si
fin.	3	120	47954	231542	SLU 72	4.83	Si
ini.	3	118	-162924	231542	SLU 35	1.42	Si
fin.	3	118	45650	231542	SLU 35	5.07	Si
ini.	3	118	-164326	231542	SLU 37	1.41	Si
fin.	3	118	45223	231542	SLU 37	5.12	Si
ini.	3	157	-174980	231542	SLU 79	1.32	Si
fin.	3	157	52376	231542	SLU 79	4.42	Si
ini.	3	119	-185096	231542	SLU 69	1.25	Si
fin.	3	119	49184	231542	SLU 69	4.71	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	120	-170379	231542	SLU 70	1.36	Si
fin.	3	120	48381	231542	SLU 70	4.79	Si
ini.	3	79	-175844	231542	SLU 29	1.32	Si
fin.	3	79	41605	231542	SLU 29	5.57	Si
ini.	3	80	-174442	231542	SLU 27	1.33	Si
fin.	3	80	42032	231542	SLU 27	5.51	Si
ini.	3	158	-173578	231542	SLU 77	1.33	Si
fin.	3	158	52803	231542	SLU 77	4.39	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt_lim	Comb.	c.s.	Verifica
ini.	3	0	-171780	2935			1758	661	SLU 72	0.23	No
fin.	3	0	47954	1914			1758	661	SLU 72	0.35	No
ini.	3	0	-173578	3009			1758	661	SLU 77	0.22	No
fin.	3	0	52803	1987			1758	661	SLU 77	0.33	No
ini.	3	0	-174980	3020			1758	661	SLU 79	0.22	No
fin.	3	0	52376	1998			1758	661	SLU 79	0.33	No
ini.	3	0	-175844	2801			1758	661	SLU 29	0.24	No
fin.	3	0	41605	2006			1758	661	SLU 29	0.33	No
ini.	3	0	-186498	3108			1758	661	SLU 71	0.21	No
fin.	3	0	48758	2086			1758	661	SLU 71	0.32	No
ini.	3	0	-160262	2847			1758	661	SLU 80	0.23	No
fin.	3	0	51573	1826			1758	661	SLU 80	0.36	No
ini.	3	0	-170379	2924			1758	661	SLU 70	0.23	No
fin.	3	0	48381	1903			1758	661	SLU 70	0.35	No
ini.	3	0	-158861	2837			1758	661	SLU 78	0.23	No
fin.	3	0	51999	1815			1758	661	SLU 78	0.36	No
ini.	3	0	-185096	3097			1758	661	SLU 69	0.21	No
fin.	3	0	49184	2075			1758	661	SLU 69	0.32	No
ini.	3	0	-174442	2790			1758	661	SLU 27	0.24	No
fin.	3	0	42032	1995			1758	661	SLU 27	0.33	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-722	-630542	249444	SLV 2	0.4	No
fin.	2	-2050	71125	249444	SLV 2	3.51	Si
ini.	2	-1083	-769503	249444	SLV 9	0.32	No
fin.	2	-533	117316	249444	SLV 9	2.13	Si
ini.	2	1346	602699	249444	SLV 8	0.41	No
fin.	2	796	-50761	249444	SLV 8	4.91	Si
ini.	2	1615	790576	249444	SLV 12	0.32	No
fin.	2	1887	-57717	249444	SLV 12	4.32	Si
ini.	2	1615	790576	249444	SLV 11	0.32	No
fin.	2	1887	-57717	249444	SLV 11	4.32	Si
ini.	2	-1352	-957380	249444	SLV 5	0.26	No
fin.	2	-1624	124271	249444	SLV 5	2.01	Si
ini.	2	-1083	-769503	249444	SLV 10	0.32	No
fin.	2	-533	117316	249444	SLV 10	2.13	Si
ini.	2	-1352	-957380	249444	SLV 6	0.26	No
fin.	2	-1624	124271	249444	SLV 6	2.01	Si
ini.	2	-722	-630542	249444	SLV 1	0.4	No
fin.	2	-2050	71125	249444	SLV 1	3.51	Si
ini.	2	1346	602699	249444	SLV 7	0.41	No
fin.	2	796	-50761	249444	SLV 7	4.91	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt_lim	Comb.	c.s.	Verifica
ini.	2	0	-630542	8269			2637	992	SLV 1	0.12	No
fin.	2	0	71125	7305			2637	992	SLV 1	0.14	No
ini.	2	0	790576	-9070			2637	992	SLV 11	0.11	No
fin.	2	0	-57717	-9717			2637	992	SLV 11	0.1	No
ini.	2	0	-769503	10195			2637	992	SLV 9	0.1	No
fin.	2	0	117316	9372			2637	992	SLV 9	0.11	No
ini.	2	0	-769503	10195			2637	992	SLV 10	0.1	No
fin.	2	0	117316	9372			2637	992	SLV 10	0.11	No
ini.	2	0	602699	-6847			2637	992	SLV 8	0.14	No
fin.	2	0	-50761	-7587			2637	992	SLV 8	0.13	No
ini.	2	0	790576	-9070			2637	992	SLV 12	0.11	No
fin.	2	0	-57717	-9717			2637	992	SLV 12	0.1	No
ini.	2	0	-957380	12418			2637	992	SLV 6	0.08	No
fin.	2	0	124271	11502			2637	992	SLV 6	0.09	No
ini.	2	0	602699	-6847			2637	992	SLV 7	0.14	No
fin.	2	0	-50761	-7587			2637	992	SLV 7	0.13	No
ini.	2	0	-957380	12418			2637	992	SLV 5	0.08	No
fin.	2	0	124271	11502			2637	992	SLV 5	0.09	No
ini.	2	0	-630542	8269			2637	992	SLV 2	0.12	No
fin.	2	0	71125	7305			2637	992	SLV 2	0.14	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.261	SLV 5	No
V_SLV	0.08	SLV 5	No
PF_SLU	1.242	SLU 71	Si
V_SLU	0.213	SLU 71	No



Trave di accoppiamento 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1988.8	104.6	383	546	163	-2066.8	104.6	383	546	163	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2655	57765	231542	SLU 78	4.01	Si
fin.	3	-2655	-182344	231542	SLU 78	1.27	Si
ini.	3	-2776	43233	231542	SLU 81	5.36	Si
fin.	3	-2776	-169823	231542	SLU 81	1.36	Si
ini.	3	-2647	57176	231542	SLU 80	4.05	Si
fin.	3	-2647	-179820	231542	SLU 80	1.29	Si
ini.	3	-2778	47221	231542	SLU 84	4.9	Si
fin.	3	-2778	-174551	231542	SLU 84	1.33	Si
ini.	3	-2602	65117	231542	SLU 77	3.56	Si
fin.	3	-2602	-191342	231542	SLU 77	1.21	Si
ini.	3	-2066	60809	231542	SLU 35	3.81	Si
fin.	3	-2066	-170727	231542	SLU 35	1.36	Si
ini.	3	-2724	54573	231542	SLU 83	4.24	Si
fin.	3	-2724	-183549	231542	SLU 83	1.26	Si
ini.	3	-2594	64528	231542	SLU 79	3.59	Si
fin.	3	-2594	-188819	231542	SLU 79	1.23	Si
ini.	3	-2418	61886	231542	SLU 69	3.74	Si
fin.	3	-2418	-171609	231542	SLU 69	1.35	Si
ini.	3	-2654	53777	231542	SLU 74	4.31	Si
fin.	3	-2654	-177616	231542	SLU 74	1.3	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	53777	-1889			1758	661	SLU 74	0.35	No
fin.	3	0	-177616	-3948			1758	661	SLU 74	0.17	No
ini.	3	0	65117	-2203			1758	661	SLU 77	0.3	No
fin.	3	0	-191342	-4261			1758	661	SLU 77	0.16	No
ini.	3	0	60809	-1995			1758	661	SLU 35	0.33	No
fin.	3	0	-170727	-3831			1758	661	SLU 35	0.17	No
ini.	3	0	60221	-1956			1758	661	SLU 37	0.34	No
fin.	3	0	-168203	-3792			1758	661	SLU 37	0.17	No
ini.	3	0	54573	-1890			1758	661	SLU 83	0.35	No
fin.	3	0	-183549	-4116			1758	661	SLU 83	0.16	No
ini.	3	0	47221	-1685			1758	661	SLU 84	0.39	No
fin.	3	0	-174551	-3911			1758	661	SLU 84	0.17	No
ini.	3	0	43233	-1576			1758	661	SLU 81	0.42	No
fin.	3	0	-169823	-3802			1758	661	SLU 81	0.17	No
ini.	3	0	57765	-1998			1758	661	SLU 78	0.33	No
fin.	3	0	-182344	-4057			1758	661	SLU 78	0.16	No
ini.	3	0	64528	-2164			1758	661	SLU 79	0.31	No
fin.	3	0	-188819	-4222			1758	661	SLU 79	0.16	No
ini.	3	0	57176	-1959			1758	661	SLU 80	0.34	No
fin.	3	0	-179820	-4018			1758	661	SLU 80	0.16	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3779	575370	249444	SLV 3	0.43	No
fin.	2	-3927	-789709	249444	SLV 3	0.32	No
ini.	2	-3779	575370	249444	SLV 4	0.43	No
fin.	2	-3927	-789709	249444	SLV 4	0.32	No
ini.	2	-2733	262495	249444	SLD 4	0.95	No
fin.	2	-2794	-399837	249444	SLD 4	0.62	No
ini.	2	-154	-518205	249444	SLV 13	0.48	No
fin.	2	-6	571264	249444	SLV 13	0.44	No
ini.	2	-3179	606064	249444	SLV 1	0.41	No
fin.	2	-3235	-787053	249444	SLV 1	0.32	No
ini.	2	-3179	606064	249444	SLV 2	0.41	No
fin.	2	-3235	-787053	249444	SLV 2	0.32	No
ini.	2	-154	-518205	249444	SLV 14	0.48	No
fin.	2	-6	571264	249444	SLV 14	0.44	No
ini.	2	-754	-548899	249444	SLV 15	0.45	No
fin.	2	-698	568608	249444	SLV 15	0.44	No
ini.	2	-2733	262495	249444	SLD 3	0.95	No
fin.	2	-2794	-399837	249444	SLD 3	0.62	No
ini.	2	-754	-548899	249444	SLV 16	0.45	No
fin.	2	-698	568608	249444	SLV 16	0.44	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	575370	-16716			2637	992	SLV 4	0.06	No
fin.	2	0	-789709	-17550			2637	992	SLV 4	0.06	No
ini.	2	0	606064	-16651			2637	992	SLV 1	0.06	No

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Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-787053	-18444			2637	992	SLV 1	0.05	No
ini.	2	0	606064	-16651			2637	992	SLV 2	0.06	No
fin.	2	0	-787053	-18444			2637	992	SLV 2	0.05	No
ini.	2	0	-518205	14552			2637	992	SLV 14	0.07	No
fin.	2	0	571264	12741			2637	992	SLV 14	0.08	No
ini.	2	0	-518205	14552			2637	992	SLV 13	0.07	No
fin.	2	0	571264	12741			2637	992	SLV 13	0.08	No
ini.	2	0	-548899	14487			2637	992	SLV 16	0.07	No
fin.	2	0	568608	13635			2637	992	SLV 16	0.07	No
ini.	2	0	575370	-16716			2637	992	SLV 3	0.06	No
fin.	2	0	-789709	-17550			2637	992	SLV 3	0.06	No
ini.	2	0	-548899	14487			2637	992	SLV 15	0.07	No
fin.	2	0	568608	13635			2637	992	SLV 15	0.07	No
ini.	2	0	275048	-7739			2637	992	SLD 2	0.13	No
fin.	2	0	-398794	-9246			2637	992	SLD 2	0.11	No
ini.	2	0	275048	-7739			2637	992	SLD 1	0.13	No
fin.	2	0	-398794	-9246			2637	992	SLD 1	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.316	SLV 3	No
V_SLV		0.054	SLV 1	No
PF_SLU		1.21	SLU 77	Si
V_SLU		0.155	SLU 77	No

Trave di accoppiamento 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1116.3	104.6	423	546	123	-1228.3	104.6	423	546	123	112	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{tk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-5643	-97645	161542	SLU 69	1.65	Si
fin.	3	-5643	72006	161542	SLU 69	2.24	Si
ini.	3	-6710	-94031	161542	SLU 83	1.72	Si
fin.	3	-6710	57976	161542	SLU 83	2.79	Si
ini.	3	-6525	-102026	161542	SLU 80	1.58	Si
fin.	3	-6525	70319	161542	SLU 80	2.3	Si
ini.	3	-5753	-95778	161542	SLU 70	1.69	Si
fin.	3	-5753	72663	161542	SLU 70	2.22	Si
ini.	3	-6415	-103894	161542	SLU 79	1.55	Si
fin.	3	-6415	69662	161542	SLU 79	2.32	Si
ini.	3	-5709	-97269	161542	SLU 72	1.66	Si
fin.	3	-5709	73048	161542	SLU 72	2.21	Si
ini.	3	-6459	-102403	161542	SLU 77	1.58	Si
fin.	3	-6459	69277	161542	SLU 77	2.33	Si
ini.	3	-5599	-99136	161542	SLU 71	1.63	Si
fin.	3	-5599	72392	161542	SLU 71	2.23	Si
ini.	3	-6569	-100535	161542	SLU 78	1.61	Si
fin.	3	-6569	69933	161542	SLU 78	2.31	Si
ini.	3	-5486	-92426	161542	SLU 37	1.75	Si
fin.	3	-5486	58151	161542	SLU 37	2.78	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-94031	2956			1326	499	SLU 83	0.17	No
fin.	3	0	57976	-220			1326	499	SLU 83	2.27	Si
ini.	3	0	-90501	2775			1326	499	SLU 74	0.18	No
fin.	3	0	58760	-98			1326	499	SLU 74	5.08	Si
ini.	3	0	-88880	2774			1326	499	SLU 76	0.18	No
fin.	3	0	60239	-100			1326	499	SLU 76	5.01	Si
ini.	3	0	-88634	2764			1326	499	SLU 75	0.18	No
fin.	3	0	59417	-109			1326	499	SLU 75	4.58	Si
ini.	3	0	-82130	2755			1326	499	SLU 81	0.18	No
fin.	3	0	47459	-420			1326	499	SLU 81	1.19	Si
ini.	3	0	-102026	2981			1326	499	SLU 80	0.17	No
fin.	3	0	70319	108			1326	499	SLU 80	4.63	Si
ini.	3	0	-103894	2992			1326	499	SLU 79	0.17	No
fin.	3	0	69662	119			1326	499	SLU 79	4.21	Si
ini.	3	0	-100535	2964			1326	499	SLU 78	0.17	No
fin.	3	0	69933	91			1326	499	SLU 78	5.48	Si
ini.	3	0	-102403	2975			1326	499	SLU 77	0.17	No
fin.	3	0	69277	102			1326	499	SLU 77	4.9	Si
ini.	3	0	-92164	2945			1326	499	SLU 84	0.17	No
fin.	3	0	58632	-231			1326	499	SLU 84	2.16	Si



Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1686	350390	179444	SLV 2	0.51	No
fin.	2	1576	-568635	179444	SLV 2	0.32	No
ini.	2	-10298	-463747	179444	SLV 15	0.39	No
fin.	2	-10187	645786	179444	SLV 15	0.28	No
ini.	2	1686	350390	179444	SLV 1	0.51	No
fin.	2	1576	-568635	179444	SLV 1	0.32	No
ini.	2	-10142	-597614	179444	SLV 13	0.3	No
fin.	2	-10014	772030	179444	SLV 13	0.23	No
ini.	2	-10298	-463747	179444	SLV 16	0.39	No
fin.	2	-10187	645786	179444	SLV 16	0.28	No
ini.	2	-10142	-597614	179444	SLV 14	0.3	No
fin.	2	-10014	772030	179444	SLV 14	0.23	No
ini.	2	-5820	-421991	179444	SLV 10	0.43	No
fin.	2	-5756	450082	179444	SLV 10	0.4	No
ini.	2	1530	484257	179444	SLV 4	0.37	No
fin.	2	1402	-694879	179444	SLV 4	0.26	No
ini.	2	1530	484257	179444	SLV 3	0.37	No
fin.	2	1402	-694879	179444	SLV 3	0.26	No
ini.	2	-5820	-421991	179444	SLV 9	0.43	No
fin.	2	-5756	450082	179444	SLV 9	0.4	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	350390	-7339			1990	749	SLV 2	0.1	No
fin.	2	0	-568635	-9002			1990	749	SLV 2	0.08	No
ini.	2	0	-463747	10805			1990	749	SLV 15	0.07	No
fin.	2	0	645786	8928			1990	749	SLV 15	0.08	No
ini.	2	0	-597614	13163			1990	749	SLV 13	0.06	No
fin.	2	0	772030	11251			1990	749	SLV 13	0.07	No
ini.	2	0	-463747	10805			1990	749	SLV 16	0.07	No
fin.	2	0	645786	8928			1990	749	SLV 16	0.08	No
ini.	2	0	-421991	8738			1990	749	SLV 10	0.09	No
fin.	2	0	450082	6873			1990	749	SLV 10	0.11	No
ini.	2	0	-421991	8738			1990	749	SLV 9	0.09	No
fin.	2	0	450082	6873			1990	749	SLV 9	0.11	No
ini.	2	0	350390	-7339			1990	749	SLV 1	0.1	No
fin.	2	0	-568635	-9002			1990	749	SLV 1	0.08	No
ini.	2	0	484257	-9697			1990	749	SLV 4	0.08	No
fin.	2	0	-694879	-11325			1990	749	SLV 4	0.07	No
ini.	2	0	484257	-9697			1990	749	SLV 3	0.08	No
fin.	2	0	-694879	-11325			1990	749	SLV 3	0.07	No
ini.	2	0	-597614	13163			1990	749	SLV 14	0.06	No
fin.	2	0	772030	11251			1990	749	SLV 14	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.232	SLV 13	No
V_SLV		0.057	SLV 13	No
PF_SLU		1.555	SLU 79	Si
V_SLU		0.167	SLU 79	No

Trave di accoppiamento 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-416.8	104.6	383	546	163	-496.8	104.6	383	546	163	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2490	-130899	231542	SLU 74	1.77	Si
fin.	3	-2490	83927	231542	SLU 74	2.76	Si
ini.	3	-2274	-128597	231542	SLU 69	1.8	Si
fin.	3	-2274	88582	231542	SLU 69	2.61	Si
ini.	3	-2528	-135344	231542	SLU 78	1.71	Si
fin.	3	-2528	86894	231542	SLU 78	2.66	Si
ini.	3	-2543	-133025	231542	SLU 80	1.74	Si
fin.	3	-2543	85866	231542	SLU 80	2.7	Si
ini.	3	-2520	-141509	231542	SLU 79	1.64	Si
fin.	3	-2520	96188	231542	SLU 79	2.41	Si
ini.	3	-2101	-129277	231542	SLU 35	1.79	Si
fin.	3	-2101	90093	231542	SLU 35	2.57	Si
ini.	3	-2627	-126623	231542	SLU 84	1.83	Si
fin.	3	-2627	76277	231542	SLU 84	3.04	Si
ini.	3	-2603	-135107	231542	SLU 83	1.71	Si
fin.	3	-2603	86600	231542	SLU 83	2.67	Si
ini.	3	-2505	-143828	231542	SLU 77	1.61	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-2505	97217	231542	SLU 77	2.38	Si
ini.	3	-2116	-126959	231542	SLU 37	1.82	Si
fin.	3	-2116	89064	231542	SLU 37	2.6	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-126959	3649			1758	661	SLU 37	0.18	No
fin.	3	0	89064	1830			1758	661	SLU 37	0.36	No
ini.	3	0	-141509	4042			1758	661	SLU 79	0.16	No
fin.	3	0	96188	2005			1758	661	SLU 79	0.33	No
ini.	3	0	-126623	3691			1758	661	SLU 84	0.18	No
fin.	3	0	76277	1487			1758	661	SLU 84	0.44	No
ini.	3	0	-135107	3926			1758	661	SLU 83	0.17	No
fin.	3	0	86600	1722			1758	661	SLU 83	0.38	No
ini.	3	0	-135344	3849			1758	661	SLU 78	0.17	No
fin.	3	0	86894	1812			1758	661	SLU 78	0.37	No
ini.	3	0	-129277	3691			1758	661	SLU 35	0.18	No
fin.	3	0	90093	1872			1758	661	SLU 35	0.35	No
ini.	3	0	-122178	3599			1758	661	SLU 81	0.18	No
fin.	3	0	73311	1394			1758	661	SLU 81	0.47	No
ini.	3	0	-130899	3756			1758	661	SLU 74	0.18	No
fin.	3	0	83927	1719			1758	661	SLU 74	0.38	No
ini.	3	0	-143828	4084			1758	661	SLU 77	0.16	No
fin.	3	0	97217	2047			1758	661	SLU 77	0.32	No
ini.	3	0	-133025	3807			1758	661	SLU 80	0.17	No
fin.	3	0	85866	1770			1758	661	SLU 80	0.37	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3623	588582	249444	SLV 2	0.42	No
fin.	2	-3945	-350329	249444	SLV 2	0.71	No
ini.	2	49	-709095	249444	SLV 14	0.35	No
fin.	2	24	479095	249444	SLV 14	0.52	No
ini.	2	49	-709095	249444	SLV 13	0.35	No
fin.	2	24	479095	249444	SLV 13	0.52	No
ini.	2	-954	-362054	249444	SLD 16	0.69	No
fin.	2	-819	215910	249444	SLD 16	1.16	Si
ini.	2	120	-744113	249444	SLV 16	0.34	No
fin.	2	443	442896	249444	SLV 16	0.56	No
ini.	2	-954	-362054	249444	SLD 15	0.69	No
fin.	2	-819	215910	249444	SLD 15	1.16	Si
ini.	2	-3623	588582	249444	SLV 1	0.42	No
fin.	2	-3945	-350329	249444	SLV 1	0.71	No
ini.	2	-3551	553565	249444	SLV 4	0.45	No
fin.	2	-3526	-386527	249444	SLV 4	0.65	No
ini.	2	-3551	553565	249444	SLV 3	0.45	No
fin.	2	-3526	-386527	249444	SLV 3	0.65	No
ini.	2	120	-744113	249444	SLV 15	0.34	No
fin.	2	443	442896	249444	SLV 15	0.56	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-744113	15631			2637	992	SLV 15	0.06	No
fin.	2	0	442896	14324			2637	992	SLV 15	0.07	No
ini.	2	0	553565	-11004			2637	992	SLV 4	0.09	No
fin.	2	0	-386527	-12488			2637	992	SLV 4	0.08	No
ini.	2	0	588582	-11142			2637	992	SLV 1	0.09	No
fin.	2	0	-350329	-12447			2637	992	SLV 1	0.08	No
ini.	2	0	553565	-11004			2637	992	SLV 3	0.09	No
fin.	2	0	-386527	-12488			2637	992	SLV 3	0.08	No
ini.	2	0	-362054	7958			2637	992	SLD 15	0.12	No
fin.	2	0	215910	6652			2637	992	SLD 15	0.15	No
ini.	2	0	-362054	7958			2637	992	SLD 16	0.12	No
fin.	2	0	215910	6652			2637	992	SLD 16	0.15	No
ini.	2	0	588582	-11142			2637	992	SLV 2	0.09	No
fin.	2	0	-350329	-12447			2637	992	SLV 2	0.08	No
ini.	2	0	-709095	15493			2637	992	SLV 14	0.06	No
fin.	2	0	479095	14365			2637	992	SLV 14	0.07	No
ini.	2	0	-744113	15631			2637	992	SLV 16	0.06	No
fin.	2	0	442896	14324			2637	992	SLV 16	0.07	No
ini.	2	0	-709095	15493			2637	992	SLV 13	0.06	No
fin.	2	0	479095	14365			2637	992	SLV 13	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.335	SLV 15	No
V_SLV	0.063	SLV 15	No
PF_SLU	1.61	SLU 77	Si
V_SLU	0.162	SLU 77	No

Trave di accoppiamento 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1776.8	666.1	173	263	90	-1676.8	666.1	173	263	90	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	3785	82174	103792	SLU 83	1.26	Si
fin.	3	2835	45826	103792	SLU 83	2.26	Si
ini.	3	3787	81774	103792	SLU 84	1.27	Si
fin.	3	2835	46008	103792	SLU 84	2.26	Si
ini.	3	3811	80093	103792	SLU 82	1.3	Si
fin.	3	2863	45418	103792	SLU 82	2.29	Si
ini.	3	3625	81205	103792	SLU 78	1.28	Si
fin.	3	2705	44837	103792	SLU 78	2.31	Si
ini.	3	3623	81605	103792	SLU 77	1.27	Si
fin.	3	2705	44654	103792	SLU 77	2.32	Si
ini.	3	3647	79924	103792	SLU 74	1.3	Si
fin.	3	2732	44064	103792	SLU 74	2.36	Si
ini.	3	3575	81100	103792	SLU 79	1.28	Si
fin.	3	2668	44164	103792	SLU 79	2.35	Si
ini.	3	3649	79524	103792	SLU 75	1.31	Si
fin.	3	2733	44246	103792	SLU 75	2.35	Si
ini.	3	3578	80700	103792	SLU 80	1.29	Si
fin.	3	2669	44347	103792	SLU 80	2.34	Si
ini.	3	3809	80494	103792	SLU 81	1.29	Si
fin.	3	2863	45235	103792	SLU 81	2.29	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	81605	-382			873	329	SLU 77	0.86	No
fin.	3	0	44654	367			873	329	SLU 77	0.9	No
ini.	3	0	68840	-331			873	329	SLU 42	0.99	No
fin.	3	0	39628	383			873	329	SLU 42	0.86	No
ini.	3	0	82174	-379			873	329	SLU 83	0.87	No
fin.	3	0	45826	398			873	329	SLU 83	0.83	No
ini.	3	0	81100	-380			873	329	SLU 79	0.87	No
fin.	3	0	44164	357			873	329	SLU 79	0.92	No
ini.	3	0	80494	-359			873	329	SLU 81	0.92	No
fin.	3	0	45235	396			873	329	SLU 81	0.83	No
ini.	3	0	69241	-339			873	329	SLU 41	0.97	No
fin.	3	0	39445	377			873	329	SLU 41	0.87	No
ini.	3	0	80093	-351			873	329	SLU 82	0.94	No
fin.	3	0	45418	402			873	329	SLU 82	0.82	No
ini.	3	0	67560	-319			873	329	SLU 39	1.03	Si
fin.	3	0	38855	375			873	329	SLU 39	0.88	No
ini.	3	0	81774	-371			873	329	SLU 84	0.89	No
fin.	3	0	46008	404			873	329	SLU 84	0.81	No
ini.	3	0	67160	-311			873	329	SLU 40	1.06	Si
fin.	3	0	39037	381			873	329	SLU 40	0.86	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1713	305513	121694	SLV 16	0.4	No
fin.	2	4168	-162708	121694	SLV 16	0.75	No
ini.	2	5281	-100606	121694	SLV 4	1.21	Si
fin.	2	3179	250220	121694	SLV 4	0.49	No
ini.	2	5298	273805	121694	SLV 11	0.44	No
fin.	2	8010	15104	121694	SLV 11	8.06	Si
ini.	2	-290	210856	121694	SLV 13	0.58	No
fin.	2	577	-191240	121694	SLV 13	0.64	No
ini.	2	3279	-195263	121694	SLV 2	0.62	No
fin.	2	-412	221687	121694	SLV 2	0.55	No
ini.	2	5281	-100606	121694	SLV 3	1.21	Si
fin.	2	3179	250220	121694	SLV 3	0.49	No
ini.	2	1713	305513	121694	SLV 15	0.4	No
fin.	2	4168	-162708	121694	SLV 15	0.75	No
ini.	2	-290	210856	121694	SLV 14	0.58	No
fin.	2	577	-191240	121694	SLV 14	0.64	No
ini.	2	3279	-195263	121694	SLV 1	0.62	No
fin.	2	-412	221687	121694	SLV 1	0.55	No
ini.	2	5298	273805	121694	SLV 12	0.44	No
fin.	2	8010	15104	121694	SLV 12	8.06	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	273805	-2600			1310	493	SLV 12	0.19	No
fin.	2	0	15104	-2162			1310	493	SLV 12	0.23	No
ini.	2	0	305513	-5209			1310	493	SLV 16	0.09	No
fin.	2	0	-162708	-5198			1310	493	SLV 16	0.09	No
ini.	2	0	-195263	4754			1310	493	SLV 2	0.1	No
fin.	2	0	221687	5613			1310	493	SLV 2	0.09	No
ini.	2	0	-195263	4754			1310	493	SLV 1	0.1	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	221687	5613			1310	493	SLV 1	0.09	No
ini.	2	0	210856	-4630			1310	493	SLV 14	0.11	No
fin.	2	0	-191240	-4704			1310	493	SLV 14	0.1	No
ini.	2	0	210856	-4630			1310	493	SLV 13	0.11	No
fin.	2	0	-191240	-4704			1310	493	SLV 13	0.1	No
ini.	2	0	273805	-2600			1310	493	SLV 11	0.19	No
fin.	2	0	15104	-2162			1310	493	SLV 11	0.23	No
ini.	2	0	-100606	4175			1310	493	SLV 4	0.12	No
fin.	2	0	250220	5120			1310	493	SLV 4	0.1	No
ini.	2	0	305513	-5209			1310	493	SLV 15	0.09	No
fin.	2	0	-162708	-5198			1310	493	SLV 15	0.09	No
ini.	2	0	-100606	4175			1310	493	SLV 3	0.12	No
fin.	2	0	250220	5120			1310	493	SLV 3	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		0.398	SLV 15
V_SLV		0.088	SLV 1
PF_SLU		1.263	SLU 83
V_SLU		0.814	SLU 84

Trave di accoppiamento 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1776.8	666.1	453	546	93	-1676.8	666.1	453	546	93	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2125	-29971	109042	SLU 81	3.64	Si
fin.	3	-2536	-48820	109042	SLU 81	2.23	Si
ini.	3	-2175	-31184	109042	SLU 84	3.5	Si
fin.	3	-2544	-49347	109042	SLU 84	2.21	Si
ini.	3	-2155	-31251	109042	SLU 78	3.49	Si
fin.	3	-2471	-48574	109042	SLU 78	2.24	Si
ini.	3	-2138	-31014	109042	SLU 80	3.52	Si
fin.	3	-2447	-48130	109042	SLU 80	2.27	Si
ini.	3	-2156	-31157	109042	SLU 77	3.5	Si
fin.	3	-2482	-48816	109042	SLU 77	2.23	Si
ini.	3	-2176	-31091	109042	SLU 83	3.51	Si
fin.	3	-2556	-49589	109042	SLU 83	2.2	Si
ini.	3	-2124	-30064	109042	SLU 82	3.63	Si
fin.	3	-2524	-48579	109042	SLU 82	2.24	Si
ini.	3	-2139	-30920	109042	SLU 79	3.53	Si
fin.	3	-2459	-48372	109042	SLU 79	2.25	Si
ini.	3	-2104	-30037	109042	SLU 74	3.63	Si
fin.	3	-2462	-48047	109042	SLU 74	2.27	Si
ini.	3	-2103	-30131	109042	SLU 75	3.62	Si
fin.	3	-2451	-47806	109042	SLU 75	2.28	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-30920	2971			933	351	SLU 79	0.12	No
fin.	3	0	-48372	-5028			933	351	SLU 79	0.07	No
ini.	3	0	-29971	3073			933	351	SLU 81	0.11	No
fin.	3	0	-48820	-5269			933	351	SLU 81	0.07	No
ini.	3	0	-31184	3108			933	351	SLU 84	0.11	No
fin.	3	0	-49347	-5278			933	351	SLU 84	0.07	No
ini.	3	0	-30037	2974			933	351	SLU 74	0.12	No
fin.	3	0	-48047	-5066			933	351	SLU 74	0.07	No
ini.	3	0	-31251	3009			933	351	SLU 78	0.12	No
fin.	3	0	-48574	-5074			933	351	SLU 78	0.07	No
ini.	3	0	-31157	3004			933	351	SLU 77	0.12	No
fin.	3	0	-48816	-5086			933	351	SLU 77	0.07	No
ini.	3	0	-30131	2979			933	351	SLU 75	0.12	No
fin.	3	0	-47806	-5054			933	351	SLU 75	0.07	No
ini.	3	0	-30064	3078			933	351	SLU 82	0.11	No
fin.	3	0	-48579	-5257			933	351	SLU 82	0.07	No
ini.	3	0	-31014	2976			933	351	SLU 80	0.12	No
fin.	3	0	-48130	-5016			933	351	SLU 80	0.07	No
ini.	3	0	-31091	3103			933	351	SLU 83	0.11	No
fin.	3	0	-49589	-5290			933	351	SLU 83	0.07	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2782	122776	126944	SLV 14	1.03	Si
fin.	2	-4630	-135009	126944	SLV 14	0.94	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-5623	-162593	126944	SLV 3	0.78	No
fin.	2	1288	69528	126944	SLV 3	1.83	Si
ini.	2	2011	114769	126944	SLV 15	1.11	Si
fin.	2	-5426	-151841	126944	SLV 15	0.84	No
ini.	2	-4851	-154587	126944	SLV 2	0.82	No
fin.	2	2084	86360	126944	SLV 2	1.47	Si
ini.	2	2011	114769	126944	SLV 16	1.11	Si
fin.	2	-5426	-151841	126944	SLV 16	0.84	No
ini.	2	-1561	8352	126944	SLV 12	15.2	Si
fin.	2	-4005	-94000	126944	SLV 12	1.35	Si
ini.	2	-1561	8352	126944	SLV 11	15.2	Si
fin.	2	-4005	-94000	126944	SLV 11	1.35	Si
ini.	2	-4851	-154587	126944	SLV 1	0.82	No
fin.	2	2084	86360	126944	SLV 1	1.47	Si
ini.	2	-5623	-162593	126944	SLV 4	0.78	No
fin.	2	1288	69528	126944	SLV 4	1.83	Si
ini.	2	2782	122776	126944	SLV 13	1.03	Si
fin.	2	-4630	-135009	126944	SLV 13	0.94	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	114769	-4072			1399	526	SLV 15	0.13	No
fin.	2	0	-151841	-9017			1399	526	SLV 15	0.06	No
ini.	2	0	-162593	8501			1399	526	SLV 4	0.06	No
fin.	2	0	69528	1519			1399	526	SLV 4	0.35	No
ini.	2	0	-162593	8501			1399	526	SLV 3	0.06	No
fin.	2	0	69528	1519			1399	526	SLV 3	0.35	No
ini.	2	0	8352	874			1399	526	SLV 12	0.6	No
fin.	2	0	-94000	-6172			1399	526	SLV 12	0.09	No
ini.	2	0	-154587	8033			1399	526	SLV 2	0.07	No
fin.	2	0	86360	2241			1399	526	SLV 2	0.23	No
ini.	2	0	122776	-4539			1399	526	SLV 13	0.12	No
fin.	2	0	-135009	-8295			1399	526	SLV 13	0.06	No
ini.	2	0	114769	-4072			1399	526	SLV 16	0.13	No
fin.	2	0	-151841	-9017			1399	526	SLV 16	0.06	No
ini.	2	0	8352	874			1399	526	SLV 11	0.6	No
fin.	2	0	-94000	-6172			1399	526	SLV 11	0.09	No
ini.	2	0	-154587	8033			1399	526	SLV 1	0.07	No
fin.	2	0	86360	2241			1399	526	SLV 1	0.23	No
ini.	2	0	122776	-4539			1399	526	SLV 14	0.12	No
fin.	2	0	-135009	-8295			1399	526	SLV 14	0.06	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.781	SLV 3	No
V_SLV	0.058	SLV 15	No
PF_SLU	2.199	SLU 83	Si
V_SLU	0.066	SLU 83	No

Trave di accoppiamento 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1288.8	666.1	173	263	90	-1188.8	666.1	173	263	90	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	2645	76017	103792	SLU 79	1.37	Si
fin.	3	2544	90116	103792	SLU 79	1.15	Si
ini.	3	2628	75367	103792	SLU 75	1.38	Si
fin.	3	2527	89076	103792	SLU 75	1.17	Si
ini.	3	2649	75903	103792	SLU 80	1.37	Si
fin.	3	2548	89945	103792	SLU 80	1.15	Si
ini.	3	2623	75480	103792	SLU 74	1.38	Si
fin.	3	2522	89248	103792	SLU 74	1.16	Si
ini.	3	2667	76633	103792	SLU 77	1.35	Si
fin.	3	2565	90855	103792	SLU 77	1.14	Si
ini.	3	2715	78283	103792	SLU 83	1.33	Si
fin.	3	2610	92639	103792	SLU 83	1.12	Si
ini.	3	2719	78170	103792	SLU 84	1.33	Si
fin.	3	2614	92468	103792	SLU 84	1.12	Si
ini.	3	2671	77130	103792	SLU 81	1.35	Si
fin.	3	2567	91032	103792	SLU 81	1.14	Si
ini.	3	2671	76520	103792	SLU 78	1.36	Si
fin.	3	2570	90684	103792	SLU 78	1.14	Si
ini.	3	2675	77017	103792	SLU 82	1.35	Si
fin.	3	2572	90860	103792	SLU 82	1.14	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	76633	-68			873	329	SLU 77	4.81	Si
fin.	3	0	90855	457			873	329	SLU 77	0.72	No
ini.	3	0	78170	-70			873	329	SLU 84	4.72	Si
fin.	3	0	92468	458			873	329	SLU 84	0.72	No
ini.	3	0	75903	-65			873	329	SLU 80	5.09	Si
fin.	3	0	89945	448			873	329	SLU 80	0.73	No
ini.	3	0	76017	-65			873	329	SLU 79	5.09	Si
fin.	3	0	90116	450			873	329	SLU 79	0.73	No
ini.	3	0	75480	-62			873	329	SLU 74	5.34	Si
fin.	3	0	89248	434			873	329	SLU 74	0.76	No
ini.	3	0	77130	-63			873	329	SLU 81	5.24	Si
fin.	3	0	91032	438			873	329	SLU 81	0.75	No
ini.	3	0	75367	-62			873	329	SLU 75	5.33	Si
fin.	3	0	89076	433			873	329	SLU 75	0.76	No
ini.	3	0	78283	-70			873	329	SLU 83	4.73	Si
fin.	3	0	92639	460			873	329	SLU 83	0.71	No
ini.	3	0	76520	-68			873	329	SLU 78	4.8	Si
fin.	3	0	90684	455			873	329	SLU 78	0.72	No
ini.	3	0	77017	-63			873	329	SLU 82	5.23	Si
fin.	3	0	90860	436			873	329	SLU 82	0.75	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	13391	251984	121694	SLV 12	0.48	No
fin.	2	9847	295873	121694	SLV 12	0.41	No
ini.	2	5985	-164362	121694	SLV 3	0.74	No
fin.	2	2140	396706	121694	SLV 3	0.31	No
ini.	2	-10218	1924	121694	SLV 10	63.25	Si
fin.	2	-5304	-321758	121694	SLV 10	0.38	No
ini.	2	13786	100218	121694	SLV 8	1.21	Si
fin.	2	8737	442183	121694	SLV 8	0.28	No
ini.	2	4666	341523	121694	SLV 15	0.36	No
fin.	2	5838	-90992	121694	SLV 15	1.34	Si
ini.	2	13391	251984	121694	SLV 11	0.48	No
fin.	2	9847	295873	121694	SLV 11	0.41	No
ini.	2	13786	100218	121694	SLV 7	1.21	Si
fin.	2	8737	442183	121694	SLV 7	0.28	No
ini.	2	5985	-164362	121694	SLV 4	0.74	No
fin.	2	2140	396706	121694	SLV 4	0.31	No
ini.	2	4666	341523	121694	SLV 16	0.36	No
fin.	2	5838	-90992	121694	SLV 16	1.34	Si
ini.	2	-10218	1924	121694	SLV 9	63.25	Si
fin.	2	-5304	-321758	121694	SLV 9	0.38	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-164362	5828			1310	493	SLV 4	0.08	No
fin.	2	0	396706	6646			1310	493	SLV 4	0.07	No
ini.	2	0	341523	-6284			1310	493	SLV 16	0.08	No
fin.	2	0	-90992	-5570			1310	493	SLV 16	0.09	No
ini.	2	0	-164362	5828			1310	493	SLV 3	0.08	No
fin.	2	0	396706	6646			1310	493	SLV 3	0.07	No
ini.	2	0	266505	-5863			1310	493	SLV 13	0.08	No
fin.	2	0	-276281	-6128			1310	493	SLV 13	0.08	No
ini.	2	0	100218	1098			1310	493	SLV 7	0.45	No
fin.	2	0	442183	3021			1310	493	SLV 7	0.16	No
ini.	2	0	341523	-6284			1310	493	SLV 15	0.08	No
fin.	2	0	-90992	-5570			1310	493	SLV 15	0.09	No
ini.	2	0	-239380	6249			1310	493	SLV 2	0.08	No
fin.	2	0	211417	6088			1310	493	SLV 2	0.08	No
ini.	2	0	266505	-5863			1310	493	SLV 14	0.08	No
fin.	2	0	-276281	-6128			1310	493	SLV 14	0.08	No
ini.	2	0	-239380	6249			1310	493	SLV 1	0.08	No
fin.	2	0	211417	6088			1310	493	SLV 1	0.08	No
ini.	2	0	100218	1098			1310	493	SLV 8	0.45	No
fin.	2	0	442183	3021			1310	493	SLV 8	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.275	SLV 7	No
V_SLV	0.074	SLV 3	No
PF_SLU	1.12	SLU 83	Si
V_SLU	0.714	SLU 83	No

Trave di accoppiamento 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1288.8	666.1	453	546	93	-1188.8	666.1	453	546	93	100	28	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2921	-46656	109042	SLU 78	2.34	Si
fin.	3	-2833	-42578	109042	SLU 78	2.56	Si
ini.	3	-2929	-46772	109042	SLU 77	2.33	Si
fin.	3	-2841	-42690	109042	SLU 77	2.55	Si
ini.	3	-3065	-47752	109042	SLU 83	2.28	Si
fin.	3	-2967	-43495	109042	SLU 83	2.51	Si
ini.	3	-2931	-45913	109042	SLU 74	2.37	Si
fin.	3	-2837	-41775	109042	SLU 74	2.61	Si
ini.	3	-3067	-46893	109042	SLU 81	2.33	Si
fin.	3	-2963	-42580	109042	SLU 81	2.56	Si
ini.	3	-3057	-47636	109042	SLU 84	2.29	Si
fin.	3	-2959	-43383	109042	SLU 84	2.51	Si
ini.	3	-2923	-45797	109042	SLU 75	2.38	Si
fin.	3	-2829	-41664	109042	SLU 75	2.62	Si
ini.	3	-2885	-46215	109042	SLU 80	2.36	Si
fin.	3	-2800	-42225	109042	SLU 80	2.58	Si
ini.	3	-3059	-46777	109042	SLU 82	2.33	Si
fin.	3	-2955	-42468	109042	SLU 82	2.57	Si
ini.	3	-2893	-46332	109042	SLU 79	2.35	Si
fin.	3	-2808	-42337	109042	SLU 79	2.58	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-46777	4504			933	351	SLU 82	0.08	No
fin.	3	0	-42468	-4130			933	351	SLU 82	0.08	No
ini.	3	0	-45797	4372			933	351	SLU 75	0.08	No
fin.	3	0	-41664	-4017			933	351	SLU 75	0.09	No
ini.	3	0	-47752	4572			933	351	SLU 83	0.08	No
fin.	3	0	-43495	-4205			933	351	SLU 83	0.08	No
ini.	3	0	-47636	4568			933	351	SLU 84	0.08	No
fin.	3	0	-43383	-4201			933	351	SLU 84	0.08	No
ini.	3	0	-46772	4440			933	351	SLU 77	0.08	No
fin.	3	0	-42690	-4092			933	351	SLU 77	0.09	No
ini.	3	0	-46893	4508			933	351	SLU 81	0.08	No
fin.	3	0	-42580	-4134			933	351	SLU 81	0.08	No
ini.	3	0	-46215	4392			933	351	SLU 80	0.08	No
fin.	3	0	-42225	-4051			933	351	SLU 80	0.09	No
ini.	3	0	-45913	4376			933	351	SLU 74	0.08	No
fin.	3	0	-41775	-4021			933	351	SLU 74	0.09	No
ini.	3	0	-46656	4435			933	351	SLU 78	0.08	No
fin.	3	0	-42578	-4088			933	351	SLU 78	0.09	No
ini.	3	0	-46332	4397			933	351	SLU 79	0.08	No
fin.	3	0	-42337	-4056			933	351	SLU 79	0.09	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-6661	-187051	126944	SLV 3	0.68	No
fin.	2	1850	128254	126944	SLV 3	0.99	No
ini.	2	2090	111029	126944	SLV 16	1.14	Si
fin.	2	-6304	-193717	126944	SLV 16	0.66	No
ini.	2	2735	125717	126944	SLV 14	1.01	Si
fin.	2	-5639	-183676	126944	SLV 14	0.69	No
ini.	2	-4350	-99859	126944	SLV 8	1.27	Si
fin.	2	-1780	3850	126944	SLV 8	32.98	Si
ini.	2	-4350	-99859	126944	SLV 7	1.27	Si
fin.	2	-1780	3850	126944	SLV 7	32.98	Si
ini.	2	2735	125717	126944	SLV 13	1.01	Si
fin.	2	-5639	-183676	126944	SLV 13	0.69	No
ini.	2	-6016	-172363	126944	SLV 2	0.74	No
fin.	2	2514	138295	126944	SLV 2	0.92	No
ini.	2	2090	111029	126944	SLV 15	1.14	Si
fin.	2	-6304	-193717	126944	SLV 15	0.66	No
ini.	2	-6016	-172363	126944	SLV 1	0.74	No
fin.	2	2514	138295	126944	SLV 1	0.92	No
ini.	2	-6661	-187051	126944	SLV 4	0.68	No
fin.	2	1850	128254	126944	SLV 4	0.99	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	111029	-3851			1399	526	SLV 16	0.14	No
fin.	2	0	-193717	-10087			1399	526	SLV 16	0.05	No
ini.	2	0	-99859	6189			1399	526	SLV 7	0.09	No
fin.	2	0	3850	-1392			1399	526	SLV 7	0.38	No
ini.	2	0	-172363	9660			1399	526	SLV 2	0.05	No
fin.	2	0	138295	4778			1399	526	SLV 2	0.11	No
ini.	2	0	-172363	9660			1399	526	SLV 1	0.05	No
fin.	2	0	138295	4778			1399	526	SLV 1	0.11	No
ini.	2	0	111029	-3851			1399	526	SLV 15	0.14	No
fin.	2	0	-193717	-10087			1399	526	SLV 15	0.05	No
ini.	2	0	125717	-4543			1399	526	SLV 13	0.12	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-183676	-9555			1399	526	SLV 13	0.06	No
ini.	2	0	125717	-4543			1399	526	SLV 14	0.12	No
fin.	2	0	-183676	-9555			1399	526	SLV 14	0.06	No
ini.	2	0	-187051	10352			1399	526	SLV 4	0.05	No
fin.	2	0	128254	4246			1399	526	SLV 4	0.12	No
ini.	2	0	-187051	10352			1399	526	SLV 3	0.05	No
fin.	2	0	128254	4246			1399	526	SLV 3	0.12	No
ini.	2	0	-99859	6189			1399	526	SLV 8	0.09	No
fin.	2	0	3850	-1392			1399	526	SLV 8	0.38	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.655	SLV 15	No
V_SLV	0.051	SLV 3	No
PF_SLU	2.284	SLU 83	Si
V_SLU	0.077	SLU 83	No

Trave di accoppiamento 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-800.8	666.1	173	263	90	-700.8	666.1	173	263	90	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	3124	44316	103792	SLU 80	2.34	Si
fin.	3	4161	95782	103792	SLU 80	1.08	Si
ini.	3	3198	44289	103792	SLU 84	2.34	Si
fin.	3	4250	96997	103792	SLU 84	1.07	Si
ini.	3	3149	44502	103792	SLU 78	2.33	Si
fin.	3	4192	96397	103792	SLU 78	1.08	Si
ini.	3	3124	44089	103792	SLU 79	2.35	Si
fin.	3	4159	96341	103792	SLU 79	1.08	Si
ini.	3	3075	42214	103792	SLU 74	2.46	Si
fin.	3	4085	94743	103792	SLU 74	1.1	Si
ini.	3	3124	42001	103792	SLU 81	2.47	Si
fin.	3	4142	95343	103792	SLU 81	1.09	Si
ini.	3	3149	44275	103792	SLU 77	2.34	Si
fin.	3	4190	96956	103792	SLU 77	1.07	Si
ini.	3	3076	42442	103792	SLU 75	2.45	Si
fin.	3	4087	94184	103792	SLU 75	1.1	Si
ini.	3	3197	44062	103792	SLU 83	2.36	Si
fin.	3	4248	97556	103792	SLU 83	1.06	Si
ini.	3	3124	42228	103792	SLU 82	2.46	Si
fin.	3	4144	94784	103792	SLU 82	1.1	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	44502	-332			873	329	SLU 78	0.99	No
fin.	3	0	96397	577			873	329	SLU 78	0.57	No
ini.	3	0	42001	-294			873	329	SLU 81	1.12	Si
fin.	3	0	95343	582			873	329	SLU 81	0.56	No
ini.	3	0	42442	-300			873	329	SLU 75	1.1	Si
fin.	3	0	94184	562			873	329	SLU 75	0.58	No
ini.	3	0	42228	-302			873	329	SLU 82	1.09	Si
fin.	3	0	94784	571			873	329	SLU 82	0.58	No
ini.	3	0	44275	-324			873	329	SLU 77	1.01	Si
fin.	3	0	96956	587			873	329	SLU 77	0.56	No
ini.	3	0	42214	-292			873	329	SLU 74	1.12	Si
fin.	3	0	94743	573			873	329	SLU 74	0.57	No
ini.	3	0	44289	-333			873	329	SLU 84	0.99	No
fin.	3	0	96997	586			873	329	SLU 84	0.56	No
ini.	3	0	44062	-326			873	329	SLU 83	1.01	Si
fin.	3	0	97556	596			873	329	SLU 83	0.55	No
ini.	3	0	44316	-329			873	329	SLU 80	1	No
fin.	3	0	95782	570			873	329	SLU 80	0.58	No
ini.	3	0	44089	-321			873	329	SLU 79	1.02	Si
fin.	3	0	96341	581			873	329	SLU 79	0.57	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-274	-194221	121694	SLV 1	0.63	No
fin.	2	-1793	219960	121694	SLV 1	0.55	No
ini.	2	3388	-164590	121694	SLV 3	0.74	No
fin.	2	1083	297303	121694	SLV 3	0.41	No
ini.	2	719	219426	121694	SLV 13	0.55	No
fin.	2	4357	-167573	121694	SLV 13	0.73	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3388	-164590	121694	SLV 4	0.74	No
fin.	2	1083	297303	121694	SLV 4	0.41	No
ini.	2	8007	14756	121694	SLV 8	8.25	Si
fin.	2	6592	251901	121694	SLV 8	0.48	No
ini.	2	8007	14756	121694	SLV 7	8.25	Si
fin.	2	6592	251901	121694	SLV 7	0.48	No
ini.	2	4381	249057	121694	SLV 16	0.49	No
fin.	2	7233	-90229	121694	SLV 16	1.35	Si
ini.	2	719	219426	121694	SLV 14	0.55	No
fin.	2	4357	-167573	121694	SLV 14	0.73	No
ini.	2	-274	-194221	121694	SLV 2	0.63	No
fin.	2	-1793	219960	121694	SLV 2	0.55	No
ini.	2	4381	249057	121694	SLV 15	0.49	No
fin.	2	7233	-90229	121694	SLV 15	1.35	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	40080	-2748			1310	493	SLV 10	0.18	No
fin.	2	0	-122171	-1883			1310	493	SLV 10	0.26	No
ini.	2	0	-164590	5378			1310	493	SLV 4	0.09	No
fin.	2	0	297303	5317			1310	493	SLV 4	0.09	No
ini.	2	0	219426	-5662			1310	493	SLV 13	0.09	No
fin.	2	0	-167573	-4573			1310	493	SLV 13	0.11	No
ini.	2	0	249057	-5035			1310	493	SLV 16	0.1	No
fin.	2	0	-90229	-4063			1310	493	SLV 16	0.12	No
ini.	2	0	40080	-2748			1310	493	SLV 9	0.18	No
fin.	2	0	-122171	-1883			1310	493	SLV 9	0.26	No
ini.	2	0	219426	-5662			1310	493	SLV 14	0.09	No
fin.	2	0	-167573	-4573			1310	493	SLV 14	0.11	No
ini.	2	0	-164590	5378			1310	493	SLV 3	0.09	No
fin.	2	0	297303	5317			1310	493	SLV 3	0.09	No
ini.	2	0	-194221	4751			1310	493	SLV 1	0.1	No
fin.	2	0	219960	4808			1310	493	SLV 1	0.1	No
ini.	2	0	-194221	4751			1310	493	SLV 2	0.1	No
fin.	2	0	219960	4808			1310	493	SLV 2	0.1	No
ini.	2	0	249057	-5035			1310	493	SLV 15	0.1	No
fin.	2	0	-90229	-4063			1310	493	SLV 15	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.409	SLV 3	No
V_SLV	0.087	SLV 13	No
PF_SLU	1.064	SLU 83	Si
V_SLU	0.551	SLU 83	No

Trave di accoppiamento 57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-800.8	666.1	453	546	93	-700.8	666.1	453	546	93	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmed	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3034	-46233	109042	SLU 82	2.36	Si
fin.	3	-2811	-36637	109042	SLU 82	2.98	Si
ini.	3	-3072	-46974	109042	SLU 84	2.32	Si
fin.	3	-2936	-39501	109042	SLU 84	2.76	Si
ini.	3	-2974	-45866	109042	SLU 74	2.38	Si
fin.	3	-2837	-37934	109042	SLU 74	2.87	Si
ini.	3	-2958	-45569	109042	SLU 75	2.39	Si
fin.	3	-2833	-38033	109042	SLU 75	2.87	Si
ini.	3	-2969	-45878	109042	SLU 80	2.38	Si
fin.	3	-2946	-40909	109042	SLU 80	2.67	Si
ini.	3	-3012	-46607	109042	SLU 77	2.34	Si
fin.	3	-2962	-40798	109042	SLU 77	2.67	Si
ini.	3	-3049	-46531	109042	SLU 81	2.34	Si
fin.	3	-2815	-36538	109042	SLU 81	2.98	Si
ini.	3	-2985	-46175	109042	SLU 79	2.36	Si
fin.	3	-2950	-40810	109042	SLU 79	2.67	Si
ini.	3	-3087	-47271	109042	SLU 83	2.31	Si
fin.	3	-2941	-39402	109042	SLU 83	2.77	Si
ini.	3	-2996	-46309	109042	SLU 78	2.35	Si
fin.	3	-2958	-40897	109042	SLU 78	2.67	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-45569	5381			933	351	SLU 75	0.07	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-38033	-2987			933	351	SLU 75	0.12	No
ini.	3	0	-46309	5451			933	351	SLU 78	0.06	No
fin.	3	0	-40897	-3117			933	351	SLU 78	0.11	No
ini.	3	0	-46607	5467			933	351	SLU 77	0.06	No
fin.	3	0	-40798	-3112			933	351	SLU 77	0.11	No
ini.	3	0	-46175	5412			933	351	SLU 79	0.06	No
fin.	3	0	-40810	-3098			933	351	SLU 79	0.11	No
ini.	3	0	-46531	5572			933	351	SLU 81	0.06	No
fin.	3	0	-36538	-2987			933	351	SLU 81	0.12	No
ini.	3	0	-45866	5397			933	351	SLU 74	0.07	No
fin.	3	0	-37934	-2982			933	351	SLU 74	0.12	No
ini.	3	0	-45878	5397			933	351	SLU 80	0.07	No
fin.	3	0	-40909	-3103			933	351	SLU 80	0.11	No
ini.	3	0	-47271	5642			933	351	SLU 83	0.06	No
fin.	3	0	-39402	-3117			933	351	SLU 83	0.11	No
ini.	3	0	-46233	5556			933	351	SLU 82	0.06	No
fin.	3	0	-36637	-2992			933	351	SLU 82	0.12	No
ini.	3	0	-46974	5626			933	351	SLU 84	0.06	No
fin.	3	0	-39501	-3122			933	351	SLU 84	0.11	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-667	8799	126944	SLD 16	14.43	Si
fin.	2	-3467	-88827	126944	SLD 16	1.43	Si
ini.	2	-5125	-124910	126944	SLV 2	1.02	Si
fin.	2	1842	126234	126944	SLV 2	1.01	Si
ini.	2	1970	77344	126944	SLV 14	1.64	Si
fin.	2	-4902	-172882	126944	SLV 14	0.73	No
ini.	2	-5125	-124910	126944	SLV 1	1.02	Si
fin.	2	1842	126234	126944	SLV 1	1.01	Si
ini.	2	-5982	-139939	126944	SLV 3	0.91	No
fin.	2	1140	124007	126944	SLV 3	1.02	Si
ini.	2	-5982	-139939	126944	SLV 4	0.91	No
fin.	2	1140	124007	126944	SLV 4	1.02	Si
ini.	2	1112	62314	126944	SLV 15	2.04	Si
fin.	2	-5603	-175109	126944	SLV 15	0.72	No
ini.	2	-667	8799	126944	SLD 15	14.43	Si
fin.	2	-3467	-88827	126944	SLD 15	1.43	Si
ini.	2	1112	62314	126944	SLV 16	2.04	Si
fin.	2	-5603	-175109	126944	SLV 16	0.72	No
ini.	2	1970	77344	126944	SLV 13	1.64	Si
fin.	2	-4902	-172882	126944	SLV 13	0.73	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-124910	8288			1399	526	SLV 2	0.06	No
fin.	2	0	126234	4391			1399	526	SLV 2	0.12	No
ini.	2	0	62314	-1138			1399	526	SLV 15	0.46	No
fin.	2	0	-175109	-8270			1399	526	SLV 15	0.06	No
ini.	2	0	-86685	6386			1399	526	SLV 8	0.08	No
fin.	2	0	16718	-665			1399	526	SLV 8	0.79	No
ini.	2	0	-139939	9057			1399	526	SLV 3	0.06	No
fin.	2	0	124007	4047			1399	526	SLV 3	0.13	No
ini.	2	0	-124910	8288			1399	526	SLV 1	0.06	No
fin.	2	0	126234	4391			1399	526	SLV 1	0.12	No
ini.	2	0	77344	-1907			1399	526	SLV 13	0.28	No
fin.	2	0	-172882	-7927			1399	526	SLV 13	0.07	No
ini.	2	0	-139939	9057			1399	526	SLV 4	0.06	No
fin.	2	0	124007	4047			1399	526	SLV 4	0.13	No
ini.	2	0	77344	-1907			1399	526	SLV 14	0.28	No
fin.	2	0	-172882	-7927			1399	526	SLV 14	0.07	No
ini.	2	0	62314	-1138			1399	526	SLV 16	0.46	No
fin.	2	0	-175109	-8270			1399	526	SLV 16	0.06	No
ini.	2	0	-86685	6386			1399	526	SLV 7	0.08	No
fin.	2	0	16718	-665			1399	526	SLV 7	0.79	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.725	SLV 15	No
V_SLV	0.058	SLV 3	No
PF_SLU	2.307	SLU 83	Si
V_SLU	0.062	SLU 83	No

Trave di accoppiamento 58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-867.8	-485.9	499	546	47	-1051.8	-485.9	499	546	47	184	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb_	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-11	7127	33622	SLU 46	4.72	Si
fin.	3	298	-5491	33622	SLU 46	6.12	Si
ini.	3	282	-5815	33622	SLU 37	5.78	Si
fin.	3	-66	7981	33622	SLU 37	4.21	Si
ini.	3	-69	8482	33622	SLU 43	3.96	Si
fin.	3	323	-7403	33622	SLU 43	4.54	Si
ini.	3	-5	7406	33622	SLU 47	4.54	Si
fin.	3	311	-5506	33622	SLU 47	6.11	Si
ini.	3	-18	8048	33622	SLU 65	4.18	Si
fin.	3	318	-6010	33622	SLU 65	5.59	Si
ini.	3	-84	10396	33622	SLU 44	3.23	Si
fin.	3	381	-8693	33622	SLU 44	3.87	Si
ini.	3	-50	7819	33622	SLU 2	4.3	Si
fin.	3	290	-6277	33622	SLU 2	5.36	Si
ini.	3	11	7002	33622	SLU 52	4.8	Si
fin.	3	289	-4782	33622	SLU 52	7.03	Si
ini.	3	270	-5329	33622	SLU 35	6.31	Si
fin.	3	-55	7480	33622	SLU 35	4.49	Si
ini.	3	274	-4667	33622	SLU 38	7.2	Si
fin.	3	-31	7207	33622	SLU 38	4.67	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	1385	-642			362	136	SLU 75	0.21	No
fin.	3	0	1103	503			362	136	SLU 75	0.27	No
ini.	3	0	4654	-670			362	136	SLU 73	0.2	No
fin.	3	0	-2099	439			362	136	SLU 73	0.31	No
ini.	3	0	8048	-653			362	136	SLU 65	0.21	No
fin.	3	0	-6010	344			362	136	SLU 65	0.4	No
ini.	3	0	1665	-655			362	136	SLU 76	0.21	No
fin.	3	0	1088	503			362	136	SLU 76	0.27	No
ini.	3	0	4782	-648			362	136	SLU 61	0.21	No
fin.	3	0	-2590	423			362	136	SLU 61	0.32	No
ini.	3	0	4013	-643			362	136	SLU 55	0.21	No
fin.	3	0	-1595	437			362	136	SLU 55	0.31	No
ini.	3	0	-555	-644			362	136	SLU 84	0.21	No
fin.	3	0	3280	553			362	136	SLU 84	0.25	No
ini.	3	0	7002	-659			362	136	SLU 52	0.21	No
fin.	3	0	-4782	373			362	136	SLU 52	0.37	No
ini.	3	0	10396	-642			362	136	SLU 44	0.21	No
fin.	3	0	-8693	278			362	136	SLU 44	0.49	No
ini.	3	0	2435	-660			362	136	SLU 82	0.21	No
fin.	3	0	93	489			362	136	SLU 82	0.28	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2375	128239	48831	SLV 2	0.38	No
fin.	2	5258	-133381	48831	SLV 2	0.37	No
ini.	2	2395	-119708	48831	SLV 15	0.41	No
fin.	2	-4883	127175	48831	SLV 15	0.38	No
ini.	2	-1797	84351	48831	SLV 7	0.58	No
fin.	2	3295	-89691	48831	SLV 7	0.54	No
ini.	2	-1797	84351	48831	SLV 8	0.58	No
fin.	2	3295	-89691	48831	SLV 8	0.54	No
ini.	2	2395	-119708	48831	SLV 16	0.41	No
fin.	2	-4883	127175	48831	SLV 16	0.38	No
ini.	2	-2976	151850	48831	SLV 4	0.32	No
fin.	2	6131	-159530	48831	SLV 4	0.31	No
ini.	2	2996	-143319	48831	SLV 14	0.34	No
fin.	2	-5756	153324	48831	SLV 14	0.32	No
ini.	2	-2976	151850	48831	SLV 3	0.32	No
fin.	2	6131	-159530	48831	SLV 3	0.31	No
ini.	2	-2375	128239	48831	SLV 1	0.38	No
fin.	2	5258	-133381	48831	SLV 1	0.37	No
ini.	2	2996	-143319	48831	SLV 13	0.34	No
fin.	2	-5756	153324	48831	SLV 13	0.32	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-119708	-594			543	204	SLV 15	0.34	No
fin.	2	0	127175	1221			543	204	SLV 15	0.17	No
ini.	2	0	-75820	-1101			543	204	SLV 10	0.19	No
fin.	2	0	83485	1060			543	204	SLV 10	0.19	No
ini.	2	0	-143319	-921			543	204	SLV 14	0.22	No
fin.	2	0	153324	1489			543	204	SLV 14	0.14	No
ini.	2	0	5647	-928			543	204	SLV 6	0.22	No
fin.	2	0	-2527	425			543	204	SLV 6	0.48	No
ini.	2	0	151850	-21			543	204	SLV 3	9.93	Si
fin.	2	0	-159530	-897			543	204	SLV 3	0.23	No
ini.	2	0	151850	-21			543	204	SLV 4	9.93	Si
fin.	2	0	-159530	-897			543	204	SLV 4	0.23	No
ini.	2	0	-119708	-594			543	204	SLV 16	0.34	No
fin.	2	0	127175	1221			543	204	SLV 16	0.17	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	5647	-928			543	204	SLV 5	0.22	No
fin.	2	0	-2527	425			543	204	SLV 5	0.48	No
ini.	2	0	-143319	-921			543	204	SLV 13	0.22	No
fin.	2	0	153324	1489			543	204	SLV 13	0.14	No
ini.	2	0	-75820	-1101			543	204	SLV 9	0.19	No
fin.	2	0	83485	1060			543	204	SLV 9	0.19	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.306	SLV 3	No
V_SLV	0.137	SLV 13	No
PF_SLU	3.234	SLU 44	Si
V_SLU	0.203	SLU 73	No

Trave di accoppiamento 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-854.8	-335.9	383	546	163	-944.8	-335.9	383	546	163	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2473	-197271	231542	SLU 77	1.17	Si
fin.	3	-2473	-43004	231542	SLU 77	5.38	Si
ini.	3	-2479	-197849	231542	SLU 79	1.17	Si
fin.	3	-2479	-39283	231542	SLU 79	5.89	Si
ini.	3	-2506	-203356	231542	SLU 80	1.14	Si
fin.	3	-2506	-58794	231542	SLU 80	3.94	Si
ini.	3	-2557	-201168	231542	SLU 84	1.15	Si
fin.	3	-2557	-70075	231542	SLU 84	3.3	Si
ini.	3	-2531	-195662	231542	SLU 83	1.18	Si
fin.	3	-2531	-50564	231542	SLU 83	4.58	Si
ini.	3	-2460	-196559	231542	SLU 76	1.18	Si
fin.	3	-2460	-80829	231542	SLU 76	2.86	Si
ini.	3	-2437	-192310	231542	SLU 75	1.2	Si
fin.	3	-2437	-71542	231542	SLU 75	3.24	Si
ini.	3	-2500	-202778	231542	SLU 78	1.14	Si
fin.	3	-2500	-62515	231542	SLU 78	3.7	Si
ini.	3	-2387	-191798	231542	SLU 59	1.21	Si
fin.	3	-2387	-47873	231542	SLU 59	4.84	Si
ini.	3	-2382	-191220	231542	SLU 57	1.21	Si
fin.	3	-2382	-51594	231542	SLU 57	4.49	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-197849	2623			1758	661	SLU 79	0.25	No
fin.	3	0	-39283	950			1758	661	SLU 79	0.7	No
ini.	3	0	-184105	2421			1758	661	SLU 62	0.27	No
fin.	3	0	-39643	841			1758	661	SLU 62	0.79	No
ini.	3	0	-191798	2367			1758	661	SLU 59	0.28	No
fin.	3	0	-47873	882			1758	661	SLU 59	0.75	No
ini.	3	0	-186292	2523			1758	661	SLU 58	0.26	No
fin.	3	0	-28362	1038			1758	661	SLU 58	0.64	No
ini.	3	0	-185714	2475			1758	661	SLU 56	0.27	No
fin.	3	0	-32083	990			1758	661	SLU 56	0.67	No
ini.	3	0	-197271	2575			1758	661	SLU 77	0.26	No
fin.	3	0	-43004	903			1758	661	SLU 77	0.73	No
ini.	3	0	-195662	2520			1758	661	SLU 83	0.26	No
fin.	3	0	-50564	753			1758	661	SLU 83	0.88	No
ini.	3	0	-201168	2365			1758	661	SLU 84	0.28	No
fin.	3	0	-70075	598			1758	661	SLU 84	1.11	Si
ini.	3	0	-203356	2467			1758	661	SLU 80	0.27	No
fin.	3	0	-58794	795			1758	661	SLU 80	0.83	No
ini.	3	0	-202778	2419			1758	661	SLU 78	0.27	No
fin.	3	0	-62515	747			1758	661	SLU 78	0.89	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2832	-484853	249444	SLV 16	0.51	No
fin.	2	-1975	644743	249444	SLV 16	0.39	No
ini.	2	-3325	-669858	249444	SLV 13	0.37	No
fin.	2	-3925	583476	249444	SLV 13	0.43	No
ini.	2	-2902	-568492	249444	SLV 10	0.44	No
fin.	2	-5293	54709	249444	SLV 10	4.56	Si
ini.	2	17	421447	249444	SLV 3	0.59	No
fin.	2	617	-661802	249444	SLV 3	0.38	No
ini.	2	-2902	-568492	249444	SLV 9	0.44	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-5293	54709	249444	SLV 9	4.56	Si
ini.	2	-476	236442	249444	SLV 1	1.05	Si
fin.	2	-1333	-723068	249444	SLV 1	0.34	No
ini.	2	-476	236442	249444	SLV 2	1.05	Si
fin.	2	-1333	-723068	249444	SLV 2	0.34	No
ini.	2	17	421447	249444	SLV 4	0.59	No
fin.	2	617	-661802	249444	SLV 4	0.38	No
ini.	2	-3325	-669858	249444	SLV 14	0.37	No
fin.	2	-3925	583476	249444	SLV 14	0.43	No
ini.	2	-2832	-484853	249444	SLV 15	0.51	No
fin.	2	-1975	644743	249444	SLV 15	0.39	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-355249	7012			2637	992	SLD 14	0.14	No
fin.	2	0	226953	6045			2637	992	SLD 14	0.16	No
ini.	2	0	236442	-10407			2637	992	SLV 2	0.1	No
fin.	2	0	-723068	-11671			2637	992	SLV 2	0.09	No
ini.	2	0	421447	-11318			2637	992	SLV 3	0.09	No
fin.	2	0	-661802	-12858			2637	992	SLV 3	0.08	No
ini.	2	0	-484853	13473			2637	992	SLV 15	0.07	No
fin.	2	0	644743	12461			2637	992	SLV 15	0.08	No
ini.	2	0	236442	-10407			2637	992	SLV 1	0.1	No
fin.	2	0	-723068	-11671			2637	992	SLV 1	0.09	No
ini.	2	0	-669858	14384			2637	992	SLV 14	0.07	No
fin.	2	0	583476	13648			2637	992	SLV 14	0.07	No
ini.	2	0	421447	-11318			2637	992	SLV 4	0.09	No
fin.	2	0	-661802	-12858			2637	992	SLV 4	0.08	No
ini.	2	0	-355249	7012			2637	992	SLD 13	0.14	No
fin.	2	0	226953	6045			2637	992	SLD 13	0.16	No
ini.	2	0	-484853	13473			2637	992	SLV 16	0.07	No
fin.	2	0	644743	12461			2637	992	SLV 16	0.08	No
ini.	2	0	-669858	14384			2637	992	SLV 13	0.07	No
fin.	2	0	583476	13648			2637	992	SLV 13	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 1	No
V_SLV		SLV 13	No
PF_SLU	1.139	SLU 80	Si
V_SLU	0.252	SLU 79	No

Trave di accoppiamento 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-772.3	-486.1	499	546	47	-772.3	-377.1	499	546	47	109	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-159	9016	33622	SLU 26	3.73	Si
fin.	3	700	-14788	33622	SLU 26	2.27	Si
ini.	3	-164	9457	33622	SLU 5	3.56	Si
fin.	3	765	-17253	33622	SLU 5	1.95	Si
ini.	3	-198	10848	33622	SLU 65	3.1	Si
fin.	3	707	-13536	33622	SLU 65	2.48	Si
ini.	3	-157	8795	33622	SLU 13	3.82	Si
fin.	3	664	-13465	33622	SLU 13	2.5	Si
ini.	3	-205	11526	33622	SLU 47	2.92	Si
fin.	3	807	-17098	33622	SLU 47	1.97	Si
ini.	3	-157	8780	33622	SLU 23	3.83	Si
fin.	3	665	-13691	33622	SLU 23	2.46	Si
ini.	3	-203	11289	33622	SLU 44	2.98	Si
fin.	3	771	-16001	33622	SLU 44	2.1	Si
ini.	3	-199	10864	33622	SLU 55	3.09	Si
fin.	3	705	-13310	33622	SLU 55	2.53	Si
ini.	3	-201	11085	33622	SLU 68	3.03	Si
fin.	3	742	-14633	33622	SLU 68	2.3	Si
ini.	3	-162	9220	33622	SLU 2	3.65	Si
fin.	3	729	-16157	33622	SLU 2	2.08	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	9172	-277			362	136	SLU 75	0.49	No
fin.	3	0	-2445	1310			362	136	SLU 75	0.1	No
ini.	3	0	10187	-431			362	136	SLU 73	0.32	No
fin.	3	0	-9748	1324			362	136	SLU 73	0.1	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	9408	-302			362	136	SLU 78	0.45	No
fin.	3	0	-3542	1320			362	136	SLU 78	0.1	No
ini.	3	0	7712	-52			362	136	SLU 77	2.64	Si
fin.	3	0	8153	1263			362	136	SLU 77	0.11	No
ini.	3	0	9530	-313			362	136	SLU 80	0.43	No
fin.	3	0	-4145	1305			362	136	SLU 80	0.1	No
ini.	3	0	7076	12			362	136	SLU 81	11.32	Si
fin.	3	0	11366	1303			362	136	SLU 81	0.1	No
ini.	3	0	9009	-263			362	136	SLU 84	0.52	No
fin.	3	0	-1425	1371			362	136	SLU 84	0.1	No
ini.	3	0	8773	-239			362	136	SLU 82	0.57	No
fin.	3	0	-328	1361			362	136	SLU 82	0.1	No
ini.	3	0	7313	-13			362	136	SLU 83	10.72	Si
fin.	3	0	10270	1313			362	136	SLU 83	0.1	No
ini.	3	0	10424	-456			362	136	SLU 76	0.3	No
fin.	3	0	-10845	1334			362	136	SLU 76	0.1	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	612	-65299	48831	SLV 6	0.75	No
fin.	2	-6576	218438	48831	SLV 6	0.22	No
ini.	2	507	-72646	48831	SLV 10	0.67	No
fin.	2	-5696	191954	48831	SLV 10	0.25	No
ini.	2	253	-4193	48831	SLV 1	11.65	Si
fin.	2	-3294	109284	48831	SLV 1	0.45	No
ini.	2	253	-4193	48831	SLV 2	11.65	Si
fin.	2	-3294	109284	48831	SLV 2	0.45	No
ini.	2	-871	77455	48831	SLV 11	0.63	No
fin.	2	6614	-208196	48831	SLV 11	0.23	No
ini.	2	612	-65299	48831	SLV 5	0.75	No
fin.	2	-6576	218438	48831	SLV 5	0.22	No
ini.	2	-765	84801	48831	SLV 7	0.58	No
fin.	2	5734	-181712	48831	SLV 7	0.27	No
ini.	2	-765	84801	48831	SLV 8	0.58	No
fin.	2	5734	-181712	48831	SLV 8	0.27	No
ini.	2	507	-72646	48831	SLV 9	0.67	No
fin.	2	-5696	191954	48831	SLV 9	0.25	No
ini.	2	-871	77455	48831	SLV 12	0.63	No
fin.	2	6614	-208196	48831	SLV 12	0.23	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-65299	1676			543	204	SLV 6	0.12	No
fin.	2	0	218438	969			543	204	SLV 6	0.21	No
ini.	2	0	-4193	666			543	204	SLV 1	0.31	No
fin.	2	0	109284	1090			543	204	SLV 1	0.19	No
ini.	2	0	77455	-1770			543	204	SLV 12	0.12	No
fin.	2	0	-208196	688			543	204	SLV 12	0.3	No
ini.	2	0	84801	-1641			543	204	SLV 7	0.12	No
fin.	2	0	-181712	832			543	204	SLV 7	0.25	No
ini.	2	0	77455	-1770			543	204	SLV 11	0.12	No
fin.	2	0	-208196	688			543	204	SLV 11	0.3	No
ini.	2	0	84801	-1641			543	204	SLV 8	0.12	No
fin.	2	0	-181712	832			543	204	SLV 8	0.25	No
ini.	2	0	-72646	1547			543	204	SLV 9	0.13	No
fin.	2	0	191954	824			543	204	SLV 9	0.25	No
ini.	2	0	-4193	666			543	204	SLV 2	0.31	No
fin.	2	0	109284	1090			543	204	SLV 2	0.19	No
ini.	2	0	-72646	1547			543	204	SLV 10	0.13	No
fin.	2	0	191954	824			543	204	SLV 10	0.25	No
ini.	2	0	-65299	1676			543	204	SLV 5	0.12	No
fin.	2	0	218438	969			543	204	SLV 5	0.21	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.224	SLV 5	No
V_SLV	0.115	SLV 11	No
PF_SLU	1.949	SLU 5	Si
V_SLU	0.099	SLU 84	No

Trave di accoppiamento 61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	173	373	200	-515.8	650.6	173	373	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	714	-294757	296292	SLU 80	1.01	Si
fin.	3	-424	-189006	296292	SLU 80	1.57	Si
ini.	3	717	-296791	296292	SLU 77	1	No
fin.	3	-428	-190360	296292	SLU 77	1.56	Si
ini.	3	722	-293449	296292	SLU 81	1.01	Si
fin.	3	-429	-183634	296292	SLU 81	1.61	Si
ini.	3	734	-300687	296292	SLU 83	0.99	No
fin.	3	-436	-190275	296292	SLU 83	1.56	Si
ini.	3	704	-289553	296292	SLU 74	1.02	Si
fin.	3	-420	-183719	296292	SLU 74	1.61	Si
ini.	3	724	-294009	296292	SLU 82	1.01	Si
fin.	3	-430	-183269	296292	SLU 82	1.62	Si
ini.	3	736	-301247	296292	SLU 84	0.98	No
fin.	3	-437	-189909	296292	SLU 84	1.56	Si
ini.	3	712	-294197	296292	SLU 79	1.01	Si
fin.	3	-423	-189372	296292	SLU 79	1.56	Si
ini.	3	706	-290113	296292	SLU 75	1.02	Si
fin.	3	-421	-183354	296292	SLU 75	1.62	Si
ini.	3	719	-297350	296292	SLU 78	1	No
fin.	3	-429	-189994	296292	SLU 78	1.56	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-293449	-3135			2157	812	SLU 81	0.26	No
fin.	3	0	-183634	17900			2157	812	SLU 81	0.05	No
ini.	3	0	-294197	-3497			2157	812	SLU 79	0.23	No
fin.	3	0	-189372	18148			2157	812	SLU 79	0.04	No
ini.	3	0	-297350	-3439			2157	812	SLU 78	0.24	No
fin.	3	0	-189994	18264			2157	812	SLU 78	0.04	No
ini.	3	0	-301247	-3309			2157	812	SLU 84	0.25	No
fin.	3	0	-189909	18411			2157	812	SLU 84	0.04	No
ini.	3	0	-296791	-3488			2157	812	SLU 77	0.23	No
fin.	3	0	-190360	18273			2157	812	SLU 77	0.04	No
ini.	3	0	-290113	-3215			2157	812	SLU 75	0.25	No
fin.	3	0	-183354	17744			2157	812	SLU 75	0.05	No
ini.	3	0	-289553	-3264			2157	812	SLU 74	0.25	No
fin.	3	0	-183719	17753			2157	812	SLU 74	0.05	No
ini.	3	0	-294009	-3085			2157	812	SLU 82	0.26	No
fin.	3	0	-183269	17891			2157	812	SLU 82	0.05	No
ini.	3	0	-294757	-3448			2157	812	SLU 80	0.24	No
fin.	3	0	-189006	18139			2157	812	SLU 80	0.04	No
ini.	3	0	-300687	-3358			2157	812	SLU 83	0.24	No
fin.	3	0	-190275	18420			2157	812	SLU 83	0.04	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1565	-580521	314194	SLV 13	0.54	No
fin.	2	-996	-181077	314194	SLV 13	1.74	Si
ini.	2	1143	-515236	314194	SLV 16	0.61	No
fin.	2	-1104	-195488	314194	SLV 16	1.61	Si
ini.	2	1143	-515236	314194	SLV 15	0.61	No
fin.	2	-1104	-195488	314194	SLV 15	1.61	Si
ini.	2	937	-358218	314194	SLD 14	0.88	No
fin.	2	-586	-147760	314194	SLD 14	2.13	Si
ini.	2	759	-330994	314194	SLD 16	0.95	No
fin.	2	-632	-153841	314194	SLD 16	2.04	Si
ini.	2	759	-330994	314194	SLD 15	0.95	No
fin.	2	-632	-153841	314194	SLD 15	2.04	Si
ini.	2	937	-358218	314194	SLD 13	0.88	No
fin.	2	-586	-147760	314194	SLD 13	2.13	Si
ini.	2	1565	-580521	314194	SLV 14	0.54	No
fin.	2	-996	-181077	314194	SLV 14	1.74	Si
ini.	2	1441	-408201	314194	SLV 9	0.77	No
fin.	2	-331	-118398	314194	SLV 9	2.65	Si
ini.	2	1441	-408201	314194	SLV 10	0.77	No
fin.	2	-331	-118398	314194	SLV 10	2.65	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-358218	2050			3235	1217	SLD 13	0.59	No
fin.	2	0	-147760	16850			3235	1217	SLD 13	0.07	No
ini.	2	0	-580521	7733			3235	1217	SLV 13	0.16	No
fin.	2	0	-181077	23533			3235	1217	SLV 13	0.05	No
ini.	2	0	-190584	-2615			3235	1217	SLV 12	0.47	No
fin.	2	0	-166434	17029			3235	1217	SLV 12	0.07	No
ini.	2	0	-358218	2050			3235	1217	SLD 14	0.59	No
fin.	2	0	-147760	16850			3235	1217	SLD 14	0.07	No
ini.	2	0	-330994	1242			3235	1217	SLD 16	0.98	No
fin.	2	0	-153841	17226			3235	1217	SLD 16	0.07	No
ini.	2	0	-190584	-2615			3235	1217	SLV 11	0.47	No
fin.	2	0	-166434	17029			3235	1217	SLV 11	0.07	No
ini.	2	0	-580521	7733			3235	1217	SLV 14	0.16	No
fin.	2	0	-181077	23533			3235	1217	SLV 14	0.05	No
ini.	2	0	-515236	5855			3235	1217	SLV 16	0.21	No
fin.	2	0	-195488	24452			3235	1217	SLV 16	0.05	No
ini.	2	0	-515236	5855			3235	1217	SLV 15	0.21	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-195488	24452			3235	1217	SLV 15	0.05	No
ini.	2	0	-330994	1242			3235	1217	SLD 15	0.98	No
fin.	2	0	-153841	17226			3235	1217	SLD 15	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.541	SLV 13	No
V_SLV	0.05	SLV 15	No
PF_SLU	0.984	SLU 84	No
V_SLU	0.044	SLU 83	No

Trave di accoppiamento 62

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	453	546	93	-515.8	650.6	453	546	93	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	$\tau 0$	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-799	-43669	109042	SLU 81	2.5	Si
fin.	3	-56	29802	109042	SLU 81	3.66	Si
ini.	3	-771	-43144	109042	SLU 83	2.53	Si
fin.	3	-36	30951	109042	SLU 83	3.52	Si
ini.	3	-808	-44133	109042	SLU 82	2.47	Si
fin.	3	-58	29763	109042	SLU 82	3.66	Si
ini.	3	-752	-41546	109042	SLU 73	2.62	Si
fin.	3	-47	28479	109042	SLU 73	3.83	Si
ini.	3	-702	-40619	109042	SLU 77	2.68	Si
fin.	3	-9	31003	109042	SLU 77	3.52	Si
ini.	3	-739	-41608	109042	SLU 75	2.62	Si
fin.	3	-31	29815	109042	SLU 75	3.66	Si
ini.	3	-729	-41145	109042	SLU 74	2.65	Si
fin.	3	-29	29854	109042	SLU 74	3.65	Si
ini.	3	-711	-41083	109042	SLU 78	2.65	Si
fin.	3	-11	30964	109042	SLU 78	3.52	Si
ini.	3	-724	-41020	109042	SLU 76	2.66	Si
fin.	3	-27	29628	109042	SLU 76	3.68	Si
ini.	3	-780	-43607	109042	SLU 84	2.5	Si
fin.	3	-38	30912	109042	SLU 84	3.53	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-44133	3900			1003	377	SLU 82	0.1	No
fin.	3	0	29763	101			1003	377	SLU 82	3.72	Si
ini.	3	0	-41608	3875			1003	377	SLU 75	0.1	No
fin.	3	0	29815	-105			1003	377	SLU 75	3.61	Si
ini.	3	0	-39722	3956			1003	377	SLU 79	0.1	No
fin.	3	0	30841	-353			1003	377	SLU 79	1.07	Si
ini.	3	0	-43144	4015			1003	377	SLU 83	0.09	No
fin.	3	0	30951	-104			1003	377	SLU 83	3.64	Si
ini.	3	0	-41083	3996			1003	377	SLU 78	0.09	No
fin.	3	0	30964	-279			1003	377	SLU 78	1.35	Si
ini.	3	0	-40186	3962			1003	377	SLU 80	0.1	No
fin.	3	0	30802	-322			1003	377	SLU 80	1.17	Si
ini.	3	0	-43607	4021			1003	377	SLU 84	0.09	No
fin.	3	0	30912	-73			1003	377	SLU 84	5.19	Si
ini.	3	0	-43669	3895			1003	377	SLU 81	0.1	No
fin.	3	0	29802	71			1003	377	SLU 81	5.35	Si
ini.	3	0	-40619	3990			1003	377	SLU 77	0.09	No
fin.	3	0	31003	-310			1003	377	SLU 77	1.22	Si
ini.	3	0	-41145	3869			1003	377	SLU 74	0.1	No
fin.	3	0	29854	-135			1003	377	SLU 74	2.79	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3535	-175906	126944	SLV 13	0.72	No
fin.	2	-650	29908	126944	SLV 13	4.24	Si
ini.	2	-2858	-150820	126944	SLV 15	0.84	No
fin.	2	-344	36730	126944	SLV 15	3.46	Si
ini.	2	-3535	-175906	126944	SLV 14	0.72	No
fin.	2	-650	29908	126944	SLV 14	4.24	Si
ini.	2	1906	96792	126944	SLV 2	1.31	Si
fin.	2	315	2950	126944	SLV 2	43.03	Si
ini.	2	2583	121879	126944	SLV 3	1.04	Si
fin.	2	621	9772	126944	SLV 3	12.99	Si
ini.	2	-2420	-109728	126944	SLV 10	1.16	Si
fin.	2	-669	12514	126944	SLV 10	10.14	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1906	96792	126944	SLV 1	1.31	Si
fin.	2	315	2950	126944	SLV 1	43.03	Si
ini.	2	2583	121879	126944	SLV 4	1.04	Si
fin.	2	621	9772	126944	SLV 4	12.99	Si
ini.	2	-2858	-150820	126944	SLV 16	0.84	No
fin.	2	-344	36730	126944	SLV 16	3.46	Si
ini.	2	-2420	-109728	126944	SLV 9	1.16	Si
fin.	2	-669	12514	126944	SLV 9	10.14	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-150820	6626			1504	566	SLV 15	0.09	No
fin.	2	0	36730	6420			1504	566	SLV 15	0.09	No
ini.	2	0	121879	-1538			1504	566	SLV 4	0.37	No
fin.	2	0	9772	-7947			1504	566	SLV 4	0.07	No
ini.	2	0	-175906	6668			1504	566	SLV 13	0.08	No
fin.	2	0	29908	7765			1504	566	SLV 13	0.07	No
ini.	2	0	-150820	6626			1504	566	SLV 16	0.09	No
fin.	2	0	36730	6420			1504	566	SLV 16	0.09	No
ini.	2	0	121879	-1538			1504	566	SLV 3	0.37	No
fin.	2	0	9772	-7947			1504	566	SLV 3	0.07	No
ini.	2	0	55701	1270			1504	566	SLV 7	0.45	No
fin.	2	0	27166	-4487			1504	566	SLV 7	0.13	No
ini.	2	0	-175906	6668			1504	566	SLV 14	0.08	No
fin.	2	0	29908	7765			1504	566	SLV 14	0.07	No
ini.	2	0	96792	-1495			1504	566	SLV 1	0.38	No
fin.	2	0	2950	-6602			1504	566	SLV 1	0.09	No
ini.	2	0	96792	-1495			1504	566	SLV 2	0.38	No
fin.	2	0	2950	-6602			1504	566	SLV 2	0.09	No
ini.	2	0	55701	1270			1504	566	SLV 8	0.45	No
fin.	2	0	27166	-4487			1504	566	SLV 8	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.722	SLV 13	No
V_SLV		0.071	SLV 3	No
PF_SLU		2.471	SLU 82	Si
V_SLU		0.094	SLU 84	No

Trave di accoppiamento 63

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-646.3	-335.9	173	263	90	-746.3	-335.9	173	263	90	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _w	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-5334	-173477	103792	SLU 73	0.6	No
fin.	3	-4166	-88255	103792	SLU 73	1.18	Si
ini.	3	-5076	-163790	103792	SLU 68	0.63	No
fin.	3	-3933	-78086	103792	SLU 68	1.33	Si
ini.	3	-4953	-168773	103792	SLU 84	0.61	No
fin.	3	-4110	-84774	103792	SLU 84	1.22	Si
ini.	3	-4893	-167154	103792	SLU 80	0.62	No
fin.	3	-4076	-78864	103792	SLU 80	1.32	Si
ini.	3	-5028	-160867	103792	SLU 52	0.65	No
fin.	3	-3890	-80200	103792	SLU 52	1.29	Si
ini.	3	-5117	-165300	103792	SLU 55	0.63	No
fin.	3	-4004	-77484	103792	SLU 55	1.34	Si
ini.	3	-4913	-167353	103792	SLU 78	0.62	No
fin.	3	-4080	-80446	103792	SLU 78	1.29	Si
ini.	3	-5423	-177911	103792	SLU 76	0.58	No
fin.	3	-4280	-85539	103792	SLU 76	1.21	Si
ini.	3	-4824	-162919	103792	SLU 75	0.64	No
fin.	3	-3966	-83162	103792	SLU 75	1.25	Si
ini.	3	-4864	-164339	103792	SLU 82	0.63	No
fin.	3	-3997	-87490	103792	SLU 82	1.19	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-154742	-344			873	329	SLU 57	0.95	No
fin.	3	0	-72392	1194			873	329	SLU 57	0.28	No
ini.	3	0	-144567	-284			873	329	SLU 77	1.16	Si
fin.	3	0	-74508	1261			873	329	SLU 77	0.26	No
ini.	3	0	-168773	-426			873	329	SLU 84	0.77	No
fin.	3	0	-84774	1266			873	329	SLU 84	0.26	No
ini.	3	0	-167154	-356			873	329	SLU 80	0.92	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-78864	1307			873	329	SLU 80	0.25	No
ini.	3	0	-154543	-317			873	329	SLU 59	1.04	Si
fin.	3	0	-70809	1209			873	329	SLU 59	0.27	No
ini.	3	0	-145986	-326			873	329	SLU 83	1.01	Si
fin.	3	0	-78835	1235			873	329	SLU 83	0.27	No
ini.	3	0	-177911	-487			873	329	SLU 76	0.68	No
fin.	3	0	-85539	1226			873	329	SLU 76	0.27	No
ini.	3	0	-144368	-256			873	329	SLU 79	1.28	Si
fin.	3	0	-72926	1275			873	329	SLU 79	0.26	No
ini.	3	0	-167353	-384			873	329	SLU 78	0.86	No
fin.	3	0	-80446	1292			873	329	SLU 78	0.25	No
ini.	3	0	-162919	-448			873	329	SLU 75	0.73	No
fin.	3	0	-83162	1191			873	329	SLU 75	0.28	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-5523	77396	121694	SLV 2	1.57	Si
fin.	2	-763	-396532	121694	SLV 2	0.31	No
ini.	2	167	-266658	121694	SLV 15	0.46	No
fin.	2	-3968	286730	121694	SLV 15	0.42	No
ini.	2	7552	-98876	121694	SLV 12	1.23	Si
fin.	2	3021	284676	121694	SLV 12	0.43	No
ini.	2	-12908	-90386	121694	SLV 5	1.35	Si
fin.	2	-7751	-394477	121694	SLV 5	0.31	No
ini.	2	167	-266658	121694	SLV 16	0.46	No
fin.	2	-3968	286730	121694	SLV 16	0.42	No
ini.	2	-6015	-297886	121694	SLV 14	0.41	No
fin.	2	-7836	130409	121694	SLV 14	0.93	No
ini.	2	-6015	-297886	121694	SLV 13	0.41	No
fin.	2	-7836	130409	121694	SLV 13	0.93	No
ini.	2	-5523	77396	121694	SLV 1	1.57	Si
fin.	2	-763	-396532	121694	SLV 1	0.31	No
ini.	2	-12908	-90386	121694	SLV 6	1.35	Si
fin.	2	-7751	-394477	121694	SLV 6	0.31	No
ini.	2	7552	-98876	121694	SLV 11	1.23	Si
fin.	2	3021	284676	121694	SLV 11	0.43	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	77396	-6702			1310	493	SLV 1	0.07	No
fin.	2	0	-396532	-5151			1310	493	SLV 1	0.1	No
ini.	2	0	-266658	6141			1310	493	SLV 15	0.08	No
fin.	2	0	286730	6618			1310	493	SLV 15	0.07	No
ini.	2	0	-297886	5195			1310	493	SLV 14	0.09	No
fin.	2	0	130409	7490			1310	493	SLV 14	0.07	No
ini.	2	0	-202971	-73			1310	493	SLV 10	6.73	Si
fin.	2	0	-236395	4082			1310	493	SLV 10	0.12	No
ini.	2	0	-266658	6141			1310	493	SLV 16	0.08	No
fin.	2	0	286730	6618			1310	493	SLV 16	0.07	No
ini.	2	0	108624	-5756			1310	493	SLV 4	0.09	No
fin.	2	0	-240210	-6023			1310	493	SLV 4	0.08	No
ini.	2	0	-297886	5195			1310	493	SLV 13	0.09	No
fin.	2	0	130409	7490			1310	493	SLV 13	0.07	No
ini.	2	0	108624	-5756			1310	493	SLV 3	0.09	No
fin.	2	0	-240210	-6023			1310	493	SLV 3	0.08	No
ini.	2	0	77396	-6702			1310	493	SLV 2	0.07	No
fin.	2	0	-396532	-5151			1310	493	SLV 2	0.1	No
ini.	2	0	-202971	-73			1310	493	SLV 9	6.73	Si
fin.	2	0	-236395	4082			1310	493	SLV 9	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.307	SLV 1	No
V_SLV	0.066	SLV 13	No
PF_SLU	0.583	SLU 76	No
V_SLU	0.252	SLU 80	No

Trave di accoppiamento 64

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-646.3	-335.9	453	546	93	-746.3	-335.9	453	546	93	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _w	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	727	-38050	109042	SLU 77	2.87	Si
fin.	3	1013	8290	109042	SLU 77	13.15	Si



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	636	-34668	109042	SLU 56	3.15	Si
fin.	3	876	6499	109042	SLU 56	16.78	Si
ini.	3	822	-35330	109042	SLU 74	3.09	Si
fin.	3	992	7500	109042	SLU 74	14.54	Si
ini.	3	957	-36421	109042	SLU 80	2.99	Si
fin.	3	1148	11732	109042	SLU 80	9.29	Si
ini.	3	878	-35059	109042	SLU 81	3.11	Si
fin.	3	997	7313	109042	SLU 81	14.91	Si
ini.	3	1003	-36025	109042	SLU 78	3.03	Si
fin.	3	1158	11541	109042	SLU 78	9.45	Si
ini.	3	783	-37779	109042	SLU 83	2.89	Si
fin.	3	1019	8103	109042	SLU 83	13.46	Si
ini.	3	591	-35064	109042	SLU 58	3.11	Si
fin.	3	866	6690	109042	SLU 58	16.3	Si
ini.	3	1059	-35754	109042	SLU 84	3.05	Si
fin.	3	1163	11354	109042	SLU 84	9.6	Si
ini.	3	682	-38446	109042	SLU 79	2.84	Si
fin.	3	1004	8481	109042	SLU 79	12.86	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-33034	4214			933	351	SLU 82	0.08	No
fin.	3	0	10564	-2681			933	351	SLU 82	0.13	No
ini.	3	0	-33305	4151			933	351	SLU 75	0.08	No
fin.	3	0	10751	-2591			933	351	SLU 75	0.14	No
ini.	3	0	-35754	4372			933	351	SLU 84	0.08	No
fin.	3	0	11354	-2658			933	351	SLU 84	0.13	No
ini.	3	0	-37779	4420			933	351	SLU 83	0.08	No
fin.	3	0	8103	-2617			933	351	SLU 83	0.13	No
ini.	3	0	-36025	4310			933	351	SLU 78	0.08	No
fin.	3	0	11541	-2568			933	351	SLU 78	0.14	No
ini.	3	0	-38050	4357			933	351	SLU 77	0.08	No
fin.	3	0	8290	-2527			933	351	SLU 77	0.14	No
ini.	3	0	-35059	4261			933	351	SLU 81	0.08	No
fin.	3	0	7313	-2640			933	351	SLU 81	0.13	No
ini.	3	0	-38446	4359			933	351	SLU 79	0.08	No
fin.	3	0	8481	-2492			933	351	SLU 79	0.14	No
ini.	3	0	-35330	4198			933	351	SLU 74	0.08	No
fin.	3	0	7500	-2550			933	351	SLU 74	0.14	No
ini.	3	0	-36421	4312			933	351	SLU 80	0.08	No
fin.	3	0	11732	-2533			933	351	SLU 80	0.14	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3701	-125779	126944	SLV 13	1.01	Si
fin.	2	1735	30494	126944	SLV 13	4.16	Si
ini.	2	-626	-26653	126944	SLV 7	4.76	Si
fin.	2	520	112478	126944	SLV 7	1.13	Si
ini.	2	-3742	-95716	126944	SLV 11	1.33	Si
fin.	2	1195	151020	126944	SLV 11	0.84	No
ini.	2	-3742	-95716	126944	SLV 12	1.33	Si
fin.	2	1195	151020	126944	SLV 12	0.84	No
ini.	2	5030	51057	126944	SLV 5	2.49	Si
fin.	2	140	-142123	126944	SLV 5	0.89	No
ini.	2	-5398	-149092	126944	SLV 15	0.85	No
fin.	2	1849	106875	126944	SLV 15	1.19	Si
ini.	2	-626	-26653	126944	SLV 8	4.76	Si
fin.	2	520	112478	126944	SLV 8	1.13	Si
ini.	2	5030	51057	126944	SLV 6	2.49	Si
fin.	2	140	-142123	126944	SLV 6	0.89	No
ini.	2	-5398	-149092	126944	SLV 16	0.85	No
fin.	2	1849	106875	126944	SLV 16	1.19	Si
ini.	2	-3701	-125779	126944	SLV 14	1.01	Si
fin.	2	1735	30494	126944	SLV 14	4.16	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-149092	8244			1399	526	SLV 15	0.06	No
fin.	2	0	106875	3101			1399	526	SLV 15	0.17	No
ini.	2	0	-95716	5850			1399	526	SLV 12	0.09	No
fin.	2	0	151020	2357			1399	526	SLV 12	0.22	No
ini.	2	0	51057	-317			1399	526	SLV 6	1.66	Si
fin.	2	0	-142123	-5948			1399	526	SLV 6	0.09	No
ini.	2	0	104433	-2711			1399	526	SLV 1	0.19	No
fin.	2	0	-97977	-6692			1399	526	SLV 1	0.08	No
ini.	2	0	104433	-2711			1399	526	SLV 2	0.19	No
fin.	2	0	-97977	-6692			1399	526	SLV 2	0.08	No
ini.	2	0	-149092	8244			1399	526	SLV 16	0.06	No
fin.	2	0	106875	3101			1399	526	SLV 16	0.17	No
ini.	2	0	-125779	7294			1399	526	SLV 14	0.07	No
fin.	2	0	30494	1332			1399	526	SLV 14	0.4	No
ini.	2	0	51057	-317			1399	526	SLV 5	1.66	Si
fin.	2	0	-142123	-5948			1399	526	SLV 5	0.09	No
ini.	2	0	-125779	7294			1399	526	SLV 13	0.07	No
fin.	2	0	30494	1332			1399	526	SLV 13	0.4	No
ini.	2	0	-95716	5850			1399	526	SLV 11	0.09	No
fin.	2	0	151020	2357			1399	526	SLV 11	0.22	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.841	SLV 11	No
V_SLV	0.064	SLV 15	No
PF_SLU	2.836	SLU 79	Si
V_SLU	0.079	SLU 83	No

Trave di accoppiamento 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	173	373	200	-600.8	-335.9	173	373	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1326	378283	296292	SLU 79	0.78	No
fin.	3	-2740	-153860	296292	SLU 79	1.93	Si
ini.	3	-1458	367435	296292	SLU 75	0.81	No
fin.	3	-3402	-220185	296292	SLU 75	1.35	Si
ini.	3	-1267	387445	296292	SLU 81	0.76	No
fin.	3	-2688	-150843	296292	SLU 81	1.96	Si
ini.	3	-1316	390925	296292	SLU 83	0.76	No
fin.	3	-2759	-154842	296292	SLU 83	1.91	Si
ini.	3	-1281	377629	296292	SLU 74	0.78	No
fin.	3	-2683	-150766	296292	SLU 74	1.97	Si
ini.	3	-1507	370915	296292	SLU 78	0.8	No
fin.	3	-3474	-224184	296292	SLU 78	1.32	Si
ini.	3	-1444	377251	296292	SLU 82	0.79	No
fin.	3	-3408	-220261	296292	SLU 82	1.35	Si
ini.	3	-1503	368089	296292	SLU 80	0.8	No
fin.	3	-3460	-223278	296292	SLU 80	1.33	Si
ini.	3	-1493	380731	296292	SLU 84	0.78	No
fin.	3	-3479	-224260	296292	SLU 84	1.32	Si
ini.	3	-1330	381109	296292	SLU 77	0.78	No
fin.	3	-2754	-154765	296292	SLU 77	1.91	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	380731	-9794			2157	812	SLU 84	0.08	No
fin.	3	0	-224260	-6633			2157	812	SLU 84	0.12	No
ini.	3	0	377251	-9665			2157	812	SLU 82	0.08	No
fin.	3	0	-220261	-6547			2157	812	SLU 82	0.12	No
ini.	3	0	354332	-9411			2157	812	SLU 73	0.09	No
fin.	3	0	-261560	-6376			2157	812	SLU 73	0.13	No
ini.	3	0	390925	-9588			2157	812	SLU 83	0.08	No
fin.	3	0	-154842	-6507			2157	812	SLU 83	0.12	No
ini.	3	0	387445	-9460			2157	812	SLU 81	0.09	No
fin.	3	0	-150843	-6421			2157	812	SLU 81	0.13	No
ini.	3	0	381109	-9394			2157	812	SLU 77	0.09	No
fin.	3	0	-154765	-6381			2157	812	SLU 77	0.13	No
ini.	3	0	367435	-9471			2157	812	SLU 75	0.09	No
fin.	3	0	-220185	-6421			2157	812	SLU 75	0.13	No
ini.	3	0	357813	-9539			2157	812	SLU 76	0.09	No
fin.	3	0	-265559	-6462			2157	812	SLU 76	0.13	No
ini.	3	0	370915	-9599			2157	812	SLU 78	0.08	No
fin.	3	0	-224184	-6506			2157	812	SLU 78	0.12	No
ini.	3	0	368089	-9531			2157	812	SLU 80	0.09	No
fin.	3	0	-223278	-6464			2157	812	SLU 80	0.13	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1367	658296	314194	SLV 3	0.48	No
fin.	2	466	33651	314194	SLV 3	9.34	Si
ini.	2	-5027	7413	314194	SLV 10	42.38	Si
fin.	2	-10530	-659024	314194	SLV 10	0.48	No
ini.	2	-4194	570682	314194	SLV 1	0.55	No
fin.	2	-4796	-305124	314194	SLV 1	1.03	Si
ini.	2	-4194	570682	314194	SLV 2	0.55	No
fin.	2	-4796	-305124	314194	SLV 2	1.03	Si
ini.	2	-1367	658296	314194	SLV 4	0.48	No
fin.	2	466	33651	314194	SLV 4	9.34	Si
ini.	2	-6165	220206	314194	SLV 5	1.43	Si
fin.	2	-10716	-678103	314194	SLV 5	0.46	No
ini.	2	-6165	220206	314194	SLV 6	1.43	Si
fin.	2	-10716	-678103	314194	SLV 6	0.46	No
ini.	2	3258	512255	314194	SLV 7	0.61	No
fin.	2	6821	451147	314194	SLV 7	0.7	No
ini.	2	-5027	7413	314194	SLV 9	42.38	Si

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Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-10530	-659024	314194	SLV 9	0.48	No
ini.	2	3258	512255	314194	SLV 8	0.61	No
fin.	2	6821	451147	314194	SLV 8	0.7	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	658296	-16567			3235	1217	SLV 3	0.07	No
fin.	2	0	33651	-15362			3235	1217	SLV 3	0.08	No
ini.	2	0	220206	-11632			3235	1217	SLV 5	0.1	No
fin.	2	0	-678103	-7194			3235	1217	SLV 5	0.17	No
ini.	2	0	570682	-17789			3235	1217	SLV 1	0.07	No
fin.	2	0	-305124	-15117			3235	1217	SLV 1	0.08	No
ini.	2	0	220206	-11632			3235	1217	SLV 6	0.1	No
fin.	2	0	-678103	-7194			3235	1217	SLV 6	0.17	No
ini.	2	0	395264	-11208			3235	1217	SLD 1	0.11	No
fin.	2	0	-183515	-8925			3235	1217	SLD 1	0.14	No
ini.	2	0	658296	-16567			3235	1217	SLV 4	0.07	No
fin.	2	0	33651	-15362			3235	1217	SLV 4	0.08	No
ini.	2	0	570682	-17789			3235	1217	SLV 2	0.07	No
fin.	2	0	-305124	-15117			3235	1217	SLV 2	0.08	No
ini.	2	0	428298	-10725			3235	1217	SLD 4	0.11	No
fin.	2	0	-51198	-9023			3235	1217	SLD 4	0.13	No
ini.	2	0	395264	-11208			3235	1217	SLD 2	0.11	No
fin.	2	0	-183515	-8925			3235	1217	SLD 2	0.14	No
ini.	2	0	428298	-10725			3235	1217	SLD 3	0.11	No
fin.	2	0	-51198	-9023			3235	1217	SLD 3	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.463	SLV 5	No
V_SLV	0.068	SLV 1	No
PF_SLU	0.758	SLU 83	No
V_SLU	0.083	SLU 84	No

Trave di accoppiamento 66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	453	546	93	-600.8	-335.9	453	546	93	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1827	76367	109042	SLU 84	1.43	Si
fin.	3	817	-68113	109042	SLU 84	1.6	Si
ini.	3	1974	79417	109042	SLU 76	1.37	Si
fin.	3	972	-66157	109042	SLU 76	1.65	Si
ini.	3	1885	73195	109042	SLU 52	1.49	Si
fin.	3	998	-57737	109042	SLU 52	1.89	Si
ini.	3	1873	73280	109042	SLU 68	1.49	Si
fin.	3	974	-59067	109042	SLU 68	1.85	Si
ini.	3	2041	79492	109042	SLU 73	1.37	Si
fin.	3	1064	-63827	109042	SLU 73	1.71	Si
ini.	3	1764	74440	109042	SLU 78	1.46	Si
fin.	3	770	-67431	109042	SLU 78	1.62	Si
ini.	3	1831	74515	109042	SLU 75	1.46	Si
fin.	3	862	-65101	109042	SLU 75	1.67	Si
ini.	3	1894	76442	109042	SLU 82	1.43	Si
fin.	3	909	-65782	109042	SLU 82	1.66	Si
ini.	3	1717	73661	109042	SLU 80	1.48	Si
fin.	3	726	-67405	109042	SLU 80	1.62	Si
ini.	3	1940	73355	109042	SLU 65	1.49	Si
fin.	3	1065	-56737	109042	SLU 65	1.92	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	67920	-2142			1003	377	SLU 81	0.18	No
fin.	3	0	-64157	-6413			1003	377	SLU 81	0.06	No
ini.	3	0	67845	-2190			1003	377	SLU 83	0.17	No
fin.	3	0	-66488	-6529			1003	377	SLU 83	0.06	No
ini.	3	0	74440	-2412			1003	377	SLU 78	0.16	No
fin.	3	0	-67431	-6630			1003	377	SLU 78	0.06	No
ini.	3	0	74515	-2364			1003	377	SLU 75	0.16	No
fin.	3	0	-65101	-6515			1003	377	SLU 75	0.06	No
ini.	3	0	79492	-2480			1003	377	SLU 73	0.15	No
fin.	3	0	-63827	-6514			1003	377	SLU 73	0.06	No
ini.	3	0	76442	-2402			1003	377	SLU 82	0.16	No
fin.	3	0	-65782	-6648			1003	377	SLU 82	0.06	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	76367	-2450			1003	377	SLU 84	0.15	No
fin.	3	0	-68113	-6764			1003	377	SLU 84	0.06	No
ini.	3	0	79417	-2528			1003	377	SLU 76	0.15	No
fin.	3	0	-66157	-6629			1003	377	SLU 76	0.06	No
ini.	3	0	65919	-2152			1003	377	SLU 77	0.18	No
fin.	3	0	-65807	-6395			1003	377	SLU 77	0.06	No
ini.	3	0	73661	-2403			1003	377	SLU 80	0.16	No
fin.	3	0	-67405	-6588			1003	377	SLU 80	0.06	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	6615	153092	126944	SLV 6	0.83	No
fin.	2	5083	-31363	126944	SLV 6	4.05	Si
ini.	2	7850	219447	126944	SLV 1	0.58	No
fin.	2	5926	-18148	126944	SLV 1	6.99	Si
ini.	2	6615	153092	126944	SLV 5	0.83	No
fin.	2	5083	-31363	126944	SLV 5	4.05	Si
ini.	2	5559	183086	126944	SLV 3	0.69	No
fin.	2	3980	-20558	126944	SLV 3	6.17	Si
ini.	2	7850	219447	126944	SLV 2	0.58	No
fin.	2	5926	-18148	126944	SLV 2	6.99	Si
ini.	2	5559	183086	126944	SLV 4	0.69	No
fin.	2	3980	-20558	126944	SLV 4	6.17	Si
ini.	2	3965	119268	126944	SLD 1	1.06	Si
fin.	2	2801	-31895	126944	SLD 1	3.98	Si
ini.	2	3965	119268	126944	SLD 2	1.06	Si
fin.	2	2801	-31895	126944	SLD 2	3.98	Si
ini.	2	-5606	-127704	126944	SLV 15	0.99	No
fin.	2	-4910	-66347	126944	SLV 15	1.91	Si
ini.	2	-5606	-127704	126944	SLV 16	0.99	No
fin.	2	-4910	-66347	126944	SLV 16	1.91	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	105127	-2939			1504	566	SLD 4	0.19	No
fin.	2	0	-33088	-5601			1504	566	SLD 4	0.1	No
ini.	2	0	119268	-2664			1504	566	SLD 2	0.21	No
fin.	2	0	-31895	-5903			1504	566	SLD 2	0.1	No
ini.	2	0	183086	-4983			1504	566	SLV 3	0.11	No
fin.	2	0	-20558	-7375			1504	566	SLV 3	0.08	No
ini.	2	0	219447	-4324			1504	566	SLV 2	0.13	No
fin.	2	0	-18148	-8181			1504	566	SLV 2	0.07	No
ini.	2	0	219447	-4324			1504	566	SLV 1	0.13	No
fin.	2	0	-18148	-8181			1504	566	SLV 1	0.07	No
ini.	2	0	153092	-1293			1504	566	SLV 5	0.44	No
fin.	2	0	-31363	-6650			1504	566	SLV 5	0.09	No
ini.	2	0	119268	-2664			1504	566	SLD 1	0.21	No
fin.	2	0	-31895	-5903			1504	566	SLD 1	0.1	No
ini.	2	0	105127	-2939			1504	566	SLD 3	0.19	No
fin.	2	0	-33088	-5601			1504	566	SLD 3	0.1	No
ini.	2	0	183086	-4983			1504	566	SLV 4	0.11	No
fin.	2	0	-20558	-7375			1504	566	SLV 4	0.08	No
ini.	2	0	153092	-1293			1504	566	SLV 6	0.44	No
fin.	2	0	-31363	-6650			1504	566	SLV 6	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.578	SLV 1	No
V_SLV	0.069	SLV 1	No
PF_SLU	1.372	SLU 73	Si
V_SLU	0.056	SLU 84	No

Trave di accoppiamento 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-223.3	-335.9	173	263	90	-323.3	-335.9	173	263	90	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	10460	-7881	103792	SLU 75	13.17	Si
fin.	3	10155	96410	103792	SLU 75	1.08	Si
ini.	3	11360	344	103792	SLU 68	301.7	Si
fin.	3	11138	96006	103792	SLU 68	1.08	Si
ini.	3	10717	-9109	103792	SLU 84	11.39	Si
fin.	3	10397	99537	103792	SLU 84	1.04	Si
ini.	3	11256	-951	103792	SLU 52	109.16	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	11042	95720	103792	SLU 52	1.08	Si
ini.	3	10569	-7515	103792	SLU 78	13.81	Si
fin.	3	10254	97590	103792	SLU 78	1.06	Si
ini.	3	11364	-585	103792	SLU 55	177.56	Si
fin.	3	11140	96900	103792	SLU 55	1.07	Si
ini.	3	12100	-3100	103792	SLU 76	33.48	Si
fin.	3	11835	104807	103792	SLU 76	0.99	No
ini.	3	10608	-9476	103792	SLU 82	10.95	Si
fin.	3	10298	98357	103792	SLU 82	1.06	Si
ini.	3	10508	-7267	103792	SLU 80	14.28	Si
fin.	3	10196	96945	103792	SLU 80	1.07	Si
ini.	3	11991	-3466	103792	SLU 73	29.94	Si
fin.	3	11737	103627	103792	SLU 73	1	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-7515	1536			873	329	SLU 78	0.21	No
fin.	3	0	97590	1248			873	329	SLU 78	0.26	No
ini.	3	0	-9476	1581			873	329	SLU 82	0.21	No
fin.	3	0	98357	1267			873	329	SLU 82	0.26	No
ini.	3	0	-3466	1720			873	329	SLU 73	0.19	No
fin.	3	0	103627	1061			873	329	SLU 73	0.31	No
ini.	3	0	-7881	1532			873	329	SLU 75	0.21	No
fin.	3	0	96410	1227			873	329	SLU 75	0.27	No
ini.	3	0	-9109	1584			873	329	SLU 84	0.21	No
fin.	3	0	99537	1289			873	329	SLU 84	0.26	No
ini.	3	0	-3100	1723			873	329	SLU 76	0.19	No
fin.	3	0	104807	1082			873	329	SLU 76	0.3	No
ini.	3	0	-22	1583			873	329	SLU 65	0.21	No
fin.	3	0	94826	881			873	329	SLU 65	0.37	No
ini.	3	0	-585	1613			873	329	SLU 55	0.2	No
fin.	3	0	96900	921			873	329	SLU 55	0.36	No
ini.	3	0	344	1586			873	329	SLU 68	0.21	No
fin.	3	0	96006	902			873	329	SLU 68	0.36	No
ini.	3	0	-951	1610			873	329	SLU 52	0.2	No
fin.	3	0	95720	899			873	329	SLU 52	0.37	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2237	-254249	121694	SLV 16	0.48	No
fin.	2	-1840	269861	121694	SLV 16	0.45	No
ini.	2	-1553	191830	121694	SLV 3	0.63	No
fin.	2	1419	-194381	121694	SLV 3	0.63	No
ini.	2	-1553	191830	121694	SLV 4	0.63	No
fin.	2	1419	-194381	121694	SLV 4	0.63	No
ini.	2	12423	-210162	121694	SLV 13	0.58	No
fin.	2	8974	307044	121694	SLV 13	0.4	No
ini.	2	2237	-254249	121694	SLV 15	0.48	No
fin.	2	-1840	269861	121694	SLV 15	0.45	No
ini.	2	8632	235918	121694	SLV 1	0.52	No
fin.	2	12233	-157198	121694	SLV 1	0.77	No
ini.	2	22980	-2599	121694	SLV 9	46.83	Si
fin.	2	22731	187940	121694	SLV 9	0.65	No
ini.	2	12423	-210162	121694	SLV 14	0.58	No
fin.	2	8974	307044	121694	SLV 14	0.4	No
ini.	2	22980	-2599	121694	SLV 10	46.83	Si
fin.	2	22731	187940	121694	SLV 10	0.65	No
ini.	2	8632	235918	121694	SLV 2	0.52	No
fin.	2	12233	-157198	121694	SLV 2	0.77	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-254249	6394			1310	493	SLV 16	0.08	No
fin.	2	0	269861	7435			1310	493	SLV 16	0.07	No
ini.	2	0	235918	-4691			1310	493	SLV 1	0.11	No
fin.	2	0	-157198	-5551			1310	493	SLV 1	0.09	No
ini.	2	0	-149556	2014			1310	493	SLV 12	0.24	No
fin.	2	0	63996	4089			1310	493	SLV 12	0.12	No
ini.	2	0	-149556	2014			1310	493	SLV 11	0.24	No
fin.	2	0	63996	4089			1310	493	SLV 11	0.12	No
ini.	2	0	235918	-4691			1310	493	SLV 2	0.11	No
fin.	2	0	-157198	-5551			1310	493	SLV 2	0.09	No
ini.	2	0	191830	-5021			1310	493	SLV 4	0.1	No
fin.	2	0	-194381	-4761			1310	493	SLV 4	0.1	No
ini.	2	0	191830	-5021			1310	493	SLV 3	0.1	No
fin.	2	0	-194381	-4761			1310	493	SLV 3	0.1	No
ini.	2	0	-254249	6394			1310	493	SLV 15	0.08	No
fin.	2	0	269861	7435			1310	493	SLV 15	0.07	No
ini.	2	0	-210162	6724			1310	493	SLV 14	0.07	No
fin.	2	0	307044	6644			1310	493	SLV 14	0.07	No
ini.	2	0	-210162	6724			1310	493	SLV 13	0.07	No
fin.	2	0	307044	6644			1310	493	SLV 13	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.396	SLV 13	No
V_SLV	0.066	SLV 15	No



Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.99	SLU 76	No
V_SLU	0.191	SLU 76	No

Trave di accoppiamento 68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-223.3	-335.9	453	546	93	-323.3	-335.9	453	546	93	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2356	-73718	109042	SLU 77	1.48	Si
fin.	3	-838	18668	109042	SLU 77	5.84	Si
ini.	3	-2378	-75555	109042	SLU 83	1.44	Si
fin.	3	-812	19759	109042	SLU 83	5.52	Si
ini.	3	-2553	-79482	109042	SLU 84	1.37	Si
fin.	3	-785	27112	109042	SLU 84	4.02	Si
ini.	3	-2323	-74687	109042	SLU 81	1.46	Si
fin.	3	-759	20165	109042	SLU 81	5.41	Si
ini.	3	-2477	-76777	109042	SLU 75	1.42	Si
fin.	3	-758	26427	109042	SLU 75	4.13	Si
ini.	3	-2532	-77645	109042	SLU 78	1.4	Si
fin.	3	-811	26021	109042	SLU 78	4.19	Si
ini.	3	-2519	-76882	109042	SLU 80	1.42	Si
fin.	3	-821	25672	109042	SLU 80	4.25	Si
ini.	3	-2498	-78614	109042	SLU 82	1.39	Si
fin.	3	-732	27518	109042	SLU 82	3.96	Si
ini.	3	-2526	-77763	109042	SLU 73	1.4	Si
fin.	3	-697	31386	109042	SLU 73	3.47	Si
ini.	3	-2581	-78631	109042	SLU 76	1.39	Si
fin.	3	-750	30980	109042	SLU 76	3.52	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-76882	3756			933	351	SLU 80	0.09	No
fin.	3	0	25672	-426			933	351	SLU 80	0.82	No
ini.	3	0	-78614	3851			933	351	SLU 82	0.09	No
fin.	3	0	27518	-399			933	351	SLU 82	0.88	No
ini.	3	0	-78631	3792			933	351	SLU 76	0.09	No
fin.	3	0	30980	-169			933	351	SLU 76	2.08	Si
ini.	3	0	-76777	3753			933	351	SLU 75	0.09	No
fin.	3	0	26427	-390			933	351	SLU 75	0.9	No
ini.	3	0	-75555	3779			933	351	SLU 83	0.09	No
fin.	3	0	19759	-769			933	351	SLU 83	0.46	No
ini.	3	0	-77645	3791			933	351	SLU 78	0.09	No
fin.	3	0	26021	-422			933	351	SLU 78	0.83	No
ini.	3	0	-74687	3741			933	351	SLU 81	0.09	No
fin.	3	0	20165	-737			933	351	SLU 81	0.48	No
ini.	3	0	-73718	3681			933	351	SLU 77	0.1	No
fin.	3	0	18668	-760			933	351	SLU 77	0.46	No
ini.	3	0	-77763	3754			933	351	SLU 73	0.09	No
fin.	3	0	31386	-136			933	351	SLU 73	2.57	Si
ini.	3	0	-79482	3889			933	351	SLU 84	0.09	No
fin.	3	0	27112	-431			933	351	SLU 84	0.81	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-5009	-249269	126944	SLV 15	0.51	No
fin.	2	2548	185193	126944	SLV 15	0.69	No
ini.	2	1861	150952	126944	SLV 1	0.84	No
fin.	2	-3638	-159122	126944	SLV 1	0.8	No
ini.	2	2370	178362	126944	SLV 4	0.71	No
fin.	2	-2573	-148299	126944	SLV 4	0.86	No
ini.	2	2370	178362	126944	SLV 3	0.71	No
fin.	2	-2573	-148299	126944	SLV 3	0.86	No
ini.	2	-3529	-158986	126944	SLV 9	0.8	No
fin.	2	-1553	45022	126944	SLV 9	2.82	Si
ini.	2	-5518	-276679	126944	SLV 13	0.46	No
fin.	2	1482	174370	126944	SLV 13	0.73	No
ini.	2	-5009	-249269	126944	SLV 16	0.51	No
fin.	2	2548	185193	126944	SLV 16	0.69	No
ini.	2	1861	150952	126944	SLV 2	0.84	No
fin.	2	-3638	-159122	126944	SLV 2	0.8	No
ini.	2	-5518	-276679	126944	SLV 14	0.46	No
fin.	2	1482	174370	126944	SLV 14	0.73	No
ini.	2	-3529	-158986	126944	SLV 10	0.8	No
fin.	2	-1553	45022	126944	SLV 10	2.82	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-145985	5477			1399	526	SLD 13	0.1	No
fin.	2	0	82094	2343			1399	526	SLD 13	0.22	No
ini.	2	0	178362	-4572			1399	526	SLV 3	0.12	No
fin.	2	0	-148299	-7095			1399	526	SLV 3	0.07	No
ini.	2	0	-276679	9511			1399	526	SLV 14	0.06	No
fin.	2	0	174370	6136			1399	526	SLV 14	0.09	No
ini.	2	0	178362	-4572			1399	526	SLV 4	0.12	No
fin.	2	0	-148299	-7095			1399	526	SLV 4	0.07	No
ini.	2	0	-249269	9167			1399	526	SLV 16	0.06	No
fin.	2	0	185193	6209			1399	526	SLV 16	0.08	No
ini.	2	0	-145985	5477			1399	526	SLD 14	0.1	No
fin.	2	0	82094	2343			1399	526	SLD 14	0.22	No
ini.	2	0	-276679	9511			1399	526	SLV 13	0.06	No
fin.	2	0	174370	6136			1399	526	SLV 13	0.09	No
ini.	2	0	150952	-4227			1399	526	SLV 1	0.12	No
fin.	2	0	-159122	-7168			1399	526	SLV 1	0.07	No
ini.	2	0	-249269	9167			1399	526	SLV 15	0.06	No
fin.	2	0	185193	6209			1399	526	SLV 15	0.08	No
ini.	2	0	150952	-4227			1399	526	SLV 2	0.12	No
fin.	2	0	-159122	-7168			1399	526	SLV 2	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 13	No
V_SLV	0.055	SLV 13	No
PF_SLU	1.372	SLU 84	Si
V_SLU	0.09	SLU 84	No

Trave di accoppiamento 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-201.3	595.1	173	263	90	-301.3	595.1	173	263	90	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC	
12			17.25	0.9		2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	6530	3768	103792	SLU 84	27.55	Si
fin.	3	6372	97676	103792	SLU 84	1.06	Si
ini.	3	6437	6994	103792	SLU 79	14.84	Si
fin.	3	6306	95646	103792	SLU 79	1.09	Si
ini.	3	6316	4222	103792	SLU 75	24.58	Si
fin.	3	6162	94517	103792	SLU 75	1.1	Si
ini.	3	6488	6796	103792	SLU 77	15.27	Si
fin.	3	6350	96473	103792	SLU 77	1.08	Si
ini.	3	6335	4370	103792	SLU 80	23.75	Si
fin.	3	6206	96208	103792	SLU 80	1.08	Si
ini.	3	6631	6392	103792	SLU 83	16.24	Si
fin.	3	6473	97113	103792	SLU 83	1.07	Si
ini.	3	6459	3818	103792	SLU 82	27.18	Si
fin.	3	6285	95157	103792	SLU 82	1.09	Si
ini.	3	6561	6442	103792	SLU 81	16.11	Si
fin.	3	6385	94595	103792	SLU 81	1.1	Si
ini.	3	6386	4172	103792	SLU 78	24.88	Si
fin.	3	6249	97036	103792	SLU 78	1.07	Si
ini.	3	6197	2670	103792	SLU 76	38.87	Si
fin.	3	6051	94064	103792	SLU 76	1.1	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	6442	929			873	329	SLU 81	0.35	No
fin.	3	0	94595	1224			873	329	SLU 81	0.27	No
ini.	3	0	2670	965			873	329	SLU 76	0.34	No
fin.	3	0	94064	1245			873	329	SLU 76	0.26	No
ini.	3	0	3768	985			873	329	SLU 84	0.33	No
fin.	3	0	97676	1290			873	329	SLU 84	0.25	No
ini.	3	0	6392	943			873	329	SLU 83	0.35	No
fin.	3	0	97113	1262			873	329	SLU 83	0.26	No
ini.	3	0	4222	946			873	329	SLU 75	0.35	No
fin.	3	0	94517	1243			873	329	SLU 75	0.26	No
ini.	3	0	4370	951			873	329	SLU 80	0.35	No
fin.	3	0	96208	1264			873	329	SLU 80	0.26	No
ini.	3	0	6994	909			873	329	SLU 79	0.36	No
fin.	3	0	95646	1236			873	329	SLU 79	0.27	No
ini.	3	0	6796	918			873	329	SLU 77	0.36	No
fin.	3	0	96473	1254			873	329	SLU 77	0.26	No
ini.	3	0	3818	971			873	329	SLU 82	0.34	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	95157	1252			873	329	SLU 82	0.26	No
ini.	3	0	4172	960			873	329	SLU 78	0.34	No
fin.	3	0	97036	1282			873	329	SLU 78	0.26	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	9462	227748	121694	SLV 4	0.53	No
fin.	2	12042	-85788	121694	SLV 4	1.42	Si
ini.	2	-2134	167452	121694	SLV 1	0.73	No
fin.	2	-23	-165610	121694	SLV 1	0.73	No
ini.	2	10961	-154504	121694	SLV 15	0.79	No
fin.	2	8627	291678	121694	SLV 15	0.42	No
ini.	2	23965	49630	121694	SLV 11	2.45	Si
fin.	2	23897	252690	121694	SLV 11	0.48	No
ini.	2	23965	49630	121694	SLV 12	2.45	Si
fin.	2	23897	252690	121694	SLV 12	0.48	No
ini.	2	-2134	167452	121694	SLV 2	0.73	No
fin.	2	-23	-165610	121694	SLV 2	0.73	No
ini.	2	9462	227748	121694	SLV 3	0.53	No
fin.	2	12042	-85788	121694	SLV 3	1.42	Si
ini.	2	-635	-214800	121694	SLV 14	0.57	No
fin.	2	-3437	211856	121694	SLV 14	0.57	No
ini.	2	10961	-154504	121694	SLV 16	0.79	No
fin.	2	8627	291678	121694	SLV 16	0.42	No
ini.	2	-635	-214800	121694	SLV 13	0.57	No
fin.	2	-3437	211856	121694	SLV 13	0.57	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	49630	6691			1310	493	SLV 12	0.07	No
fin.	2	0	252690	7125			1310	493	SLV 12	0.07	No
ini.	2	0	167452	-5387			1310	493	SLV 1	0.09	No
fin.	2	0	-165610	-5615			1310	493	SLV 1	0.09	No
ini.	2	0	-36682	-5490			1310	493	SLV 5	0.09	No
fin.	2	0	-126622	-5555			1310	493	SLV 5	0.09	No
ini.	2	0	-154504	6589			1310	493	SLV 16	0.07	No
fin.	2	0	291678	7184			1310	493	SLV 16	0.07	No
ini.	2	0	-36682	-5490			1310	493	SLV 6	0.09	No
fin.	2	0	-126622	-5555			1310	493	SLV 6	0.09	No
ini.	2	0	-154504	6589			1310	493	SLV 15	0.07	No
fin.	2	0	291678	7184			1310	493	SLV 15	0.07	No
ini.	2	0	-214800	3757			1310	493	SLV 13	0.13	No
fin.	2	0	211856	4270			1310	493	SLV 13	0.12	No
ini.	2	0	167452	-5387			1310	493	SLV 2	0.09	No
fin.	2	0	-165610	-5615			1310	493	SLV 2	0.09	No
ini.	2	0	49630	6691			1310	493	SLV 11	0.07	No
fin.	2	0	252690	7125			1310	493	SLV 11	0.07	No
ini.	2	0	-214800	3757			1310	493	SLV 14	0.13	No
fin.	2	0	211856	4270			1310	493	SLV 14	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.417	SLV 15	No
V_SLV	0.069	SLV 15	No
PF_SLU	1.063	SLU 84	Si
V_SLU	0.255	SLU 84	No

Trave di accoppiamento 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-201.3	595.1	453	546	93	-301.3	595.1	453	546	93	100	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2602	-58070	109042	SLU 82	1.88	Si
fin.	3	-2028	-3434	109042	SLU 82	31.75	Si
ini.	3	-2579	-55116	109042	SLU 76	1.98	Si
fin.	3	-2125	-4213	109042	SLU 76	25.88	Si
ini.	3	-2665	-56065	109042	SLU 74	1.94	Si
fin.	3	-2212	-5577	109042	SLU 74	19.55	Si
ini.	3	-2763	-55856	109042	SLU 77	1.95	Si
fin.	3	-2403	-6565	109042	SLU 77	16.61	Si
ini.	3	-2482	-55325	109042	SLU 73	1.97	Si
fin.	3	-1934	-3224	109042	SLU 73	33.82	Si
ini.	3	-2621	-56026	109042	SLU 75	1.95	Si
fin.	3	-2148	-4669	109042	SLU 75	23.35	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2646	-58110	109042	SLU 81	1.88	Si
fin.	3	-2093	-4342	109042	SLU 81	25.11	Si
ini.	3	-2700	-57861	109042	SLU 84	1.88	Si
fin.	3	-2219	-4423	109042	SLU 84	24.65	Si
ini.	3	-2719	-55817	109042	SLU 78	1.95	Si
fin.	3	-2339	-5658	109042	SLU 78	19.27	Si
ini.	3	-2744	-57901	109042	SLU 83	1.88	Si
fin.	3	-2284	-5330	109042	SLU 83	20.46	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-57901	3190			933	351	SLU 83	0.11	No
fin.	3	0	-5330	-3517			933	351	SLU 83	0.1	No
ini.	3	0	-58110	3209			933	351	SLU 81	0.11	No
fin.	3	0	-4342	-3406			933	351	SLU 81	0.1	No
ini.	3	0	-56026	3059			933	351	SLU 75	0.11	No
fin.	3	0	-4669	-3304			933	351	SLU 75	0.11	No
ini.	3	0	-56065	3069			933	351	SLU 74	0.11	No
fin.	3	0	-5577	-3366			933	351	SLU 74	0.1	No
ini.	3	0	-58070	3199			933	351	SLU 82	0.11	No
fin.	3	0	-3434	-3344			933	351	SLU 82	0.1	No
ini.	3	0	-55817	3040			933	351	SLU 78	0.12	No
fin.	3	0	-5658	-3414			933	351	SLU 78	0.1	No
ini.	3	0	-54973	3007			933	351	SLU 79	0.12	No
fin.	3	0	-6713	-3466			933	351	SLU 79	0.1	No
ini.	3	0	-57861	3180			933	351	SLU 84	0.11	No
fin.	3	0	-4423	-3455			933	351	SLU 84	0.1	No
ini.	3	0	-55856	3050			933	351	SLU 77	0.12	No
fin.	3	0	-6565	-3477			933	351	SLU 77	0.1	No
ini.	3	0	-54933	2997			933	351	SLU 80	0.12	No
fin.	3	0	-5806	-3403			933	351	SLU 80	0.1	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4495	-173143	126944	SLV 13	0.73	No
fin.	2	2426	85841	126944	SLV 13	1.48	Si
ini.	2	1773	132030	126944	SLV 2	0.96	No
fin.	2	-4191	-78467	126944	SLV 2	1.62	Si
ini.	2	-3334	-110869	126944	SLD 15	1.14	Si
fin.	2	-298	27606	126944	SLD 15	4.6	Si
ini.	2	-4241	-143131	126944	SLV 11	0.89	No
fin.	2	-2424	-5560	126944	SLV 11	22.83	Si
ini.	2	-4241	-143131	126944	SLV 12	0.89	No
fin.	2	-2424	-5560	126944	SLV 12	22.83	Si
ini.	2	-3334	-110869	126944	SLD 16	1.14	Si
fin.	2	-298	27606	126944	SLD 16	4.6	Si
ini.	2	-5390	-208589	126944	SLV 15	0.61	No
fin.	2	1257	70198	126944	SLV 15	1.81	Si
ini.	2	1773	132030	126944	SLV 1	0.96	No
fin.	2	-4191	-78467	126944	SLV 1	1.62	Si
ini.	2	-5390	-208589	126944	SLV 16	0.61	No
fin.	2	1257	70198	126944	SLV 16	1.81	Si
ini.	2	-4495	-173143	126944	SLV 14	0.73	No
fin.	2	2426	85841	126944	SLV 14	1.48	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	96585	-3148			1399	526	SLV 3	0.17	No
fin.	2	0	-94110	-8267			1399	526	SLV 3	0.06	No
ini.	2	0	-173143	7316			1399	526	SLV 13	0.07	No
fin.	2	0	85841	3812			1399	526	SLV 13	0.14	No
ini.	2	0	132030	-3878			1399	526	SLV 1	0.14	No
fin.	2	0	-78467	-7029			1399	526	SLV 1	0.07	No
ini.	2	0	-51579	1622			1399	526	SLV 8	0.32	No
fin.	2	0	-54852	-5918			1399	526	SLV 8	0.09	No
ini.	2	0	132030	-3878			1399	526	SLV 2	0.14	No
fin.	2	0	-78467	-7029			1399	526	SLV 2	0.07	No
ini.	2	0	96585	-3148			1399	526	SLV 4	0.17	No
fin.	2	0	-94110	-8267			1399	526	SLV 4	0.06	No
ini.	2	0	-208589	8046			1399	526	SLV 16	0.07	No
fin.	2	0	70198	2573			1399	526	SLV 16	0.2	No
ini.	2	0	-51579	1622			1399	526	SLV 7	0.32	No
fin.	2	0	-54852	-5918			1399	526	SLV 7	0.09	No
ini.	2	0	-208589	8046			1399	526	SLV 15	0.07	No
fin.	2	0	70198	2573			1399	526	SLV 15	0.2	No
ini.	2	0	-173143	7316			1399	526	SLV 14	0.07	No
fin.	2	0	85841	3812			1399	526	SLV 14	0.14	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.609	SLV 15	No
V_SLV	0.064	SLV 3	No
PF_SLU	1.876	SLU 81	Si
V_SLU	0.1	SLU 83	No



Trave di accoppiamento 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2467.8	126.6	756	898	142	-2467.8	206.6	756	898	142	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1142	-54859	194792	SLU 44	3.55	Si
fin.	3	1142	54322	194792	SLU 44	3.59	Si
ini.	3	811	-49297	194792	SLU 5	3.95	Si
fin.	3	811	51758	194792	SLU 5	3.76	Si
ini.	3	796	-48352	194792	SLU 49	4.03	Si
fin.	3	796	54782	194792	SLU 49	3.56	Si
ini.	3	775	-51697	194792	SLU 51	3.77	Si
fin.	3	775	58156	194792	SLU 51	3.35	Si
ini.	3	949	-44614	194792	SLU 2	4.37	Si
fin.	3	949	44137	194792	SLU 2	4.41	Si
ini.	3	934	-43669	194792	SLU 46	4.46	Si
fin.	3	934	47161	194792	SLU 46	4.13	Si
ini.	3	1070	-41287	194792	SLU 68	4.72	Si
fin.	3	1070	45901	194792	SLU 68	4.24	Si
ini.	3	1004	-59543	194792	SLU 47	3.27	Si
fin.	3	1004	61943	194792	SLU 47	3.14	Si
ini.	3	582	-41451	194792	SLU 9	4.7	Si
fin.	3	582	47972	194792	SLU 9	4.06	Si
ini.	3	603	-38107	194792	SLU 7	5.11	Si
fin.	3	603	44597	194792	SLU 7	4.37	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-44614	1359			1531	576	SLU 2	0.42	No
fin.	3	0	44137	816			1531	576	SLU 2	0.71	No
ini.	3	0	-49297	1513			1531	576	SLU 5	0.38	No
fin.	3	0	51758	970			1531	576	SLU 5	0.59	No
ini.	3	0	-48352	1612			1531	576	SLU 49	0.36	No
fin.	3	0	54782	908			1531	576	SLU 49	0.63	No
ini.	3	0	-59543	1841			1531	576	SLU 47	0.31	No
fin.	3	0	61943	1138			1531	576	SLU 47	0.51	No
ini.	3	0	-51697	1696			1531	576	SLU 51	0.34	No
fin.	3	0	58156	992			1531	576	SLU 51	0.58	No
ini.	3	0	-38107	1283			1531	576	SLU 7	0.45	No
fin.	3	0	44597	740			1531	576	SLU 7	0.78	No
ini.	3	0	-43669	1458			1531	576	SLU 46	0.4	No
fin.	3	0	47161	755			1531	576	SLU 46	0.76	No
ini.	3	0	-41451	1367			1531	576	SLU 9	0.42	No
fin.	3	0	47972	824			1531	576	SLU 9	0.7	No
ini.	3	0	-54859	1687			1531	576	SLU 44	0.34	No
fin.	3	0	54322	984			1531	576	SLU 44	0.59	No
ini.	3	0	-41287	1417			1531	576	SLU 68	0.41	No
fin.	3	0	45901	706			1531	576	SLU 68	0.82	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	544	-243620	212694	SLV 10	0.87	No
fin.	2	568	243240	212694	SLV 10	0.87	No
ini.	2	1992	180470	212694	SLV 4	1.18	Si
fin.	2	2048	-169776	212694	SLV 4	1.25	Si
ini.	2	-437	-182706	212694	SLV 14	1.16	Si
fin.	2	-494	178519	212694	SLV 14	1.19	Si
ini.	2	-437	-182706	212694	SLV 13	1.16	Si
fin.	2	-494	178519	212694	SLV 13	1.19	Si
ini.	2	1299	-171859	212694	SLV 6	1.24	Si
fin.	2	1364	175666	212694	SLV 6	1.21	Si
ini.	2	1299	-171859	212694	SLV 5	1.24	Si
fin.	2	1364	175666	212694	SLV 5	1.21	Si
ini.	2	544	-243620	212694	SLV 9	0.87	No
fin.	2	568	243240	212694	SLV 9	0.87	No
ini.	2	1010	241384	212694	SLV 8	0.88	No
fin.	2	987	-234497	212694	SLV 8	0.91	No
ini.	2	1010	241384	212694	SLV 7	0.88	No
fin.	2	987	-234497	212694	SLV 7	0.91	No
ini.	2	1992	180470	212694	SLV 3	1.18	Si
fin.	2	2048	-169776	212694	SLV 3	1.25	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-182706	4814			2297	864	SLV 14	0.18	No
fin.	2	0	178519	4229			2297	864	SLV 14	0.2	No
ini.	2	0	180470	-4175			2297	864	SLV 3	0.21	No

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Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-169776	-4681			2297	864	SLV 3	0.18	No
ini.	2	0	241384	-5713			2297	864	SLV 7	0.15	No
fin.	2	0	-234497	-6285			2297	864	SLV 7	0.14	No
ini.	2	0	-171859	4582			2297	864	SLV 5	0.19	No
fin.	2	0	175666	4094			2297	864	SLV 5	0.21	No
ini.	2	0	241384	-5713			2297	864	SLV 8	0.15	No
fin.	2	0	-234497	-6285			2297	864	SLV 8	0.14	No
ini.	2	0	-243620	6352			2297	864	SLV 10	0.14	No
fin.	2	0	243240	5833			2297	864	SLV 10	0.15	No
ini.	2	0	-182706	4814			2297	864	SLV 13	0.18	No
fin.	2	0	178519	4229			2297	864	SLV 13	0.2	No
ini.	2	0	180470	-4175			2297	864	SLV 4	0.21	No
fin.	2	0	-169776	-4681			2297	864	SLV 4	0.18	No
ini.	2	0	-171859	4582			2297	864	SLV 6	0.19	No
fin.	2	0	175666	4094			2297	864	SLV 6	0.21	No
ini.	2	0	-243620	6352			2297	864	SLV 9	0.14	No
fin.	2	0	243240	5833			2297	864	SLV 9	0.15	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.873	SLV 9	No
V_SLV		0.136	SLV 9	No
PF_SLU		3.145	SLU 47	Si
V_SLU		0.313	SLU 47	No

Trave di accoppiamento 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	546	636	90	-2271.3	595.1	546	636	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{tk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1850	24282	103792	SLU 79	4.27	Si
fin.	3	-1250	14939	103792	SLU 79	6.95	Si
ini.	3	-1471	23819	103792	SLU 81	4.36	Si
fin.	3	-837	9098	103792	SLU 81	11.41	Si
ini.	3	-1827	24518	103792	SLU 77	4.23	Si
fin.	3	-1215	14360	103792	SLU 77	7.23	Si
ini.	3	-1646	24455	103792	SLU 84	4.24	Si
fin.	3	-993	11617	103792	SLU 84	8.93	Si
ini.	3	-1597	23586	103792	SLU 75	4.4	Si
fin.	3	-976	11181	103792	SLU 75	9.28	Si
ini.	3	-1800	24370	103792	SLU 78	4.26	Si
fin.	3	-1173	14030	103792	SLU 78	7.4	Si
ini.	3	-1823	24134	103792	SLU 80	4.3	Si
fin.	3	-1208	14609	103792	SLU 80	7.1	Si
ini.	3	-1674	24603	103792	SLU 83	4.22	Si
fin.	3	-1034	11947	103792	SLU 83	8.69	Si
ini.	3	-1443	23671	103792	SLU 82	4.38	Si
fin.	3	-795	8768	103792	SLU 82	11.84	Si
ini.	3	-1624	23734	103792	SLU 74	4.37	Si
fin.	3	-1018	11511	103792	SLU 74	9.02	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	23734	-1779			970	365	SLU 74	0.21	No
fin.	3	0	11511	1359			970	365	SLU 74	0.27	No
ini.	3	0	23819	-1797			970	365	SLU 81	0.2	No
fin.	3	0	9098	1271			970	365	SLU 81	0.29	No
ini.	3	0	24603	-1806			970	365	SLU 83	0.2	No
fin.	3	0	11947	1347			970	365	SLU 83	0.27	No
ini.	3	0	24455	-1788			970	365	SLU 84	0.2	No
fin.	3	0	11617	1297			970	365	SLU 84	0.28	No
ini.	3	0	23586	-1761			970	365	SLU 75	0.21	No
fin.	3	0	11181	1309			970	365	SLU 75	0.28	No
ini.	3	0	24370	-1770			970	365	SLU 78	0.21	No
fin.	3	0	14030	1385			970	365	SLU 78	0.26	No
ini.	3	0	24282	-1751			970	365	SLU 79	0.21	No
fin.	3	0	14939	1426			970	365	SLU 79	0.26	No
ini.	3	0	24518	-1788			970	365	SLU 77	0.2	No
fin.	3	0	14360	1435			970	365	SLU 77	0.25	No
ini.	3	0	23671	-1779			970	365	SLU 82	0.21	No
fin.	3	0	8768	1221			970	365	SLU 82	0.3	No
ini.	3	0	24134	-1733			970	365	SLU 80	0.21	No
fin.	3	0	14609	1376			970	365	SLU 80	0.27	No



Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3037	104611	121694	SLV 2	1.16	Si
fin.	2	3023	-73134	121694	SLV 2	1.66	Si
ini.	2	-4633	123588	121694	SLV 3	0.98	No
fin.	2	1634	-59533	121694	SLV 3	2.04	Si
ini.	2	-4633	123588	121694	SLV 4	0.98	No
fin.	2	1634	-59533	121694	SLV 4	2.04	Si
ini.	2	944	-73361	121694	SLV 16	1.66	Si
fin.	2	-4353	87209	121694	SLV 16	1.4	Si
ini.	2	944	-73361	121694	SLV 15	1.66	Si
fin.	2	-4353	87209	121694	SLV 15	1.4	Si
ini.	2	-4543	76795	121694	SLV 7	1.58	Si
fin.	2	-2082	7694	121694	SLV 7	15.82	Si
ini.	2	2540	-92338	121694	SLV 13	1.32	Si
fin.	2	-2964	73608	121694	SLV 13	1.65	Si
ini.	2	-4543	76795	121694	SLV 8	1.58	Si
fin.	2	-2082	7694	121694	SLV 8	15.82	Si
ini.	2	2540	-92338	121694	SLV 14	1.32	Si
fin.	2	-2964	73608	121694	SLV 14	1.65	Si
ini.	2	-3037	104611	121694	SLV 1	1.16	Si
fin.	2	3023	-73134	121694	SLV 1	1.66	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	123588	-6553			1456	548	SLV 4	0.08	No
fin.	2	0	-59533	-3074			1456	548	SLV 4	0.18	No
ini.	2	0	123588	-6553			1456	548	SLV 3	0.08	No
fin.	2	0	-59533	-3074			1456	548	SLV 3	0.18	No
ini.	2	0	104611	-5826			1456	548	SLV 2	0.09	No
fin.	2	0	-73134	-3889			1456	548	SLV 2	0.14	No
ini.	2	0	76795	-3929			1456	548	SLV 7	0.14	No
fin.	2	0	7694	997			1456	548	SLV 7	0.55	No
ini.	2	0	76795	-3929			1456	548	SLV 8	0.14	No
fin.	2	0	7694	997			1456	548	SLV 8	0.55	No
ini.	2	0	-73361	3370			1456	548	SLV 15	0.16	No
fin.	2	0	87209	5838			1456	548	SLV 15	0.09	No
ini.	2	0	-92338	4098			1456	548	SLV 13	0.13	No
fin.	2	0	73608	5023			1456	548	SLV 13	0.11	No
ini.	2	0	104611	-5826			1456	548	SLV 1	0.09	No
fin.	2	0	-73134	-3889			1456	548	SLV 1	0.14	No
ini.	2	0	-92338	4098			1456	548	SLV 14	0.13	No
fin.	2	0	73608	5023			1456	548	SLV 14	0.11	No
ini.	2	0	-73361	3370			1456	548	SLV 16	0.16	No
fin.	2	0	87209	5838			1456	548	SLV 16	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.985	SLV 3	No
V_SLV		0.084	SLV 3	No
PF_SLU		4.219	SLU 83	Si
V_SLU		0.202	SLU 83	No

Trave di accoppiamento 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	816	898	82	-2271.3	595.1	816	898	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-628	-20813	89792	SLU 79	4.31	Si
fin.	3	-569	-12083	89792	SLU 79	7.43	Si
ini.	3	-618	-20401	89792	SLU 80	4.4	Si
fin.	3	-570	-11992	89792	SLU 80	7.49	Si
ini.	3	-593	-19896	89792	SLU 77	4.51	Si
fin.	3	-583	-12592	89792	SLU 77	7.13	Si
ini.	3	-602	-20938	89792	SLU 72	4.29	Si
fin.	3	-437	-9896	89792	SLU 72	9.07	Si
ini.	3	-541	-19497	89792	SLU 50	4.61	Si
fin.	3	-348	-8532	89792	SLU 50	10.52	Si
ini.	3	-567	-20021	89792	SLU 70	4.48	Si
fin.	3	-451	-10404	89792	SLU 70	8.63	Si
ini.	3	-568	-19604	89792	SLU 29	4.58	Si
fin.	3	-354	-7944	89792	SLU 29	11.3	Si
ini.	3	-583	-19484	89792	SLU 78	4.61	Si
fin.	3	-584	-12501	89792	SLU 78	7.18	Si
ini.	3	-577	-20433	89792	SLU 69	4.39	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-450	-10495	89792	SLU 69	8.56	Si
ini.	3	-612	-21350	89792	SLU 71	4.21	Si
fin.	3	-436	-9987	89792	SLU 71	8.99	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-15676	1933			806	303	SLU 83	0.16	No
fin.	3	0	-13974	-2698			806	303	SLU 83	0.11	No
ini.	3	0	-15219	1819			806	303	SLU 76	0.17	No
fin.	3	0	-12923	-2492			806	303	SLU 76	0.12	No
ini.	3	0	-15264	1909			806	303	SLU 84	0.16	No
fin.	3	0	-13882	-2681			806	303	SLU 84	0.11	No
ini.	3	0	-8504	1592			806	303	SLU 61	0.19	No
fin.	3	0	-13419	-2582			806	303	SLU 61	0.12	No
ini.	3	0	-14989	1859			806	303	SLU 74	0.16	No
fin.	3	0	-13583	-2606			806	303	SLU 74	0.12	No
ini.	3	0	-10769	1821			806	303	SLU 81	0.17	No
fin.	3	0	-14965	-2881			806	303	SLU 81	0.11	No
ini.	3	0	-10312	1707			806	303	SLU 73	0.18	No
fin.	3	0	-13915	-2675			806	303	SLU 73	0.11	No
ini.	3	0	-14577	1835			806	303	SLU 75	0.17	No
fin.	3	0	-13492	-2588			806	303	SLU 75	0.12	No
ini.	3	0	-10357	1797			806	303	SLU 82	0.17	No
fin.	3	0	-14874	-2863			806	303	SLU 82	0.11	No
ini.	3	0	-8916	1616			806	303	SLU 60	0.19	No
fin.	3	0	-13510	-2600			806	303	SLU 60	0.12	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1390	19917	107694	SLV 7	5.41	Si
fin.	2	-2085	-51012	107694	SLV 7	2.11	Si
ini.	2	2295	68081	107694	SLV 1	1.58	Si
fin.	2	-2361	-67328	107694	SLV 1	1.6	Si
ini.	2	-3281	-87631	107694	SLV 13	1.23	Si
fin.	2	2079	61660	107694	SLV 13	1.75	Si
ini.	2	1390	19917	107694	SLV 8	5.41	Si
fin.	2	-2085	-51012	107694	SLV 8	2.11	Si
ini.	2	2778	71005	107694	SLV 4	1.52	Si
fin.	2	-2950	-80634	107694	SLV 4	1.34	Si
ini.	2	-2798	-84707	107694	SLV 15	1.27	Si
fin.	2	1489	48354	107694	SLV 15	2.23	Si
ini.	2	2778	71005	107694	SLV 3	1.52	Si
fin.	2	-2950	-80634	107694	SLV 3	1.34	Si
ini.	2	-3281	-87631	107694	SLV 14	1.23	Si
fin.	2	2079	61660	107694	SLV 14	1.75	Si
ini.	2	2295	68081	107694	SLV 2	1.58	Si
fin.	2	-2361	-67328	107694	SLV 2	1.6	Si
ini.	2	-2798	-84707	107694	SLV 16	1.27	Si
fin.	2	1489	48354	107694	SLV 16	2.23	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	71005	-2455			1208	455	SLV 3	0.19	No
fin.	2	0	-80634	-6142			1208	455	SLV 3	0.07	No
ini.	2	0	-84707	5452			1208	455	SLV 15	0.08	No
fin.	2	0	48354	1818			1208	455	SLV 15	0.25	No
ini.	2	0	-84707	5452			1208	455	SLV 16	0.08	No
fin.	2	0	48354	1818			1208	455	SLV 16	0.25	No
ini.	2	0	-87631	4885			1208	455	SLV 13	0.09	No
fin.	2	0	61660	2505			1208	455	SLV 13	0.18	No
ini.	2	0	68081	-3022			1208	455	SLV 1	0.15	No
fin.	2	0	-67328	-5455			1208	455	SLV 1	0.08	No
ini.	2	0	-87631	4885			1208	455	SLV 14	0.09	No
fin.	2	0	61660	2505			1208	455	SLV 14	0.18	No
ini.	2	0	19917	973			1208	455	SLV 7	0.47	No
fin.	2	0	-51012	-4158			1208	455	SLV 7	0.11	No
ini.	2	0	68081	-3022			1208	455	SLV 2	0.15	No
fin.	2	0	-67328	-5455			1208	455	SLV 2	0.08	No
ini.	2	0	19917	973			1208	455	SLV 8	0.47	No
fin.	2	0	-51012	-4158			1208	455	SLV 8	0.11	No
ini.	2	0	71005	-2455			1208	455	SLV 4	0.19	No
fin.	2	0	-80634	-6142			1208	455	SLV 4	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.229	SLV 13	Si
V_SLV	0.074	SLV 3	No
PF_SLU	4.206	SLU 71	Si
V_SLU	0.105	SLU 81	No

Trave di accoppiamento 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	546	636	90	-2249.3	-335.9	546	636	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{mmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ _M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2613	85314	103792	SLU 76	1.22	Si
fin.	3	-133	-25997	103792	SLU 76	3.99	Si
ini.	3	-2432	82016	103792	SLU 82	1.27	Si
fin.	3	-40	-24663	103792	SLU 82	4.21	Si
ini.	3	-2548	83594	103792	SLU 73	1.24	Si
fin.	3	-121	-25565	103792	SLU 73	4.06	Si
ini.	3	-2498	82243	103792	SLU 80	1.26	Si
fin.	3	-103	-24188	103792	SLU 80	4.29	Si
ini.	3	-2439	81290	103792	SLU 75	1.28	Si
fin.	3	-76	-24147	103792	SLU 75	4.3	Si
ini.	3	-2496	83735	103792	SLU 84	1.24	Si
fin.	3	-52	-25095	103792	SLU 84	4.14	Si
ini.	3	-2466	77819	103792	SLU 68	1.33	Si
fin.	3	-225	-22871	103792	SLU 68	4.54	Si
ini.	3	-2228	76549	103792	SLU 83	1.36	Si
fin.	3	11	-21733	103792	SLU 83	4.78	Si
ini.	3	-2454	76988	103792	SLU 55	1.35	Si
fin.	3	-233	-22336	103792	SLU 55	4.65	Si
ini.	3	-2504	83009	103792	SLU 78	1.25	Si
fin.	3	-88	-24580	103792	SLU 78	4.22	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ _M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	76549	-2812			970	365	SLU 83	0.13	No
fin.	3	0	-21733	-902			970	365	SLU 83	0.41	No
ini.	3	0	75057	-2770			970	365	SLU 79	0.13	No
fin.	3	0	-20826	-832			970	365	SLU 79	0.44	No
ini.	3	0	81290	-2869			970	365	SLU 75	0.13	No
fin.	3	0	-24147	-1180			970	365	SLU 75	0.31	No
ini.	3	0	83594	-2852			970	365	SLU 73	0.13	No
fin.	3	0	-25565	-1402			970	365	SLU 73	0.26	No
ini.	3	0	75823	-2805			970	365	SLU 77	0.13	No
fin.	3	0	-21217	-837			970	365	SLU 77	0.44	No
ini.	3	0	82243	-2907			970	365	SLU 80	0.13	No
fin.	3	0	-24188	-1182			970	365	SLU 80	0.31	No
ini.	3	0	83009	-2941			970	365	SLU 78	0.12	No
fin.	3	0	-24580	-1187			970	365	SLU 78	0.31	No
ini.	3	0	83735	-2948			970	365	SLU 84	0.12	No
fin.	3	0	-25095	-1252			970	365	SLU 84	0.29	No
ini.	3	0	82016	-2876			970	365	SLU 82	0.13	No
fin.	3	0	-24663	-1245			970	365	SLU 82	0.29	No
ini.	3	0	85314	-2925			970	365	SLU 76	0.12	No
fin.	3	0	-25997	-1409			970	365	SLU 76	0.26	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ _M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2757	126515	121694	SLD 1	0.96	No
fin.	2	1174	-58932	121694	SLD 1	2.06	Si
ini.	2	-2915	132340	121694	SLV 6	0.92	No
fin.	2	-12	-32604	121694	SLV 6	3.73	Si
ini.	2	1414	-130839	121694	SLV 15	0.93	No
fin.	2	-3002	94192	121694	SLV 15	1.29	Si
ini.	2	-2915	132340	121694	SLV 5	0.92	No
fin.	2	-12	-32604	121694	SLV 5	3.73	Si
ini.	2	-4434	230112	121694	SLV 2	0.53	No
fin.	2	2844	-120268	121694	SLV 2	1.01	Si
ini.	2	1414	-130839	121694	SLV 16	0.93	No
fin.	2	-3002	94192	121694	SLV 16	1.29	Si
ini.	2	-4434	230112	121694	SLV 1	0.53	No
fin.	2	2844	-120268	121694	SLV 1	1.01	Si
ini.	2	-4086	211280	121694	SLV 3	0.58	No
fin.	2	3378	-128577	121694	SLV 3	0.95	No
ini.	2	-2757	126515	121694	SLD 2	0.96	No
fin.	2	1174	-58932	121694	SLD 2	2.06	Si
ini.	2	-4086	211280	121694	SLV 4	0.58	No
fin.	2	3378	-128577	121694	SLV 4	0.95	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ _M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	126515	-4527			1456	548	SLD 2	0.12	No
fin.	2	0	-58932	-2719			1456	548	SLD 2	0.2	No
ini.	2	0	230112	-8156			1456	548	SLV 2	0.07	No
fin.	2	0	-120268	-5666			1456	548	SLV 2	0.1	No
ini.	2	0	112007	4308			1456	548	SLV 13	0.13	No
fin.	2	0	102501	5612			1456	548	SLV 13	0.1	No
ini.	2	0	-130839	4511			1456	548	SLV 15	0.12	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	94192	4662			1456	548	SLV 15	0.12	No
ini.	2	0	126515	-4527			1456	548	SLD 1	0.12	No
fin.	2	0	-58932	-2719			1456	548	SLD 1	0.2	No
ini.	2	0	211280	-7953			1456	548	SLV 4	0.07	No
fin.	2	0	-128577	-6615			1456	548	SLV 4	0.08	No
ini.	2	0	-112007	4308			1456	548	SLV 14	0.13	No
fin.	2	0	102501	5612			1456	548	SLV 14	0.1	No
ini.	2	0	230112	-8156			1456	548	SLV 1	0.07	No
fin.	2	0	-120268	-5666			1456	548	SLV 1	0.1	No
ini.	2	0	211280	-7953			1456	548	SLV 3	0.07	No
fin.	2	0	-128577	-6615			1456	548	SLV 3	0.08	No
ini.	2	0	-130839	4511			1456	548	SLV 16	0.12	No
fin.	2	0	94192	4662			1456	548	SLV 16	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 1	No
V_SLV	0.067	SLV 1	No
PF_SLU	1.217	SLU 76	Si
V_SLU	0.124	SLU 84	No

Trave di accoppiamento 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	816	898	82	-2249.3	-335.9	816	898	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-389	38624	89792	SLU 80	2.32	Si
fin.	3	-2328	-60145	89792	SLU 80	1.49	Si
ini.	3	-355	38577	89792	SLU 75	2.33	Si
fin.	3	-2286	-59634	89792	SLU 75	1.51	Si
ini.	3	-312	35678	89792	SLU 83	2.52	Si
fin.	3	-2133	-56922	89792	SLU 83	1.58	Si
ini.	3	-384	39655	89792	SLU 84	2.26	Si
fin.	3	-2375	-61471	89792	SLU 84	1.46	Si
ini.	3	-369	39337	89792	SLU 78	2.28	Si
fin.	3	-2337	-60834	89792	SLU 78	1.48	Si
ini.	3	-409	39755	89792	SLU 73	2.26	Si
fin.	3	-2388	-60777	89792	SLU 73	1.48	Si
ini.	3	-370	38895	89792	SLU 82	2.31	Si
fin.	3	-2324	-60271	89792	SLU 82	1.49	Si
ini.	3	-404	36334	89792	SLU 68	2.47	Si
fin.	3	-2212	-56083	89792	SLU 68	1.6	Si
ini.	3	-298	35360	89792	SLU 77	2.54	Si
fin.	3	-2095	-56285	89792	SLU 77	1.6	Si
ini.	3	-423	40515	89792	SLU 76	2.22	Si
fin.	3	-2439	-61977	89792	SLU 76	1.45	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	39337	-573			806	303	SLU 78	0.53	No
fin.	3	0	-60834	-4230			806	303	SLU 78	0.07	No
ini.	3	0	35360	-390			806	303	SLU 77	0.78	No
fin.	3	0	-56285	-4066			806	303	SLU 77	0.07	No
ini.	3	0	38895	-550			806	303	SLU 82	0.55	No
fin.	3	0	-60271	-4213			806	303	SLU 82	0.07	No
ini.	3	0	39755	-650			806	303	SLU 73	0.47	No
fin.	3	0	-60777	-4126			806	303	SLU 73	0.07	No
ini.	3	0	34918	-368			806	303	SLU 81	0.82	No
fin.	3	0	-55722	-4048			806	303	SLU 81	0.07	No
ini.	3	0	35678	-384			806	303	SLU 83	0.79	No
fin.	3	0	-56922	-4129			806	303	SLU 83	0.07	No
ini.	3	0	40515	-665			806	303	SLU 76	0.46	No
fin.	3	0	-61977	-4206			806	303	SLU 76	0.07	No
ini.	3	0	39655	-566			806	303	SLU 84	0.54	No
fin.	3	0	-61471	-4293			806	303	SLU 84	0.07	No
ini.	3	0	38624	-560			806	303	SLU 80	0.54	No
fin.	3	0	-60145	-4177			806	303	SLU 80	0.07	No
ini.	3	0	38577	-557			806	303	SLU 75	0.54	No
fin.	3	0	-59634	-4150			806	303	SLU 75	0.07	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1550	-105703	107694	SLV 14	1.02	Si
fin.	2	1390	51759	107694	SLV 14	2.08	Si



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1120	150250	107694	SLV 3	0.72	No
fin.	2	-4119	-125046	107694	SLV 3	0.86	No
ini.	2	-1541	-122676	107694	SLV 16	0.88	No
fin.	2	2062	66962	107694	SLV 16	1.61	Si
ini.	2	1111	167224	107694	SLV 1	0.64	No
fin.	2	-4792	-140249	107694	SLV 1	0.77	No
ini.	2	168	91502	107694	SLV 5	1.18	Si
fin.	2	-3412	-90784	107694	SLV 5	1.19	Si
ini.	2	168	91502	107694	SLV 6	1.18	Si
fin.	2	-3412	-90784	107694	SLV 6	1.19	Si
ini.	2	1111	167224	107694	SLV 2	0.64	No
fin.	2	-4792	-140249	107694	SLV 2	0.77	No
ini.	2	-1541	-122676	107694	SLV 15	0.88	No
fin.	2	2062	66962	107694	SLV 15	1.61	Si
ini.	2	-1550	-105703	107694	SLV 13	1.02	Si
fin.	2	1390	51759	107694	SLV 13	2.08	Si
ini.	2	1120	150250	107694	SLV 4	0.72	No
fin.	2	-4119	-125046	107694	SLV 4	0.86	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-122676	4607			1208	455	SLV 15	0.1	No
fin.	2	0	66962	2507			1208	455	SLV 15	0.18	No
ini.	2	0	91502	-2679			1208	455	SLV 6	0.17	No
fin.	2	0	-90784	-5196			1208	455	SLV 6	0.09	No
ini.	2	0	150250	-4374			1208	455	SLV 3	0.1	No
fin.	2	0	-125046	-7104			1208	455	SLV 3	0.06	No
ini.	2	0	150250	-4374			1208	455	SLV 4	0.1	No
fin.	2	0	-125046	-7104			1208	455	SLV 4	0.06	No
ini.	2	0	-122676	4607			1208	455	SLV 16	0.1	No
fin.	2	0	66962	2507			1208	455	SLV 16	0.18	No
ini.	2	0	84018	-2272			1208	455	SLD 2	0.2	No
fin.	2	0	-80732	-4826			1208	455	SLD 2	0.09	No
ini.	2	0	167224	-5043			1208	455	SLV 2	0.09	No
fin.	2	0	-140249	-7776			1208	455	SLV 2	0.06	No
ini.	2	0	167224	-5043			1208	455	SLV 1	0.09	No
fin.	2	0	-140249	-7776			1208	455	SLV 1	0.06	No
ini.	2	0	84018	-2272			1208	455	SLD 1	0.2	No
fin.	2	0	-80732	-4826			1208	455	SLD 1	0.09	No
ini.	2	0	91502	-2679			1208	455	SLV 5	0.17	No
fin.	2	0	-90784	-5196			1208	455	SLV 5	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.644	SLV 1	No
V_SLV	0.058	SLV 1	No
PF_SLU	1.449	SLU 76	Si
V_SLU	0.071	SLU 84	No

Trave di accoppiamento 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	546	746	200	-1936.8	-335.9	546	746	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	$\tau 0$	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1452	11211	296292	SLU 73	26.43	Si
fin.	3	-1872	88073	296292	SLU 73	3.36	Si
ini.	3	-1338	22960	296292	SLU 78	12.9	Si
fin.	3	-1747	86992	296292	SLU 78	3.41	Si
ini.	3	-1325	21587	296292	SLU 74	13.73	Si
fin.	3	-1662	85247	296292	SLU 74	3.48	Si
ini.	3	-1406	16178	296292	SLU 76	18.31	Si
fin.	3	-1841	87798	296292	SLU 76	3.37	Si
ini.	3	-1438	14980	296292	SLU 82	19.78	Si
fin.	3	-1837	91777	296292	SLU 82	3.23	Si
ini.	3	-1333	23541	296292	SLU 83	12.59	Si
fin.	3	-1689	89481	296292	SLU 83	3.31	Si
ini.	3	-1392	19947	296292	SLU 84	14.85	Si
fin.	3	-1806	91501	296292	SLU 84	3.24	Si
ini.	3	-1379	18574	296292	SLU 81	15.95	Si
fin.	3	-1720	89757	296292	SLU 81	3.3	Si
ini.	3	-1320	23541	296292	SLU 80	12.59	Si
fin.	3	-1732	86176	296292	SLU 80	3.44	Si
ini.	3	-1384	17993	296292	SLU 75	16.47	Si
fin.	3	-1778	87267	296292	SLU 75	3.4	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	23541	1597			2157	812	SLU 83	0.51	No
fin.	3	0	89481	3758			2157	812	SLU 83	0.22	No
ini.	3	0	22960	1697			2157	812	SLU 78	0.48	No
fin.	3	0	86992	3743			2157	812	SLU 78	0.22	No
ini.	3	0	18574	1679			2157	812	SLU 81	0.48	No
fin.	3	0	89757	3812			2157	812	SLU 81	0.21	No
ini.	3	0	17993	1779			2157	812	SLU 75	0.46	No
fin.	3	0	87267	3797			2157	812	SLU 75	0.21	No
ini.	3	0	16178	1934			2157	812	SLU 76	0.42	No
fin.	3	0	87798	3856			2157	812	SLU 76	0.21	No
ini.	3	0	19947	1849			2157	812	SLU 84	0.44	No
fin.	3	0	91501	3920			2157	812	SLU 84	0.21	No
ini.	3	0	11211	2016			2157	812	SLU 73	0.4	No
fin.	3	0	88073	3910			2157	812	SLU 73	0.21	No
ini.	3	0	14980	1931			2157	812	SLU 82	0.42	No
fin.	3	0	91777	3974			2157	812	SLU 82	0.2	No
ini.	3	0	23541	1683			2157	812	SLU 80	0.48	No
fin.	3	0	86176	3695			2157	812	SLU 80	0.22	No
ini.	3	0	10059	1837			2157	812	SLU 61	0.44	No
fin.	3	0	82545	3696			2157	812	SLU 61	0.22	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	113	201605	314194	SLV 2	1.56	Si
fin.	2	741	-93471	314194	SLV 2	3.36	Si
ini.	2	-12	-1238	314194	SLV 11	253.87	Si
fin.	2	-781	141296	314194	SLV 11	2.22	Si
ini.	2	991	231581	314194	SLV 4	1.36	Si
fin.	2	1426	-68025	314194	SLV 4	4.62	Si
ini.	2	-12	-1238	314194	SLV 12	253.87	Si
fin.	2	-781	141296	314194	SLV 12	2.22	Si
ini.	2	-3005	-210380	314194	SLV 14	1.49	Si
fin.	2	-3885	182890	314194	SLV 14	1.72	Si
ini.	2	-2127	-180405	314194	SLV 15	1.74	Si
fin.	2	-3200	208336	314194	SLV 15	1.51	Si
ini.	2	-2127	-180405	314194	SLV 16	1.74	Si
fin.	2	-3200	208336	314194	SLV 16	1.51	Si
ini.	2	113	201605	314194	SLV 1	1.56	Si
fin.	2	741	-93471	314194	SLV 1	3.36	Si
ini.	2	-3005	-210380	314194	SLV 13	1.49	Si
fin.	2	-3885	182890	314194	SLV 13	1.72	Si
ini.	2	991	231581	314194	SLV 3	1.36	Si
fin.	2	1426	-68025	314194	SLV 3	4.62	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	231581	-7384			3235	1217	SLV 3	0.16	No
fin.	2	0	-68025	-5496			3235	1217	SLV 3	0.22	No
ini.	2	0	201605	-7937			3235	1217	SLV 1	0.15	No
fin.	2	0	-93471	-5566			3235	1217	SLV 1	0.22	No
ini.	2	0	-71718	4983			3235	1217	SLD 16	0.24	No
fin.	2	0	121565	6016			3235	1217	SLD 16	0.2	No
ini.	2	0	231581	-7384			3235	1217	SLV 4	0.16	No
fin.	2	0	-68025	-5496			3235	1217	SLV 4	0.22	No
ini.	2	0	-210380	9609			3235	1217	SLV 14	0.13	No
fin.	2	0	182890	10585			3235	1217	SLV 14	0.12	No
ini.	2	0	-71718	4983			3235	1217	SLD 15	0.24	No
fin.	2	0	121565	6016			3235	1217	SLD 15	0.2	No
ini.	2	0	-180405	10161			3235	1217	SLV 16	0.12	No
fin.	2	0	208336	10656			3235	1217	SLV 16	0.11	No
ini.	2	0	201605	-7937			3235	1217	SLV 2	0.15	No
fin.	2	0	-93471	-5566			3235	1217	SLV 2	0.22	No
ini.	2	0	-180405	10161			3235	1217	SLV 15	0.12	No
fin.	2	0	208336	10656			3235	1217	SLV 15	0.11	No
ini.	2	0	-210380	9609			3235	1217	SLV 13	0.13	No
fin.	2	0	182890	10585			3235	1217	SLV 13	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.357	SLV 3	Si
V_SLV	0.114	SLV 15	No
PF_SLU	3.228	SLU 82	Si
V_SLU	0.204	SLU 82	No

Trave di accoppiamento 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	826	898	72	-1936.8	-335.9	826	898	72	50	28	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	316	-10341	72292	SLU 79	6.99	Si
fin.	3	328	1307	72292	SLU 79	55.3	Si
ini.	3	413	-9807	72292	SLU 83	7.37	Si
fin.	3	426	3314	72292	SLU 83	21.81	Si
ini.	3	361	-10088	72292	SLU 77	7.17	Si
fin.	3	370	1692	72292	SLU 77	42.73	Si
ini.	3	308	-9034	72292	SLU 41	8	Si
fin.	3	329	2385	72292	SLU 41	30.31	Si
ini.	3	454	-8743	72292	SLU 74	8.27	Si
fin.	3	454	3425	72292	SLU 74	21.11	Si
ini.	3	211	-9568	72292	SLU 37	7.56	Si
fin.	3	231	378	72292	SLU 37	191.39	Si
ini.	3	297	-9217	72292	SLU 58	7.84	Si
fin.	3	306	1258	72292	SLU 58	57.46	Si
ini.	3	256	-9315	72292	SLU 35	7.76	Si
fin.	3	273	762	72292	SLU 35	94.85	Si
ini.	3	342	-8964	72292	SLU 56	8.06	Si
fin.	3	347	1643	72292	SLU 56	44.01	Si
ini.	3	361	-8984	72292	SLU 80	8.05	Si
fin.	3	365	3031	72292	SLU 80	23.85	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-10341	959			776	292	SLU 79	0.3	No
fin.	3	0	1307	-1369			776	292	SLU 79	0.21	No
ini.	3	0	-8450	986			776	292	SLU 84	0.3	No
fin.	3	0	5038	-1325			776	292	SLU 84	0.22	No
ini.	3	0	-8743	965			776	292	SLU 74	0.3	No
fin.	3	0	3425	-1378			776	292	SLU 74	0.21	No
ini.	3	0	-9807	1013			776	292	SLU 83	0.29	No
fin.	3	0	3314	-1398			776	292	SLU 83	0.21	No
ini.	3	0	-10088	970			776	292	SLU 77	0.3	No
fin.	3	0	1692	-1398			776	292	SLU 77	0.21	No
ini.	3	0	-7104	981			776	292	SLU 82	0.3	No
fin.	3	0	6771	-1306			776	292	SLU 82	0.22	No
ini.	3	0	-8984	933			776	292	SLU 80	0.31	No
fin.	3	0	3031	-1296			776	292	SLU 80	0.23	No
ini.	3	0	-8731	944			776	292	SLU 78	0.31	No
fin.	3	0	3415	-1325			776	292	SLU 78	0.22	No
ini.	3	0	-8461	1008			776	292	SLU 81	0.29	No
fin.	3	0	5048	-1379			776	292	SLU 81	0.21	No
ini.	3	0	-7386	939			776	292	SLU 75	0.31	No
fin.	3	0	5148	-1305			776	292	SLU 75	0.22	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2		-3127	1226	90194	73.57	Si
fin.	2		-3865	-74640	90194	1.21	Si
ini.	2		2599	24919	90194	3.62	Si
fin.	2		2783	48518	90194	1.86	Si
ini.	2		-3127	1226	90194	73.57	Si
fin.	2		-3865	-74640	90194	1.21	Si
ini.	2		-2356	21947	90194	4.11	Si
fin.	2		-3106	-60287	90194	1.5	Si
ini.	2		2599	24919	90194	3.62	Si
fin.	2		2783	48518	90194	1.86	Si
ini.	2		3883	-10673	90194	8.45	Si
fin.	2		4592	81343	90194	1.11	Si
ini.	2		3112	-31394	90194	2.87	Si
fin.	2		3834	66990	90194	1.35	Si
ini.	2		3883	-10673	90194	8.45	Si
fin.	2		4592	81343	90194	1.11	Si
ini.	2		-2356	21947	90194	4.11	Si
fin.	2		-3106	-60287	90194	1.5	Si
ini.	2		3112	-31394	90194	2.87	Si
fin.	2		3834	66990	90194	1.35	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-31394	3201			1165	438	SLV 16	0.14	No
fin.	2	0	66990	2172			1165	438	SLV 16	0.2	No
ini.	2	0	-44151	2510			1165	438	SLV 12	0.17	No
fin.	2	0	675	1159			1165	438	SLV 12	0.38	No
ini.	2	0	21947	-1913			1165	438	SLV 1	0.23	No
fin.	2	0	-60287	-4049			1165	438	SLV 1	0.11	No
ini.	2	0	1226	-1189			1165	438	SLV 4	0.37	No
fin.	2	0	-74640	-3281			1165	438	SLV 4	0.13	No
ini.	2	0	34704	-1221			1165	438	SLV 6	0.36	No
fin.	2	0	6029	-3036			1165	438	SLV 6	0.14	No
ini.	2	0	-31394	3201			1165	438	SLV 15	0.14	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	66990	2172			1165	438	SLV 15	0.2	No
ini.	2	0	1226	-1189			1165	438	SLV 3	0.37	No
fin.	2	0	-74640	-3281			1165	438	SLV 3	0.13	No
ini.	2	0	-44151	2510			1165	438	SLV 11	0.17	No
fin.	2	0	675	1159			1165	438	SLV 11	0.38	No
ini.	2	0	34704	-1221			1165	438	SLV 5	0.36	No
fin.	2	0	6029	-3036			1165	438	SLV 5	0.14	No
ini.	2	0	21947	-1913			1165	438	SLV 2	0.23	No
fin.	2	0	-60287	-4049			1165	438	SLV 2	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.109	SLV 13	Si
V_SLV	0.108	SLV 1	No
PF_SLU	6.991	SLU 79	Si
V_SLU	0.209	SLU 83	No

Trave di accoppiamento 78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	546	636	90	-1826.3	-335.9	546	636	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	614	-23962	103792	SLU 44	4.33	Si
fin.	3	-887	48476	103792	SLU 44	2.14	Si
ini.	3	667	-19196	103792	SLU 75	5.41	Si
fin.	3	-778	50078	103792	SLU 75	2.07	Si
ini.	3	693	-21084	103792	SLU 76	4.92	Si
fin.	3	-789	51334	103792	SLU 76	2.02	Si
ini.	3	666	-18126	103792	SLU 84	5.73	Si
fin.	3	-762	50319	103792	SLU 84	2.06	Si
ini.	3	692	-25026	103792	SLU 52	4.15	Si
fin.	3	-904	52487	103792	SLU 52	1.98	Si
ini.	3	774	-26197	103792	SLU 73	3.96	Si
fin.	3	-887	55489	103792	SLU 73	1.87	Si
ini.	3	666	-22068	103792	SLU 61	4.7	Si
fin.	3	-877	51471	103792	SLU 61	2.02	Si
ini.	3	695	-25134	103792	SLU 65	4.13	Si
fin.	3	-870	51478	103792	SLU 65	2.02	Si
ini.	3	657	-18118	103792	SLU 81	5.73	Si
fin.	3	-810	50371	103792	SLU 81	2.06	Si
ini.	3	747	-23239	103792	SLU 82	4.47	Si
fin.	3	-860	54473	103792	SLU 82	1.91	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-25134	-60			970	365	SLU 65	6.08	Si
fin.	3	0	51478	3377			970	365	SLU 65	0.11	No
ini.	3	0	-23239	-220			970	365	SLU 82	1.66	Si
fin.	3	0	54473	3612			970	365	SLU 82	0.1	No
ini.	3	0	-18126	-462			970	365	SLU 84	0.79	No
fin.	3	0	50319	3455			970	365	SLU 84	0.11	No
ini.	3	0	-19196	-407			970	365	SLU 75	0.9	No
fin.	3	0	50078	3439			970	365	SLU 75	0.11	No
ini.	3	0	-26197	-81			970	365	SLU 73	4.54	Si
fin.	3	0	55489	3608			970	365	SLU 73	0.1	No
ini.	3	0	-18118	-415			970	365	SLU 81	0.88	No
fin.	3	0	50371	3467			970	365	SLU 81	0.11	No
ini.	3	0	-25026	-61			970	365	SLU 52	5.97	Si
fin.	3	0	52487	3427			970	365	SLU 52	0.11	No
ini.	3	0	-22068	-200			970	365	SLU 61	1.82	Si
fin.	3	0	51471	3431			970	365	SLU 61	0.11	No
ini.	3	0	-21084	-322			970	365	SLU 76	1.13	Si
fin.	3	0	51334	3452			970	365	SLU 76	0.11	No
ini.	3	0	-13005	-657			970	365	SLU 83	0.56	No
fin.	3	0	46216	3311			970	365	SLU 83	0.11	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2639	-160891	121694	SLV 16	0.76	No
fin.	2	-2964	130086	121694	SLV 16	0.94	No
ini.	2	-2724	161223	121694	SLV 4	0.75	No
fin.	2	2259	-96208	121694	SLV 4	1.26	Si
ini.	2	2781	-104400	121694	SLV 9	1.17	Si
fin.	2	-2265	128391	121694	SLV 9	0.95	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2781	-104400	121694	SLV 10	1.17	Si
fin.	2	-2265	128391	121694	SLV 10	0.95	No
ini.	2	3571	-186852	121694	SLV 13	0.65	No
fin.	2	-3485	165859	121694	SLV 13	0.73	No
ini.	2	-2724	161223	121694	SLV 3	0.75	No
fin.	2	2259	-96208	121694	SLV 3	1.26	Si
ini.	2	-1792	135262	121694	SLV 2	0.9	No
fin.	2	1738	-60435	121694	SLV 2	2.01	Si
ini.	2	-1792	135262	121694	SLV 1	0.9	No
fin.	2	1738	-60435	121694	SLV 1	2.01	Si
ini.	2	2639	-160891	121694	SLV 15	0.76	No
fin.	2	-2964	130086	121694	SLV 15	0.94	No
ini.	2	3571	-186852	121694	SLV 14	0.65	No
fin.	2	-3485	165859	121694	SLV 14	0.73	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	135262	-6085			1456	548	SLV 2	0.09	No
fin.	2	0	-60435	-1715			1456	548	SLV 2	0.32	No
ini.	2	0	161223	-7631			1456	548	SLV 3	0.07	No
fin.	2	0	-96208	-3733			1456	548	SLV 3	0.15	No
ini.	2	0	-186852	7035			1456	548	SLV 13	0.08	No
fin.	2	0	165859	8612			1456	548	SLV 13	0.06	No
ini.	2	0	-186852	7035			1456	548	SLV 14	0.08	No
fin.	2	0	165859	8612			1456	548	SLV 14	0.06	No
ini.	2	0	-160891	5488			1456	548	SLV 15	0.1	No
fin.	2	0	130086	6594			1456	548	SLV 15	0.08	No
ini.	2	0	-104400	4246			1456	548	SLV 10	0.13	No
fin.	2	0	128391	7351			1456	548	SLV 10	0.07	No
ini.	2	0	-160891	5488			1456	548	SLV 16	0.1	No
fin.	2	0	130086	6594			1456	548	SLV 16	0.08	No
ini.	2	0	-104400	4246			1456	548	SLV 9	0.13	No
fin.	2	0	128391	7351			1456	548	SLV 9	0.07	No
ini.	2	0	161223	-7631			1456	548	SLV 4	0.07	No
fin.	2	0	-96208	-3733			1456	548	SLV 4	0.15	No
ini.	2	0	135262	-6085			1456	548	SLV 1	0.09	No
fin.	2	0	-60435	-1715			1456	548	SLV 1	0.32	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.651	SLV 13	No
V_SLV	0.064	SLV 13	No
PF_SLU	1.871	SLU 73	Si
V_SLU	0.101	SLU 82	No

Trave di accoppiamento 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	816	898	82	-1826.3	-335.9	816	898	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-398	-23968	89792	SLU 52	3.75	Si
fin.	3	441	10058	89792	SLU 52	8.93	Si
ini.	3	-346	-25308	89792	SLU 82	3.55	Si
fin.	3	374	5573	89792	SLU 82	16.11	Si
ini.	3	-189	-22020	89792	SLU 75	4.08	Si
fin.	3	319	2304	89792	SLU 75	38.98	Si
ini.	3	-301	-22000	89792	SLU 65	4.08	Si
fin.	3	471	9712	89792	SLU 65	9.25	Si
ini.	3	-269	-24351	89792	SLU 81	3.69	Si
fin.	3	278	971	89792	SLU 81	92.45	Si
ini.	3	-227	-21911	89792	SLU 76	4.1	Si
fin.	3	342	4460	89792	SLU 76	20.13	Si
ini.	3	-204	-22457	89792	SLU 84	4	Si
fin.	3	268	1071	89792	SLU 84	83.84	Si
ini.	3	-299	-23557	89792	SLU 60	3.81	Si
fin.	3	271	2068	89792	SLU 60	43.43	Si
ini.	3	-376	-24514	89792	SLU 61	3.66	Si
fin.	3	367	6669	89792	SLU 61	13.46	Si
ini.	3	-368	-24762	89792	SLU 73	3.63	Si
fin.	3	448	8961	89792	SLU 73	10.02	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-23557	2366			806	303	SLU 60	0.13	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	2068	-1260			806	303	SLU 60	0.24	No
ini.	3	0	-22020	2382			806	303	SLU 75	0.13	No
fin.	3	0	2304	-1362			806	303	SLU 75	0.22	No
ini.	3	0	-24514	2425			806	303	SLU 61	0.13	No
fin.	3	0	6669	-1038			806	303	SLU 61	0.29	No
ini.	3	0	-22457	2426			806	303	SLU 84	0.12	No
fin.	3	0	1071	-1461			806	303	SLU 84	0.21	No
ini.	3	0	-21500	2368			806	303	SLU 83	0.13	No
fin.	3	0	-3530	-1683			806	303	SLU 83	0.18	No
ini.	3	0	-24762	2520			806	303	SLU 73	0.12	No
fin.	3	0	8961	-1015			806	303	SLU 73	0.3	No
ini.	3	0	-24351	2531			806	303	SLU 81	0.12	No
fin.	3	0	971	-1462			806	303	SLU 81	0.21	No
ini.	3	0	-23968	2356			806	303	SLU 52	0.13	No
fin.	3	0	10058	-813			806	303	SLU 52	0.37	No
ini.	3	0	-25308	2589			806	303	SLU 82	0.12	No
fin.	3	0	5573	-1240			806	303	SLU 82	0.24	No
ini.	3	0	-21911	2357			806	303	SLU 76	0.13	No
fin.	3	0	4460	-1235			806	303	SLU 76	0.25	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	347	52634	107694	SLV 4	2.05	Si
fin.	2	-3909	-124091	107694	SLV 4	0.87	No
ini.	2	81	-92195	107694	SLV 10	1.17	Si
fin.	2	3325	86870	107694	SLV 10	1.24	Si
ini.	2	-923	-48859	107694	SLV 16	2.2	Si
fin.	2	3148	95926	107694	SLV 16	1.12	Si
ini.	2	-665	-85255	107694	SLV 13	1.26	Si
fin.	2	4370	127287	107694	SLV 13	0.85	No
ini.	2	81	-92195	107694	SLV 9	1.17	Si
fin.	2	3325	86870	107694	SLV 9	1.24	Si
ini.	2	-923	-48859	107694	SLV 15	2.2	Si
fin.	2	3148	95926	107694	SLV 15	1.12	Si
ini.	2	605	16238	107694	SLV 1	6.63	Si
fin.	2	-2687	-92730	107694	SLV 1	1.16	Si
ini.	2	605	16238	107694	SLV 2	6.63	Si
fin.	2	-2687	-92730	107694	SLV 2	1.16	Si
ini.	2	-665	-85255	107694	SLV 14	1.26	Si
fin.	2	4370	127287	107694	SLV 14	0.85	No
ini.	2	347	52634	107694	SLV 3	2.05	Si
fin.	2	-3909	-124091	107694	SLV 3	0.87	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-85255	5567			1208	455	SLV 13	0.08	No
fin.	2	0	127287	3789			1208	455	SLV 13	0.12	No
ini.	2	0	-92195	5016			1208	455	SLV 10	0.09	No
fin.	2	0	86870	1942			1208	455	SLV 10	0.23	No
ini.	2	0	-92195	5016			1208	455	SLV 9	0.09	No
fin.	2	0	86870	1942			1208	455	SLV 9	0.23	No
ini.	2	0	-48859	4147			1208	455	SLV 15	0.11	No
fin.	2	0	95926	2828			1208	455	SLV 15	0.16	No
ini.	2	0	52634	-2156			1208	455	SLV 4	0.21	No
fin.	2	0	-124091	-5656			1208	455	SLV 4	0.08	No
ini.	2	0	52634	-2156			1208	455	SLV 3	0.21	No
fin.	2	0	-124091	-5656			1208	455	SLV 3	0.08	No
ini.	2	0	-85255	5567			1208	455	SLV 14	0.08	No
fin.	2	0	127287	3789			1208	455	SLV 14	0.12	No
ini.	2	0	16238	-737			1208	455	SLV 2	0.62	No
fin.	2	0	-92730	-4695			1208	455	SLV 2	0.1	No
ini.	2	0	16238	-737			1208	455	SLV 1	0.62	No
fin.	2	0	-92730	-4695			1208	455	SLV 1	0.1	No
ini.	2	0	-48859	4147			1208	455	SLV 16	0.11	No
fin.	2	0	95926	2828			1208	455	SLV 16	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.846	SLV 13	No
V_SLV	0.08	SLV 3	No
PF_SLU	3.548	SLU 82	Si
V_SLU	0.117	SLU 82	No

Trave di accoppiamento 80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1705.3	-486.2	872	898	26	-1705.3	-377.2	872	898	26	109	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb_	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	μ_u	Comb.	c.s.	Verifica
ini.	3	2	954	10289	SLU 18	10.79	Si
fin.	3	2	7420	10289	SLU 18	1.39	Si
ini.	3	8	1761	10289	SLU 82	5.84	Si
fin.	3	8	9471	10289	SLU 82	1.09	Si
ini.	3	7	1929	10289	SLU 61	5.33	Si
fin.	3	7	7472	10289	SLU 61	1.38	Si
ini.	3	11	1759	10289	SLU 31	5.85	Si
fin.	3	11	7935	10289	SLU 31	1.3	Si
ini.	3	2	1417	10289	SLU 60	7.26	Si
fin.	3	2	7465	10289	SLU 60	1.38	Si
ini.	3	7	1466	10289	SLU 19	7.02	Si
fin.	3	7	7428	10289	SLU 19	1.39	Si
ini.	3	2	1249	10289	SLU 81	8.24	Si
fin.	3	2	9463	10289	SLU 81	1.09	Si
ini.	3	7	1298	10289	SLU 40	7.93	Si
fin.	3	7	9427	10289	SLU 40	1.09	Si
ini.	3	11	2223	10289	SLU 73	4.63	Si
fin.	3	11	7980	10289	SLU 73	1.29	Si
ini.	3	2	786	10289	SLU 39	13.09	Si
fin.	3	2	9419	10289	SLU 39	1.09	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	2223	126			200	75	SLU 73	0.6	No
fin.	3	0	7980	-21			200	75	SLU 73	3.62	Si
ini.	3	0	1486	121			200	75	SLU 74	0.62	No
fin.	3	0	6678	-26			200	75	SLU 74	2.9	Si
ini.	3	0	1438	128			200	75	SLU 83	0.59	No
fin.	3	0	7396	-19			200	75	SLU 83	3.97	Si
ini.	3	0	1929	124			200	75	SLU 61	0.61	No
fin.	3	0	7472	-23			200	75	SLU 61	3.31	Si
ini.	3	0	786	136			200	75	SLU 39	0.55	No
fin.	3	0	9419	23			200	75	SLU 39	3.34	Si
ini.	3	0	1761	144			200	75	SLU 82	0.52	No
fin.	3	0	9471	-3			200	75	SLU 82	25.98	Si
ini.	3	0	1951	124			200	75	SLU 84	0.61	No
fin.	3	0	7403	-24			200	75	SLU 84	3.19	Si
ini.	3	0	1417	129			200	75	SLU 60	0.58	No
fin.	3	0	7465	-18			200	75	SLU 60	4.15	Si
ini.	3	0	1249	149			200	75	SLU 81	0.51	No
fin.	3	0	9463	2			200	75	SLU 81	43.57	Si
ini.	3	0	1298	131			200	75	SLU 40	0.57	No
fin.	3	0	9427	18			200	75	SLU 40	4.2	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	μ_u	Comb.	c.s.	Verifica
ini.	2	55	-4100	15434	SLV 6	3.76	Si
fin.	2	146	45198	15434	SLV 6	0.34	No
ini.	2	55	-4100	15434	SLV 5	3.76	Si
fin.	2	146	45198	15434	SLV 5	0.34	No
ini.	2	53	-2968	15434	SLV 14	5.2	Si
fin.	2	91	45517	15434	SLV 14	0.34	No
ini.	2	-50	5417	15434	SLV 4	2.85	Si
fin.	2	-87	-37516	15434	SLV 4	0.41	No
ini.	2	-71	7978	15434	SLV 7	1.93	Si
fin.	2	-168	-53246	15434	SLV 7	0.29	No
ini.	2	-50	5417	15434	SLV 3	2.85	Si
fin.	2	-87	-37516	15434	SLV 3	0.41	No
ini.	2	53	-2968	15434	SLV 13	5.2	Si
fin.	2	91	45517	15434	SLV 13	0.34	No
ini.	2	74	-5529	15434	SLV 10	2.79	Si
fin.	2	171	61248	15434	SLV 10	0.25	No
ini.	2	-71	7978	15434	SLV 8	1.93	Si
fin.	2	-168	-53246	15434	SLV 8	0.29	No
ini.	2	74	-5529	15434	SLV 9	2.79	Si
fin.	2	171	61248	15434	SLV 9	0.25	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-4100	432			300	113	SLV 5	0.26	No
fin.	2	0	45198	305			300	113	SLV 5	0.37	No
ini.	2	0	-5529	579			300	113	SLV 10	0.2	No
fin.	2	0	61248	413			300	113	SLV 10	0.27	No
ini.	2	0	-2968	454			300	113	SLV 13	0.25	No
fin.	2	0	45517	264			300	113	SLV 13	0.43	No
ini.	2	0	-4100	432			300	113	SLV 6	0.26	No
fin.	2	0	45198	305			300	113	SLV 6	0.37	No
ini.	2	0	-2968	454			300	113	SLV 14	0.25	No
fin.	2	0	45517	264			300	113	SLV 14	0.43	No
ini.	2	0	7978	-415			300	113	SLV 8	0.27	No
fin.	2	0	-53246	-475			300	113	SLV 8	0.24	No
ini.	2	0	-5529	579			300	113	SLV 9	0.2	No
fin.	2	0	61248	413			300	113	SLV 9	0.27	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	6550	-268			300	113	SLV 11	0.42	No
fin.	2	0	-37196	-368			300	113	SLV 11	0.31	No
ini.	2	0	6550	-268			300	113	SLV 12	0.42	No
fin.	2	0	-37196	-368			300	113	SLV 12	0.31	No
ini.	2	0	7978	-415			300	113	SLV 7	0.27	No
fin.	2	0	-53246	-475			300	113	SLV 7	0.24	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.252	SLV 9	No
V_SLV	0.195	SLV 9	No
PF_SLU	1.086	SLU 82	Si
V_SLU	0.506	SLU 81	No

Trave di accoppiamento 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1543.3	-335.9	756	898	142	-1633.3	-335.9	756	898	142	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-118	-102889	194792	SLU 84	1.89	Si
fin.	3	-118	78287	194792	SLU 84	2.49	Si
ini.	3	-125	-102520	194792	SLU 31	1.9	Si
fin.	3	-125	84665	194792	SLU 31	2.3	Si
ini.	3	-299	-105539	194792	SLU 61	1.85	Si
fin.	3	-299	82265	194792	SLU 61	2.37	Si
ini.	3	-252	-106827	194792	SLU 81	1.82	Si
fin.	3	-252	80528	194792	SLU 81	2.42	Si
ini.	3	-258	-108343	194792	SLU 52	1.8	Si
fin.	3	-258	85903	194792	SLU 52	2.27	Si
ini.	3	-125	-110900	194792	SLU 65	1.76	Si
fin.	3	-125	86362	194792	SLU 65	2.26	Si
ini.	3	-85	-104417	194792	SLU 75	1.87	Si
fin.	3	-85	78487	194792	SLU 75	2.48	Si
ini.	3	-77	-105693	194792	SLU 76	1.84	Si
fin.	3	-77	81925	194792	SLU 76	2.38	Si
ini.	3	-234	-116323	194792	SLU 82	1.67	Si
fin.	3	-234	91856	194792	SLU 82	2.12	Si
ini.	3	-193	-119127	194792	SLU 73	1.64	Si
fin.	3	-193	95495	194792	SLU 73	2.04	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-104417	2783			1531	576	SLU 75	0.21	No
fin.	3	0	78487	1240			1531	576	SLU 75	0.46	No
ini.	3	0	-116323	3111			1531	576	SLU 82	0.19	No
fin.	3	0	91856	1473			1531	576	SLU 82	0.39	No
ini.	3	0	-106827	2880			1531	576	SLU 81	0.2	No
fin.	3	0	80528	1242			1531	576	SLU 81	0.46	No
ini.	3	0	-108343	2816			1531	576	SLU 52	0.2	No
fin.	3	0	85903	1457			1531	576	SLU 52	0.4	No
ini.	3	0	-110900	2832			1531	576	SLU 65	0.2	No
fin.	3	0	86362	1510			1531	576	SLU 65	0.38	No
ini.	3	0	-105693	2835			1531	576	SLU 76	0.2	No
fin.	3	0	81925	1292			1531	576	SLU 76	0.45	No
ini.	3	0	-102520	2729			1531	576	SLU 31	0.21	No
fin.	3	0	84665	1400			1531	576	SLU 31	0.41	No
ini.	3	0	-102889	2811			1531	576	SLU 84	0.2	No
fin.	3	0	78287	1173			1531	576	SLU 84	0.49	No
ini.	3	0	-119127	3135			1531	576	SLU 73	0.18	No
fin.	3	0	95495	1592			1531	576	SLU 73	0.36	No
ini.	3	0	-105539	2792			1531	576	SLU 61	0.21	No
fin.	3	0	82265	1338			1531	576	SLU 61	0.43	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	496	-504260	212694	SLV 15	0.42	No
fin.	2	1096	400897	212694	SLV 15	0.53	No
ini.	2	-2517	372095	212694	SLV 3	0.57	No
fin.	2	-2624	-285930	212694	SLV 3	0.74	No
ini.	2	839	-263297	212694	SLD 13	0.81	No
fin.	2	888	196701	212694	SLD 13	1.08	Si
ini.	2	2212	-518323	212694	SLV 13	0.41	No
fin.	2	2318	390750	212694	SLV 13	0.54	No
ini.	2	496	-504260	212694	SLV 16	0.42	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	1096	400897	212694	SLV 16	0.53	No
ini.	2	839	-263297	212694	SLD 14	0.81	No
fin.	2	888	196701	212694	SLD 14	1.08	Si
ini.	2	-801	358032	212694	SLV 1	0.59	No
fin.	2	-1401	-296078	212694	SLV 1	0.72	No
ini.	2	2212	-518323	212694	SLV 14	0.41	No
fin.	2	2318	390750	212694	SLV 14	0.54	No
ini.	2	-2517	372095	212694	SLV 4	0.57	No
fin.	2	-2624	-285930	212694	SLV 4	0.74	No
ini.	2	-801	358032	212694	SLV 2	0.59	No
fin.	2	-1401	-296078	212694	SLV 2	0.72	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	372095	-6870			2297	864	SLV 4	0.13	No
fin.	2	0	-285930	-7847			2297	864	SLV 4	0.11	No
ini.	2	0	-518323	10667			2297	864	SLV 14	0.08	No
fin.	2	0	390750	9565			2297	864	SLV 14	0.09	No
ini.	2	0	358032	-6933			2297	864	SLV 1	0.12	No
fin.	2	0	-296078	-7966			2297	864	SLV 1	0.11	No
ini.	2	0	-504260	10729			2297	864	SLV 15	0.08	No
fin.	2	0	400897	9683			2297	864	SLV 15	0.09	No
ini.	2	0	-504260	10729			2297	864	SLV 16	0.08	No
fin.	2	0	400897	9683			2297	864	SLV 16	0.09	No
ini.	2	0	-257252	5670			2297	864	SLD 16	0.15	No
fin.	2	0	201315	4624			2297	864	SLD 16	0.19	No
ini.	2	0	372095	-6870			2297	864	SLV 3	0.13	No
fin.	2	0	-285930	-7847			2297	864	SLV 3	0.11	No
ini.	2	0	-518323	10667			2297	864	SLV 13	0.08	No
fin.	2	0	390750	9565			2297	864	SLV 13	0.09	No
ini.	2	0	358032	-6933			2297	864	SLV 2	0.12	No
fin.	2	0	-296078	-7966			2297	864	SLV 2	0.11	No
ini.	2	0	-257252	5670			2297	864	SLD 15	0.15	No
fin.	2	0	201315	4624			2297	864	SLD 15	0.19	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.41	SLV 13	No
V_SLV	0.081	SLV 15	No
PF_SLU	1.635	SLU 73	Si
V_SLU	0.184	SLU 73	No

Trave di accoppiamento 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1443.8	-485.9	872	898	26	-1627.8	-485.9	872	898	26	184	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-7	-7516	10289	SLU 45	1.37	Si
fin.	3	-7	-443	10289	SLU 45	23.2	Si
ini.	3	-13	-7917	10289	SLU 46	1.3	Si
fin.	3	-13	-60	10289	SLU 46	171.88	Si
ini.	3	-17	-8029	10289	SLU 47	1.28	Si
fin.	3	-17	43	10289	SLU 47	239.99	Si
ini.	3	-24	-7652	10289	SLU 52	1.34	Si
fin.	3	-24	-393	10289	SLU 52	26.21	Si
ini.	3	-10	-7447	10289	SLU 64	1.38	Si
fin.	3	-10	-544	10289	SLU 64	18.91	Si
ini.	3	-20	-9178	10289	SLU 44	1.12	Si
fin.	3	-20	1188	10289	SLU 44	8.66	Si
ini.	3	-20	-8116	10289	SLU 65	1.27	Si
fin.	3	-20	95	10289	SLU 65	108.06	Si
ini.	3	-17	-6966	10289	SLU 68	1.48	Si
fin.	3	-17	-1050	10289	SLU 68	9.8	Si
ini.	3	-18	-6934	10289	SLU 2	1.48	Si
fin.	3	-18	773	10289	SLU 2	13.3	Si
ini.	3	-10	-8509	10289	SLU 43	1.21	Si
fin.	3	-10	549	10289	SLU 43	18.74	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-8509	172			200	75	SLU 43	0.44	No
fin.	3	0	549	-74			200	75	SLU 43	1.02	Si
ini.	3	0	-7516	162			200	75	SLU 45	0.47	No
fin.	3	0	-443	-85			200	75	SLU 45	0.89	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-7447	161			200	75	SLU 64	0.47	No
fin.	3	0	-544	-86			200	75	SLU 64	0.88	No
ini.	3	0	-7652	163			200	75	SLU 52	0.46	No
fin.	3	0	-393	-84			200	75	SLU 52	0.9	No
ini.	3	0	-8116	168			200	75	SLU 65	0.45	No
fin.	3	0	95	-78			200	75	SLU 65	0.96	No
ini.	3	0	-6966	155			200	75	SLU 68	0.49	No
fin.	3	0	-1050	-91			200	75	SLU 68	0.83	No
ini.	3	0	-6855	154			200	75	SLU 67	0.49	No
fin.	3	0	-1153	-92			200	75	SLU 67	0.82	No
ini.	3	0	-7917	166			200	75	SLU 46	0.45	No
fin.	3	0	-60	-80			200	75	SLU 46	0.94	No
ini.	3	0	-9178	179			200	75	SLU 44	0.42	No
fin.	3	0	1188	-67			200	75	SLU 44	1.13	Si
ini.	3	0	-8029	167			200	75	SLU 47	0.45	No
fin.	3	0	43	-79			200	75	SLU 47	0.95	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-273	-47666	15434	SLV 13	0.32	No
fin.	2	-238	39439	15434	SLV 13	0.39	No
ini.	2	-273	-47666	15434	SLV 14	0.32	No
fin.	2	-238	39439	15434	SLV 14	0.39	No
ini.	2	255	46905	15434	SLV 2	0.33	No
fin.	2	255	-50993	15434	SLV 2	0.3	No
ini.	2	-273	-57957	15434	SLV 15	0.27	No
fin.	2	-272	49733	15434	SLV 15	0.31	No
ini.	2	255	46905	15434	SLV 1	0.33	No
fin.	2	255	-50993	15434	SLV 1	0.3	No
ini.	2	255	36614	15434	SLV 4	0.42	No
fin.	2	220	-40699	15434	SLV 4	0.38	No
ini.	2	-273	-57957	15434	SLV 16	0.27	No
fin.	2	-272	49733	15434	SLV 16	0.31	No
ini.	2	-88	-36864	15434	SLV 12	0.42	No
fin.	2	-141	30091	15434	SLV 12	0.51	No
ini.	2	-88	-36864	15434	SLV 11	0.42	No
fin.	2	-141	30091	15434	SLV 11	0.51	No
ini.	2	255	36614	15434	SLV 3	0.42	No
fin.	2	220	-40699	15434	SLV 3	0.38	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	36614	-104			300	113	SLV 4	1.08	Si
fin.	2	0	-40699	-557			300	113	SLV 4	0.2	No
ini.	2	0	-57957	394			300	113	SLV 15	0.29	No
fin.	2	0	49733	448			300	113	SLV 15	0.25	No
ini.	2	0	16785	5			300	113	SLD 1	21.83	Si
fin.	2	0	-22059	-288			300	113	SLD 1	0.39	No
ini.	2	0	-47666	347			300	113	SLV 13	0.33	No
fin.	2	0	39439	421			300	113	SLV 13	0.27	No
ini.	2	0	36614	-104			300	113	SLV 3	1.08	Si
fin.	2	0	-40699	-557			300	113	SLV 3	0.2	No
ini.	2	0	-47666	347			300	113	SLV 14	0.33	No
fin.	2	0	39439	421			300	113	SLV 14	0.27	No
ini.	2	0	46905	-152			300	113	SLV 2	0.75	No
fin.	2	0	-50993	-584			300	113	SLV 2	0.19	No
ini.	2	0	46905	-152			300	113	SLV 1	0.75	No
fin.	2	0	-50993	-584			300	113	SLV 1	0.19	No
ini.	2	0	16785	5			300	113	SLD 2	21.83	Si
fin.	2	0	-22059	-288			300	113	SLD 2	0.39	No
ini.	2	0	-57957	394			300	113	SLV 16	0.29	No
fin.	2	0	49733	448			300	113	SLV 16	0.25	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.266	SLV 15	No
V_SLV	0.194	SLV 1	No
PF_SLU	1.121	SLU 44	Si
V_SLU	0.42	SLU 44	No

Trave di accoppiamento 83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1375.3	-22.8	756	898	142	-1375.3	67.2	756	898	142	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-137	-151327	194792	SLU 29	1.29	Si
fin.	3	-137	56055	194792	SLU 29	3.47	Si
ini.	3	-103	-137154	194792	SLU 77	1.42	Si
fin.	3	-103	59940	194792	SLU 77	3.25	Si
ini.	3	-138	-152467	194792	SLU 70	1.28	Si
fin.	3	-138	56828	194792	SLU 70	3.43	Si
ini.	3	-136	-158383	194792	SLU 71	1.23	Si
fin.	3	-136	60103	194792	SLU 71	3.24	Si
ini.	3	-136	-150112	194792	SLU 72	1.3	Si
fin.	3	-136	57166	194792	SLU 72	3.41	Si
ini.	3	-137	-160738	194792	SLU 69	1.21	Si
fin.	3	-137	59765	194792	SLU 69	3.26	Si
ini.	3	-138	-143057	194792	SLU 30	1.36	Si
fin.	3	-138	53118	194792	SLU 30	3.67	Si
ini.	3	-139	-145412	194792	SLU 28	1.34	Si
fin.	3	-139	52780	194792	SLU 28	3.69	Si
ini.	3	-102	-134799	194792	SLU 79	1.45	Si
fin.	3	-102	60279	194792	SLU 79	3.23	Si
ini.	3	-138	-153682	194792	SLU 27	1.27	Si
fin.	3	-138	55717	194792	SLU 27	3.5	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-150112	2741			1531	576	SLU 72	0.21	No
fin.	3	0	57166	1909			1531	576	SLU 72	0.3	No
ini.	3	0	-143057	2522			1531	576	SLU 30	0.23	No
fin.	3	0	53118	1871			1531	576	SLU 30	0.31	No
ini.	3	0	-145412	2544			1531	576	SLU 28	0.23	No
fin.	3	0	52780	1893			1531	576	SLU 28	0.3	No
ini.	3	0	-160738	2887			1531	576	SLU 69	0.2	No
fin.	3	0	59765	2056			1531	576	SLU 69	0.28	No
ini.	3	0	-152467	2763			1531	576	SLU 70	0.21	No
fin.	3	0	56828	1932			1531	576	SLU 70	0.3	No
ini.	3	0	-158383	2865			1531	576	SLU 71	0.2	No
fin.	3	0	60103	2034			1531	576	SLU 71	0.28	No
ini.	3	0	-137154	2627			1531	576	SLU 77	0.22	No
fin.	3	0	59940	1796			1531	576	SLU 77	0.32	No
ini.	3	0	-134799	2605			1531	576	SLU 79	0.22	No
fin.	3	0	60279	1774			1531	576	SLU 79	0.32	No
ini.	3	0	-151327	2646			1531	576	SLU 29	0.22	No
fin.	3	0	56055	1995			1531	576	SLU 29	0.29	No
ini.	3	0	-153682	2669			1531	576	SLU 27	0.22	No
fin.	3	0	55717	2018			1531	576	SLU 27	0.29	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1397	342974	212694	SLV 7	0.62	No
fin.	2	1201	-172131	212694	SLV 7	1.24	Si
ini.	2	1397	342974	212694	SLV 8	0.62	No
fin.	2	1201	-172131	212694	SLV 8	1.24	Si
ini.	2	-1139	-395646	212694	SLV 1	0.54	No
fin.	2	-1923	92173	212694	SLV 1	2.31	Si
ini.	2	-1139	-395646	212694	SLV 2	0.54	No
fin.	2	-1923	92173	212694	SLV 2	2.31	Si
ini.	2	1783	457749	212694	SLV 11	0.46	No
fin.	2	2051	-174883	212694	SLV 11	1.22	Si
ini.	2	-1425	-472582	212694	SLV 9	0.45	No
fin.	2	-1229	226798	212694	SLV 9	0.94	No
ini.	2	-1812	-587357	212694	SLV 6	0.36	No
fin.	2	-2079	229550	212694	SLV 6	0.93	No
ini.	2	-1425	-472582	212694	SLV 10	0.45	No
fin.	2	-1229	226798	212694	SLV 10	0.94	No
ini.	2	-1812	-587357	212694	SLV 5	0.36	No
fin.	2	-2079	229550	212694	SLV 5	0.93	No
ini.	2	1783	457749	212694	SLV 12	0.46	No
fin.	2	2051	-174883	212694	SLV 12	1.22	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	457749	-6560			2297	864	SLV 11	0.13	No
fin.	2	0	-174883	-7321			2297	864	SLV 11	0.12	No
ini.	2	0	342974	-5029			2297	864	SLV 7	0.17	No
fin.	2	0	-172131	-5620			2297	864	SLV 7	0.15	No
ini.	2	0	457749	-6560			2297	864	SLV 12	0.13	No
fin.	2	0	-174883	-7321			2297	864	SLV 12	0.12	No
ini.	2	0	-472582	7745			2297	864	SLV 10	0.11	No
fin.	2	0	226798	7067			2297	864	SLV 10	0.12	No
ini.	2	0	342974	-5029			2297	864	SLV 8	0.17	No
fin.	2	0	-172131	-5620			2297	864	SLV 8	0.15	No
ini.	2	0	-395646	6055			2297	864	SLV 2	0.14	No
fin.	2	0	92173	5716			2297	864	SLV 2	0.15	No
ini.	2	0	-395646	6055			2297	864	SLV 1	0.14	No
fin.	2	0	92173	5716			2297	864	SLV 1	0.15	No
ini.	2	0	-587357	9276			2297	864	SLV 6	0.09	No
fin.	2	0	229550	8767			2297	864	SLV 6	0.1	No
ini.	2	0	-472582	7745			2297	864	SLV 9	0.11	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	226798	7067			2297	864	SLV 9	0.12	No
ini.	2	0	-587357	9276			2297	864	SLV 5	0.09	No
fin.	2	0	229550	8767			2297	864	SLV 5	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.362	SLV 5	No
V_SLV	0.093	SLV 5	No
PF_SLU	1.212	SLU 69	Si
V_SLU	0.2	SLU 69	No

Trave di accoppiamento 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1074.8	333.1	736	898	162	-994.8	333.1	736	898	162	80	14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	272	627287	176083	SLU 77	0.28	No
fin.	3	272	125235	176083	SLU 77	1.41	Si
ini.	3	267	615586	176083	SLU 79	0.29	No
fin.	3	267	123152	176083	SLU 79	1.43	Si
ini.	3	281	652385	176083	SLU 84	0.27	No
fin.	3	281	131790	176083	SLU 84	1.34	Si
ini.	3	281	651752	176083	SLU 83	0.27	No
fin.	3	281	131678	176083	SLU 83	1.34	Si
ini.	3	276	649402	176083	SLU 82	0.27	No
fin.	3	276	132144	176083	SLU 82	1.33	Si
ini.	3	267	616218	176083	SLU 80	0.29	No
fin.	3	267	123265	176083	SLU 80	1.43	Si
ini.	3	272	627920	176083	SLU 78	0.28	No
fin.	3	272	125347	176083	SLU 78	1.4	Si
ini.	3	267	624304	176083	SLU 74	0.28	No
fin.	3	267	125588	176083	SLU 74	1.4	Si
ini.	3	267	624937	176083	SLU 75	0.28	No
fin.	3	267	125700	176083	SLU 75	1.4	Si
ini.	3	276	648769	176083	SLU 81	0.27	No
fin.	3	276	132031	176083	SLU 81	1.33	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	624937	-5667			873	329	SLU 75	0.06	No
fin.	3	0	125700	-6802			873	329	SLU 75	0.05	No
ini.	3	0	615586	-5582			873	329	SLU 79	0.06	No
fin.	3	0	123152	-6717			873	329	SLU 79	0.05	No
ini.	3	0	651752	-5877			873	329	SLU 83	0.06	No
fin.	3	0	131678	-7113			873	329	SLU 83	0.05	No
ini.	3	0	627920	-5709			873	329	SLU 78	0.06	No
fin.	3	0	125347	-6844			873	329	SLU 78	0.05	No
ini.	3	0	648769	-5835			873	329	SLU 81	0.06	No
fin.	3	0	132031	-7072			873	329	SLU 81	0.05	No
ini.	3	0	649402	-5842			873	329	SLU 82	0.06	No
fin.	3	0	132144	-7078			873	329	SLU 82	0.05	No
ini.	3	0	652385	-5884			873	329	SLU 84	0.06	No
fin.	3	0	131790	-7120			873	329	SLU 84	0.05	No
ini.	3	0	627287	-5702			873	329	SLU 77	0.06	No
fin.	3	0	125235	-6837			873	329	SLU 77	0.05	No
ini.	3	0	616218	-5589			873	329	SLU 80	0.06	No
fin.	3	0	123265	-6724			873	329	SLU 80	0.05	No
ini.	3	0	624304	-5661			873	329	SLU 74	0.06	No
fin.	3	0	125588	-6796			873	329	SLU 74	0.05	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	152	591995	211889	SLD 11	0.36	No
fin.	2	297	115697	211889	SLD 11	1.83	Si
ini.	2	583	957468	211889	SLV 8	0.22	No
fin.	2	476	198335	211889	SLV 8	1.07	Si
ini.	2	973	751003	211889	SLV 3	0.28	No
fin.	2	249	171933	211889	SLV 3	1.23	Si
ini.	2	152	591995	211889	SLD 12	0.36	No
fin.	2	297	115697	211889	SLD 12	1.83	Si
ini.	2	973	751003	211889	SLV 4	0.28	No
fin.	2	249	171933	211889	SLV 4	1.23	Si
ini.	2	134	840066	211889	SLV 11	0.25	No
fin.	2	482	162365	211889	SLV 11	1.31	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	134	840066	211889	SLV 12	0.25	No
fin.	2	482	162365	211889	SLV 12	1.31	Si
ini.	2	583	957468	211889	SLV 7	0.22	No
fin.	2	476	198335	211889	SLV 7	1.07	Si
ini.	2	342	641865	211889	SLD 8	0.33	No
fin.	2	292	130334	211889	SLD 8	1.63	Si
ini.	2	342	641865	211889	SLD 7	0.33	No
fin.	2	292	130334	211889	SLD 7	1.63	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	840066	-8820			1310	493	SLV 12	0.06	No
fin.	2	0	162365	-10091			1310	493	SLV 12	0.05	No
ini.	2	0	840066	-8820			1310	493	SLV 11	0.06	No
fin.	2	0	162365	-10091			1310	493	SLV 11	0.05	No
ini.	2	0	641865	-5875			1310	493	SLD 8	0.08	No
fin.	2	0	130334	-6917			1310	493	SLD 8	0.07	No
ini.	2	0	591995	-5883			1310	493	SLD 12	0.08	No
fin.	2	0	115697	-6804			1310	493	SLD 12	0.07	No
ini.	2	0	957468	-8795			1310	493	SLV 7	0.06	No
fin.	2	0	198335	-10332			1310	493	SLV 7	0.05	No
ini.	2	0	751003	-5194			1310	493	SLV 4	0.09	No
fin.	2	0	171933	-6562			1310	493	SLV 4	0.08	No
ini.	2	0	641865	-5875			1310	493	SLD 7	0.08	No
fin.	2	0	130334	-6917			1310	493	SLD 7	0.07	No
ini.	2	0	591995	-5883			1310	493	SLD 11	0.08	No
fin.	2	0	115697	-6804			1310	493	SLD 11	0.07	No
ini.	2	0	751003	-5194			1310	493	SLV 3	0.09	No
fin.	2	0	171933	-6562			1310	493	SLV 3	0.08	No
ini.	2	0	957468	-8795			1310	493	SLV 8	0.06	No
fin.	2	0	198335	-10332			1310	493	SLV 8	0.05	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 7	No
V_SLV	0.048	SLV 7	No
PF_SLU	0.27	SLU 84	No
V_SLU	0.046	SLU 84	No

Trave di accoppiamento 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	546	636	90	-1681.8	666.1	546	636	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1529	10972	103792	SLU 81	9.46	Si
fin.	3	-1118	16710	103792	SLU 81	6.21	Si
ini.	3	-1424	8014	103792	SLU 80	12.95	Si
fin.	3	-1115	16743	103792	SLU 80	6.2	Si
ini.	3	-1503	9673	103792	SLU 84	10.73	Si
fin.	3	-1134	17222	103792	SLU 84	6.03	Si
ini.	3	-1431	8248	103792	SLU 79	12.58	Si
fin.	3	-1112	16582	103792	SLU 79	6.26	Si
ini.	3	-1456	8635	103792	SLU 77	12.02	Si
fin.	3	-1129	16751	103792	SLU 77	6.2	Si
ini.	3	-1438	8924	103792	SLU 76	11.63	Si
fin.	3	-1105	16499	103792	SLU 76	6.29	Si
ini.	3	-1467	9467	103792	SLU 75	10.96	Si
fin.	3	-1120	16561	103792	SLU 75	6.27	Si
ini.	3	-1510	9906	103792	SLU 83	10.48	Si
fin.	3	-1131	17061	103792	SLU 83	6.08	Si
ini.	3	-1449	8401	103792	SLU 78	12.35	Si
fin.	3	-1132	16912	103792	SLU 78	6.14	Si
ini.	3	-1522	10739	103792	SLU 82	9.67	Si
fin.	3	-1121	16871	103792	SLU 82	6.15	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	9906	-1866			970	365	SLU 83	0.2	No
fin.	3	0	17061	3040			970	365	SLU 83	0.12	No
ini.	3	0	10739	-1873			970	365	SLU 82	0.19	No
fin.	3	0	16871	2975			970	365	SLU 82	0.12	No
ini.	3	0	8248	-1775			970	365	SLU 79	0.21	No
fin.	3	0	16582	3021			970	365	SLU 79	0.12	No
ini.	3	0	9467	-1826			970	365	SLU 75	0.2	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	16561	3003			970	365	SLU 75	0.12	No
ini.	3	0	9701	-1839			970	365	SLU 74	0.2	No
fin.	3	0	16400	2998			970	365	SLU 74	0.12	No
ini.	3	0	8401	-1806			970	365	SLU 78	0.2	No
fin.	3	0	16912	3075			970	365	SLU 78	0.12	No
ini.	3	0	9673	-1853			970	365	SLU 84	0.2	No
fin.	3	0	17222	3046			970	365	SLU 84	0.12	No
ini.	3	0	10972	-1886			970	365	SLU 81	0.19	No
fin.	3	0	16710	2969			970	365	SLU 81	0.12	No
ini.	3	0	8635	-1818			970	365	SLU 77	0.2	No
fin.	3	0	16751	3069			970	365	SLU 77	0.12	No
ini.	3	0	8014	-1762			970	365	SLU 80	0.21	No
fin.	3	0	16743	3027			970	365	SLU 80	0.12	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	848	-110527	121694	SLV 4	1.1	Si
fin.	2	-5623	107597	121694	SLV 4	1.13	Si
ini.	2	-2917	124760	121694	SLV 13	0.98	No
fin.	2	4056	-85791	121694	SLV 13	1.42	Si
ini.	2	-3416	132435	121694	SLV 15	0.92	No
fin.	2	4011	-108115	121694	SLV 15	1.13	Si
ini.	2	1347	-118202	121694	SLV 1	1.03	Si
fin.	2	-5578	129921	121694	SLV 1	0.94	No
ini.	2	1347	-118202	121694	SLV 2	1.03	Si
fin.	2	-5578	129921	121694	SLV 2	0.94	No
ini.	2	437	-42119	121694	SLV 5	2.89	Si
fin.	2	-2154	80466	121694	SLV 5	1.51	Si
ini.	2	-3416	132435	121694	SLV 16	0.92	No
fin.	2	4011	-108115	121694	SLV 16	1.13	Si
ini.	2	437	-42119	121694	SLV 6	2.89	Si
fin.	2	-2154	80466	121694	SLV 6	1.51	Si
ini.	2	848	-110527	121694	SLV 3	1.1	Si
fin.	2	-5623	107597	121694	SLV 3	1.13	Si
ini.	2	-2917	124760	121694	SLV 14	0.98	No
fin.	2	4056	-85791	121694	SLV 14	1.42	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-16536	-382			1456	548	SLV 7	1.43	Si
fin.	2	0	6054	5134			1456	548	SLV 7	0.11	No
ini.	2	0	-118202	4495			1456	548	SLV 1	0.12	No
fin.	2	0	129921	8368			1456	548	SLV 1	0.07	No
ini.	2	0	-110527	4036			1456	548	SLV 3	0.14	No
fin.	2	0	107597	9018			1456	548	SLV 3	0.06	No
ini.	2	0	132435	-7060			1456	548	SLV 16	0.08	No
fin.	2	0	-108115	-4247			1456	548	SLV 16	0.13	No
ini.	2	0	-16536	-382			1456	548	SLV 8	1.43	Si
fin.	2	0	6054	5134			1456	548	SLV 8	0.11	No
ini.	2	0	124760	-6601			1456	548	SLV 14	0.08	No
fin.	2	0	-85791	-4897			1456	548	SLV 14	0.11	No
ini.	2	0	-110527	4036			1456	548	SLV 4	0.14	No
fin.	2	0	107597	9018			1456	548	SLV 4	0.06	No
ini.	2	0	124760	-6601			1456	548	SLV 13	0.08	No
fin.	2	0	-85791	-4897			1456	548	SLV 13	0.11	No
ini.	2	0	132435	-7060			1456	548	SLV 15	0.08	No
fin.	2	0	-108115	-4247			1456	548	SLV 15	0.13	No
ini.	2	0	-118202	4495			1456	548	SLV 2	0.12	No
fin.	2	0	129921	8368			1456	548	SLV 2	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.919	SLV 15	No
V_SLV	0.061	SLV 3	No
PF_SLU	6.027	SLU 84	Si
V_SLU	0.119	SLU 78	No

Trave di accoppiamento 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	816	898	82	-1681.8	666.1	816	898	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{mmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-427	-21043	89792	SLU 79	4.27	Si
fin.	3	-139	-4774	89792	SLU 79	18.81	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-363	-19789	89792	SLU 72	4.54	Si
fin.	3	-1	-3335	89792	SLU 72	26.92	Si
ini.	3	-431	-21206	89792	SLU 80	4.23	Si
fin.	3	-132	-4581	89792	SLU 80	19.6	Si
ini.	3	-357	-19505	89792	SLU 69	4.6	Si
fin.	3	-46	-4060	89792	SLU 69	22.11	Si
ini.	3	-424	-20921	89792	SLU 77	4.29	Si
fin.	3	-177	-5306	89792	SLU 77	16.92	Si
ini.	3	-359	-19626	89792	SLU 71	4.58	Si
fin.	3	-8	-3528	89792	SLU 71	25.45	Si
ini.	3	-430	-19335	89792	SLU 83	4.64	Si
fin.	3	-357	-6791	89792	SLU 83	13.22	Si
ini.	3	-429	-21084	89792	SLU 78	4.26	Si
fin.	3	-171	-5113	89792	SLU 78	17.56	Si
ini.	3	-361	-19667	89792	SLU 70	4.57	Si
fin.	3	-39	-3867	89792	SLU 70	23.22	Si
ini.	3	-434	-19498	89792	SLU 84	4.61	Si
fin.	3	-350	-6598	89792	SLU 84	13.61	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-17183	2687			806	303	SLU 82	0.11	No
fin.	3	0	-8081	-3244			806	303	SLU 82	0.09	No
ini.	3	0	-18769	2638			806	303	SLU 75	0.11	No
fin.	3	0	-6596	-2976			806	303	SLU 75	0.1	No
ini.	3	0	-16684	2549			806	303	SLU 73	0.12	No
fin.	3	0	-7418	-3039			806	303	SLU 73	0.1	No
ini.	3	0	-19335	2737			806	303	SLU 83	0.11	No
fin.	3	0	-6791	-3092			806	303	SLU 83	0.1	No
ini.	3	0	-14804	2366			806	303	SLU 60	0.13	No
fin.	3	0	-7683	-2919			806	303	SLU 60	0.1	No
ini.	3	0	-18606	2630			806	303	SLU 74	0.12	No
fin.	3	0	-6789	-2988			806	303	SLU 74	0.1	No
ini.	3	0	-14967	2373			806	303	SLU 61	0.13	No
fin.	3	0	-7491	-2907			806	303	SLU 61	0.1	No
ini.	3	0	-18999	2607			806	303	SLU 76	0.12	No
fin.	3	0	-5935	-2876			806	303	SLU 76	0.11	No
ini.	3	0	-19498	2744			806	303	SLU 84	0.11	No
fin.	3	0	-6598	-3081			806	303	SLU 84	0.1	No
ini.	3	0	-17020	2679			806	303	SLU 81	0.11	No
fin.	3	0	-8274	-3255			806	303	SLU 81	0.09	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2687	-121088	107694	SLV 1	0.89	No
fin.	2	2835	82369	107694	SLV 1	1.31	Si
ini.	2	2852	108362	107694	SLV 14	0.99	No
fin.	2	-2965	-84348	107694	SLV 14	1.28	Si
ini.	2	-3336	-131268	107694	SLV 3	0.82	No
fin.	2	2398	73905	107694	SLV 3	1.46	Si
ini.	2	2203	98181	107694	SLV 16	1.1	Si
fin.	2	-3402	-92812	107694	SLV 16	1.16	Si
ini.	2	-2155	-62839	107694	SLV 7	1.71	Si
fin.	2	-143	5680	107694	SLV 7	18.96	Si
ini.	2	-2155	-62839	107694	SLV 8	1.71	Si
fin.	2	-143	5680	107694	SLV 8	18.96	Si
ini.	2	-2687	-121088	107694	SLV 2	0.89	No
fin.	2	2835	82369	107694	SLV 2	1.31	Si
ini.	2	-3336	-131268	107694	SLV 4	0.82	No
fin.	2	2398	73905	107694	SLV 4	1.46	Si
ini.	2	2852	108362	107694	SLV 13	0.99	No
fin.	2	-2965	-84348	107694	SLV 13	1.28	Si
ini.	2	2203	98181	107694	SLV 15	1.1	Si
fin.	2	-3402	-92812	107694	SLV 15	1.16	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-121088	6932			1208	455	SLV 2	0.07	No
fin.	2	0	82369	2543			1208	455	SLV 2	0.18	No
ini.	2	0	98181	-3489			1208	455	SLV 16	0.13	No
fin.	2	0	-92812	-6654			1208	455	SLV 16	0.07	No
ini.	2	0	-62839	4279			1208	455	SLV 8	0.11	No
fin.	2	0	5680	-1146			1208	455	SLV 8	0.4	No
ini.	2	0	-121088	6932			1208	455	SLV 1	0.07	No
fin.	2	0	82369	2543			1208	455	SLV 1	0.18	No
ini.	2	0	-62839	4279			1208	455	SLV 7	0.11	No
fin.	2	0	5680	-1146			1208	455	SLV 7	0.4	No
ini.	2	0	108362	-4036			1208	455	SLV 14	0.11	No
fin.	2	0	-84348	-6396			1208	455	SLV 14	0.07	No
ini.	2	0	-131268	7479			1208	455	SLV 3	0.06	No
fin.	2	0	73905	2284			1208	455	SLV 3	0.2	No
ini.	2	0	108362	-4036			1208	455	SLV 13	0.11	No
fin.	2	0	-84348	-6396			1208	455	SLV 13	0.07	No
ini.	2	0	-131268	7479			1208	455	SLV 4	0.06	No
fin.	2	0	73905	2284			1208	455	SLV 4	0.2	No
ini.	2	0	98181	-3489			1208	455	SLV 15	0.13	No
fin.	2	0	-92812	-6654			1208	455	SLV 15	0.07	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.82	SLV 3	No
V_SLV	0.061	SLV 3	No
PF_SLU	4.234	SLU 80	Si
V_SLU	0.093	SLU 81	No

Trave di accoppiamento 87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	546	636	90	-1193.8	666.1	546	636	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1633	20269	103792	SLU 76	5.12	Si
fin.	3	-1724	24149	103792	SLU 76	4.3	Si
ini.	3	-1769	22193	103792	SLU 82	4.68	Si
fin.	3	-1873	26664	103792	SLU 82	3.89	Si
ini.	3	-1718	21486	103792	SLU 84	4.83	Si
fin.	3	-1817	25620	103792	SLU 84	4.05	Si
ini.	3	-1613	19847	103792	SLU 60	5.23	Si
fin.	3	-1721	24440	103792	SLU 60	4.25	Si
ini.	3	-1679	20779	103792	SLU 74	4.99	Si
fin.	3	-1773	24812	103792	SLU 74	4.18	Si
ini.	3	-1683	20976	103792	SLU 73	4.95	Si
fin.	3	-1781	25194	103792	SLU 73	4.12	Si
ini.	3	-1724	21513	103792	SLU 83	4.82	Si
fin.	3	-1822	25652	103792	SLU 83	4.05	Si
ini.	3	-1607	19820	103792	SLU 61	5.24	Si
fin.	3	-1716	24408	103792	SLU 61	4.25	Si
ini.	3	-1774	22220	103792	SLU 81	4.67	Si
fin.	3	-1879	26696	103792	SLU 81	3.89	Si
ini.	3	-1673	20752	103792	SLU 75	5	Si
fin.	3	-1768	24780	103792	SLU 75	4.19	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	20072	-2547			970	365	SLU 77	0.14	No
fin.	3	0	23768	2617			970	365	SLU 77	0.14	No
ini.	3	0	20779	-2473			970	365	SLU 74	0.15	No
fin.	3	0	24812	2557			970	365	SLU 74	0.14	No
ini.	3	0	20045	-2542			970	365	SLU 78	0.14	No
fin.	3	0	23736	2613			970	365	SLU 78	0.14	No
ini.	3	0	22193	-2431			970	365	SLU 82	0.15	No
fin.	3	0	26664	2531			970	365	SLU 82	0.14	No
ini.	3	0	19580	-2505			970	365	SLU 80	0.15	No
fin.	3	0	23127	2571			970	365	SLU 80	0.14	No
ini.	3	0	22220	-2436			970	365	SLU 81	0.15	No
fin.	3	0	26696	2536			970	365	SLU 81	0.14	No
ini.	3	0	19607	-2509			970	365	SLU 79	0.15	No
fin.	3	0	23159	2575			970	365	SLU 79	0.14	No
ini.	3	0	20752	-2469			970	365	SLU 75	0.15	No
fin.	3	0	24780	2552			970	365	SLU 75	0.14	No
ini.	3	0	21513	-2509			970	365	SLU 83	0.15	No
fin.	3	0	25652	2596			970	365	SLU 83	0.14	No
ini.	3	0	21486	-2505			970	365	SLU 84	0.15	No
fin.	3	0	25620	2592			970	365	SLU 84	0.14	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3138	-102910	121694	SLV 2	1.18	Si
fin.	2	-5041	132446	121694	SLV 2	0.92	No
ini.	2	-5485	131501	121694	SLV 16	0.93	No
fin.	2	2559	-97865	121694	SLV 16	1.24	Si
ini.	2	-5485	131501	121694	SLV 15	0.93	No
fin.	2	2559	-97865	121694	SLV 15	1.24	Si
ini.	2	2620	-94470	121694	SLV 3	1.29	Si
fin.	2	-5710	139678	121694	SLV 3	0.87	No
ini.	2	-4966	123061	121694	SLV 14	0.99	No
fin.	2	3228	-105097	121694	SLV 14	1.16	Si
ini.	2	-4966	123061	121694	SLV 13	0.99	No
fin.	2	3228	-105097	121694	SLV 13	1.16	Si
ini.	2	450	-32171	121694	SLD 4	3.78	Si
fin.	2	-3146	69508	121694	SLD 4	1.75	Si
ini.	2	450	-32171	121694	SLD 3	3.78	Si
fin.	2	-3146	69508	121694	SLD 3	1.75	Si
ini.	2	2620	-94470	121694	SLV 4	1.29	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-5710	139678	121694	SLV 4	0.87	No
ini.	2	3138	-102910	121694	SLV 1	1.18	Si
fin.	2	-5041	132446	121694	SLV 1	0.92	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	123061	-8016			1456	548	SLV 14	0.07	No
fin.	2	0	-105097	-5132			1456	548	SLV 14	0.11	No
ini.	2	0	-5533	-620			1456	548	SLV 8	0.88	No
fin.	2	0	64975	4740			1456	548	SLV 8	0.12	No
ini.	2	0	131501	-8568			1456	548	SLV 16	0.06	No
fin.	2	0	-97865	-4523			1456	548	SLV 16	0.12	No
ini.	2	0	-94470	4649			1456	548	SLV 3	0.12	No
fin.	2	0	139678	8636			1456	548	SLV 3	0.06	No
ini.	2	0	-102910	5200			1456	548	SLV 2	0.11	No
fin.	2	0	132446	8028			1456	548	SLV 2	0.07	No
ini.	2	0	-5533	-620			1456	548	SLV 7	0.88	No
fin.	2	0	64975	4740			1456	548	SLV 7	0.12	No
ini.	2	0	-102910	5200			1456	548	SLV 1	0.11	No
fin.	2	0	132446	8028			1456	548	SLV 1	0.07	No
ini.	2	0	131501	-8568			1456	548	SLV 15	0.06	No
fin.	2	0	-97865	-4523			1456	548	SLV 15	0.12	No
ini.	2	0	123061	-8016			1456	548	SLV 13	0.07	No
fin.	2	0	-105097	-5132			1456	548	SLV 13	0.11	No
ini.	2	0	-94470	4649			1456	548	SLV 4	0.12	No
fin.	2	0	139678	8636			1456	548	SLV 4	0.06	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.871	SLV 3	No
V_SLV	0.063	SLV 3	No
PF_SLU	3.888	SLU 81	Si
V_SLU	0.14	SLU 77	No

Trave di accoppiamento 88

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	816	898	82	-1193.8	666.1	816	898	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-902	-16725	89792	SLU 76	5.37	Si
fin.	3	-960	-18207	89792	SLU 76	4.93	Si
ini.	3	-992	-17904	89792	SLU 83	5.02	Si
fin.	3	-1046	-19312	89792	SLU 83	4.65	Si
ini.	3	-953	-17281	89792	SLU 75	5.2	Si
fin.	3	-1003	-18628	89792	SLU 75	4.82	Si
ini.	3	-1147	-18710	89792	SLU 82	4.8	Si
fin.	3	-1162	-19443	89792	SLU 82	4.62	Si
ini.	3	-798	-16475	89792	SLU 77	5.45	Si
fin.	3	-887	-18496	89792	SLU 77	4.85	Si
ini.	3	-1149	-18750	89792	SLU 81	4.79	Si
fin.	3	-1163	-19476	89792	SLU 81	4.61	Si
ini.	3	-991	-17864	89792	SLU 84	5.03	Si
fin.	3	-1045	-19279	89792	SLU 84	4.66	Si
ini.	3	-797	-16435	89792	SLU 78	5.46	Si
fin.	3	-886	-18464	89792	SLU 78	4.86	Si
ini.	3	-955	-17322	89792	SLU 74	5.18	Si
fin.	3	-1004	-18661	89792	SLU 74	4.81	Si
ini.	3	-1059	-17571	89792	SLU 73	5.11	Si
fin.	3	-1077	-18371	89792	SLU 73	4.89	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-17904	3032			806	303	SLU 83	0.1	No
fin.	3	0	-19312	-3070			806	303	SLU 83	0.1	No
ini.	3	0	-15905	2918			806	303	SLU 80	0.1	No
fin.	3	0	-18065	-3012			806	303	SLU 80	0.1	No
ini.	3	0	-16475	2971			806	303	SLU 77	0.1	No
fin.	3	0	-18496	-3054			806	303	SLU 77	0.1	No
ini.	3	0	-18710	2995			806	303	SLU 82	0.1	No
fin.	3	0	-19443	-2987			806	303	SLU 82	0.1	No
ini.	3	0	-17281	2935			806	303	SLU 75	0.1	No
fin.	3	0	-18628	-2971			806	303	SLU 75	0.1	No
ini.	3	0	-17864	3029			806	303	SLU 84	0.1	No
fin.	3	0	-19279	-3067			806	303	SLU 84	0.1	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-18750	2998			806	303	SLU 81	0.1	No
fin.	3	0	-19476	-2989			806	303	SLU 81	0.1	No
ini.	3	0	-15945	2921			806	303	SLU 79	0.1	No
fin.	3	0	-18098	-3015			806	303	SLU 79	0.1	No
ini.	3	0	-16435	2968			806	303	SLU 78	0.1	No
fin.	3	0	-18464	-3052			806	303	SLU 78	0.1	No
ini.	3	0	-17322	2938			806	303	SLU 74	0.1	No
fin.	3	0	-18661	-2973			806	303	SLU 74	0.1	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4544	-124852	107694	SLV 4	0.86	No
fin.	2	2850	88256	107694	SLV 4	1.22	Si
ini.	2	2914	88632	107694	SLV 16	1.22	Si
fin.	2	-4429	-126784	107694	SLV 16	0.85	No
ini.	2	3150	100969	107694	SLV 14	1.07	Si
fin.	2	-4267	-113204	107694	SLV 14	0.95	No
ini.	2	3150	100969	107694	SLV 13	1.07	Si
fin.	2	-4267	-113204	107694	SLV 13	0.95	No
ini.	2	29	-479	107694	SLV 11	224.63	Si
fin.	2	-2070	-67363	107694	SLV 11	1.6	Si
ini.	2	29	-479	107694	SLV 12	224.63	Si
fin.	2	-2070	-67363	107694	SLV 12	1.6	Si
ini.	2	-4309	-112516	107694	SLV 2	0.96	No
fin.	2	3012	101836	107694	SLV 2	1.06	Si
ini.	2	-4544	-124852	107694	SLV 3	0.86	No
fin.	2	2850	88256	107694	SLV 3	1.22	Si
ini.	2	-4309	-112516	107694	SLV 1	0.96	No
fin.	2	3012	101836	107694	SLV 1	1.06	Si
ini.	2	2914	88632	107694	SLV 15	1.22	Si
fin.	2	-4429	-126784	107694	SLV 15	0.85	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	31081	-500			1208	455	SLD 15	0.91	No
fin.	2	0	-61218	-4580			1208	455	SLD 15	0.1	No
ini.	2	0	-112516	7746			1208	455	SLV 2	0.06	No
fin.	2	0	101836	4148			1208	455	SLV 2	0.11	No
ini.	2	0	88632	-3810			1208	455	SLV 16	0.12	No
fin.	2	0	-126784	-8086			1208	455	SLV 16	0.06	No
ini.	2	0	-124852	8059			1208	455	SLV 3	0.06	No
fin.	2	0	88256	3819			1208	455	SLV 3	0.12	No
ini.	2	0	-112516	7746			1208	455	SLV 1	0.06	No
fin.	2	0	101836	4148			1208	455	SLV 1	0.11	No
ini.	2	0	100969	-4123			1208	455	SLV 13	0.11	No
fin.	2	0	-113204	-7757			1208	455	SLV 13	0.06	No
ini.	2	0	88632	-3810			1208	455	SLV 15	0.12	No
fin.	2	0	-126784	-8086			1208	455	SLV 15	0.06	No
ini.	2	0	31081	-500			1208	455	SLD 16	0.91	No
fin.	2	0	-61218	-4580			1208	455	SLD 16	0.1	No
ini.	2	0	-124852	8059			1208	455	SLV 4	0.06	No
fin.	2	0	88256	3819			1208	455	SLV 4	0.12	No
ini.	2	0	100969	-4123			1208	455	SLV 14	0.11	No
fin.	2	0	-113204	-7757			1208	455	SLV 14	0.06	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.849	SLV 15	No
V_SLV	0.056	SLV 15	No
PF_SLU	4.61	SLU 81	Si
V_SLU	0.099	SLU 83	No

Trave di accoppiamento 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	546	636	90	-705.8	666.1	546	636	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1624	9410	103792	SLU 78	11.03	Si
fin.	3	-1501	-1868	103792	SLU 78	55.56	Si
ini.	3	-1496	9413	103792	SLU 69	11.03	Si
fin.	3	-1367	-2240	103792	SLU 69	46.34	Si
ini.	3	-1345	9380	103792	SLU 50	11.07	Si
fin.	3	-1208	-2703	103792	SLU 50	38.4	Si
ini.	3	-1612	9734	103792	SLU 80	10.66	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1479	-2308	103792	SLU 80	44.97	Si
ini.	3	-1346	9712	103792	SLU 51	10.69	Si
fin.	3	-1201	-2963	103792	SLU 51	35.02	Si
ini.	3	-1497	9745	103792	SLU 70	10.65	Si
fin.	3	-1360	-2500	103792	SLU 70	41.51	Si
ini.	3	-1485	9737	103792	SLU 71	10.66	Si
fin.	3	-1345	-2680	103792	SLU 71	38.73	Si
ini.	3	-1612	9402	103792	SLU 79	11.04	Si
fin.	3	-1487	-2047	103792	SLU 79	50.7	Si
ini.	3	-1358	9388	103792	SLU 49	11.06	Si
fin.	3	-1223	-2523	103792	SLU 49	41.13	Si
ini.	3	-1485	10069	103792	SLU 72	10.31	Si
fin.	3	-1338	-2941	103792	SLU 72	35.3	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	4228	-1146			970	365	SLU 82	0.32	No
fin.	3	0	2207	1602			970	365	SLU 82	0.23	No
ini.	3	0	3895	-1138			970	365	SLU 81	0.32	No
fin.	3	0	2468	1616			970	365	SLU 81	0.23	No
ini.	3	0	6909	-1281			970	365	SLU 84	0.29	No
fin.	3	0	85	1583			970	365	SLU 84	0.23	No
ini.	3	0	4593	-1120			970	365	SLU 73	0.33	No
fin.	3	0	1762	1531			970	365	SLU 73	0.24	No
ini.	3	0	9410	-1389			970	365	SLU 78	0.26	No
fin.	3	0	-1868	1542			970	365	SLU 78	0.24	No
ini.	3	0	9078	-1382			970	365	SLU 77	0.26	No
fin.	3	0	-1607	1556			970	365	SLU 77	0.23	No
ini.	3	0	6396	-1246			970	365	SLU 74	0.29	No
fin.	3	0	515	1575			970	365	SLU 74	0.23	No
ini.	3	0	6728	-1254			970	365	SLU 75	0.29	No
fin.	3	0	254	1560			970	365	SLU 75	0.23	No
ini.	3	0	9402	-1377			970	365	SLU 79	0.27	No
fin.	3	0	-2047	1518			970	365	SLU 79	0.24	No
ini.	3	0	6577	-1273			970	365	SLU 83	0.29	No
fin.	3	0	346	1597			970	365	SLU 83	0.23	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2090	-197651	121694	SLV 3	0.62	No
fin.	2	-2992	142574	121694	SLV 3	0.85	No
ini.	2	-2019	89906	121694	SLV 9	1.35	Si
fin.	2	264	-54894	121694	SLV 9	2.22	Si
ini.	2	-4173	186584	121694	SLV 15	0.65	No
fin.	2	427	-130642	121694	SLV 15	0.93	No
ini.	2	2073	-180203	121694	SLV 2	0.68	No
fin.	2	-2515	133400	121694	SLV 2	0.91	No
ini.	2	-4173	186584	121694	SLV 16	0.65	No
fin.	2	427	-130642	121694	SLV 16	0.93	No
ini.	2	-2019	89906	121694	SLV 10	1.35	Si
fin.	2	264	-54894	121694	SLV 10	2.22	Si
ini.	2	2073	-180203	121694	SLV 1	0.68	No
fin.	2	-2515	133400	121694	SLV 1	0.91	No
ini.	2	-4191	204032	121694	SLV 13	0.6	No
fin.	2	904	-139816	121694	SLV 13	0.87	No
ini.	2	-4191	204032	121694	SLV 14	0.6	No
fin.	2	904	-139816	121694	SLV 14	0.87	No
ini.	2	2090	-197651	121694	SLV 4	0.62	No
fin.	2	-2992	142574	121694	SLV 4	0.85	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-197651	5514			1456	548	SLV 3	0.1	No
fin.	2	0	142574	6900			1456	548	SLV 3	0.08	No
ini.	2	0	-82516	1903			1456	548	SLD 3	0.29	No
fin.	2	0	61602	3574			1456	548	SLD 3	0.15	No
ini.	2	0	186584	-7253			1456	548	SLV 15	0.08	No
fin.	2	0	-130642	-4246			1456	548	SLV 15	0.13	No
ini.	2	0	204032	-7094			1456	548	SLV 13	0.08	No
fin.	2	0	-139816	-4707			1456	548	SLV 13	0.12	No
ini.	2	0	204032	-7094			1456	548	SLV 14	0.08	No
fin.	2	0	-139816	-4707			1456	548	SLV 14	0.12	No
ini.	2	0	-180203	5672			1456	548	SLV 2	0.1	No
fin.	2	0	133400	6439			1456	548	SLV 2	0.09	No
ini.	2	0	-82516	1903			1456	548	SLD 4	0.29	No
fin.	2	0	61602	3574			1456	548	SLD 4	0.15	No
ini.	2	0	-180203	5672			1456	548	SLV 1	0.1	No
fin.	2	0	133400	6439			1456	548	SLV 1	0.09	No
ini.	2	0	186584	-7253			1456	548	SLV 16	0.08	No
fin.	2	0	-130642	-4246			1456	548	SLV 16	0.13	No
ini.	2	0	-197651	5514			1456	548	SLV 4	0.1	No
fin.	2	0	142574	6900			1456	548	SLV 4	0.08	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.596	SLV 13	No
V_SLV	0.076	SLV 15	No



Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.308	SLU 72	Si
V_SLU	0.226	SLU 81	No

Trave di accoppiamento 90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	816	898	82	-705.8	666.1	816	898	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-105	-2041	89792	SLU 59	44	Si
fin.	3	-364	-19015	89792	SLU 59	4.72	Si
ini.	3	-38	-1726	89792	SLU 71	52.03	Si
fin.	3	-367	-19835	89792	SLU 71	4.53	Si
ini.	3	-66	-2062	89792	SLU 70	43.55	Si
fin.	3	-361	-19681	89792	SLU 70	4.56	Si
ini.	3	-196	-3093	89792	SLU 78	29.03	Si
fin.	3	-414	-20733	89792	SLU 78	4.33	Si
ini.	3	-161	-2552	89792	SLU 80	35.19	Si
fin.	3	-424	-21059	89792	SLU 80	4.26	Si
ini.	3	-168	-2757	89792	SLU 79	32.57	Si
fin.	3	-419	-20886	89792	SLU 79	4.3	Si
ini.	3	-203	-3298	89792	SLU 77	27.23	Si
fin.	3	-409	-20559	89792	SLU 77	4.37	Si
ini.	3	-115	-1632	89792	SLU 38	55.02	Si
fin.	3	-398	-19010	89792	SLU 38	4.72	Si
ini.	3	-73	-2267	89792	SLU 69	39.61	Si
fin.	3	-356	-19508	89792	SLU 69	4.6	Si
ini.	3	-31	-1521	89792	SLU 72	59.04	Si
fin.	3	-371	-20008	89792	SLU 72	4.49	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-6555	3412			806	303	SLU 81	0.09	No
fin.	3	0	-14764	-2743			806	303	SLU 81	0.11	No
ini.	3	0	-4877	3322			806	303	SLU 83	0.09	No
fin.	3	0	-18050	-2918			806	303	SLU 83	0.1	No
ini.	3	0	-4771	3187			806	303	SLU 75	0.1	No
fin.	3	0	-17446	-2802			806	303	SLU 75	0.11	No
ini.	3	0	-3298	3110			806	303	SLU 77	0.1	No
fin.	3	0	-20559	-2970			806	303	SLU 77	0.1	No
ini.	3	0	-4672	3309			806	303	SLU 84	0.09	No
fin.	3	0	-18224	-2926			806	303	SLU 84	0.1	No
ini.	3	0	-6350	3399			806	303	SLU 82	0.09	No
fin.	3	0	-14937	-2751			806	303	SLU 82	0.11	No
ini.	3	0	-3093	3097			806	303	SLU 78	0.1	No
fin.	3	0	-20733	-2977			806	303	SLU 78	0.1	No
ini.	3	0	-4093	3096			806	303	SLU 76	0.1	No
fin.	3	0	-17889	-2790			806	303	SLU 76	0.11	No
ini.	3	0	-4976	3200			806	303	SLU 74	0.09	No
fin.	3	0	-17273	-2794			806	303	SLU 74	0.11	No
ini.	3	0	-5772	3187			806	303	SLU 73	0.1	No
fin.	3	0	-14602	-2615			806	303	SLU 73	0.12	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2948	81541	107694	SLV 14	1.32	Si
fin.	2	-3093	-128598	107694	SLV 14	0.84	No
ini.	2	-3145	-84953	107694	SLV 1	1.27	Si
fin.	2	2615	101720	107694	SLV 1	1.06	Si
ini.	2	-3491	-89724	107694	SLV 4	1.2	Si
fin.	2	2724	108492	107694	SLV 4	0.99	No
ini.	2	2948	81541	107694	SLV 13	1.32	Si
fin.	2	-3093	-128598	107694	SLV 13	0.84	No
ini.	2	2602	76770	107694	SLV 15	1.4	Si
fin.	2	-2984	-121826	107694	SLV 15	0.88	No
ini.	2	2602	76770	107694	SLV 16	1.4	Si
fin.	2	-2984	-121826	107694	SLV 16	0.88	No
ini.	2	-3145	-84953	107694	SLV 2	1.27	Si
fin.	2	2615	101720	107694	SLV 2	1.06	Si
ini.	2	1100	32415	107694	SLD 13	3.32	Si
fin.	2	-1427	-60667	107694	SLD 13	1.78	Si
ini.	2	1100	32415	107694	SLD 14	3.32	Si
fin.	2	-1427	-60667	107694	SLD 14	1.78	Si
ini.	2	-3491	-89724	107694	SLV 3	1.2	Si
fin.	2	2724	108492	107694	SLV 3	0.99	No



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	81541	-2528			1208	455	SLV 13	0.18	No
fin.	2	0	-128598	-7241			1208	455	SLV 13	0.06	No
ini.	2	0	-84953	6535			1208	455	SLV 2	0.07	No
fin.	2	0	101720	4043			1208	455	SLV 2	0.11	No
ini.	2	0	76770	-2232			1208	455	SLV 16	0.2	No
fin.	2	0	-121826	-7576			1208	455	SLV 16	0.06	No
ini.	2	0	76770	-2232			1208	455	SLV 15	0.2	No
fin.	2	0	-121826	-7576			1208	455	SLV 15	0.06	No
ini.	2	0	81541	-2528			1208	455	SLV 14	0.18	No
fin.	2	0	-128598	-7241			1208	455	SLV 14	0.06	No
ini.	2	0	-84953	6535			1208	455	SLV 1	0.07	No
fin.	2	0	101720	4043			1208	455	SLV 1	0.11	No
ini.	2	0	-89724	6831			1208	455	SLV 4	0.07	No
fin.	2	0	108492	3708			1208	455	SLV 4	0.12	No
ini.	2	0	30510	278			1208	455	SLD 15	1.64	Si
fin.	2	0	-57817	-4247			1208	455	SLD 15	0.11	No
ini.	2	0	30510	278			1208	455	SLD 16	1.64	Si
fin.	2	0	-57817	-4247			1208	455	SLD 16	0.11	No
ini.	2	0	-89724	6831			1208	455	SLV 3	0.07	No
fin.	2	0	108492	3708			1208	455	SLV 3	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.837	SLV 13	No
V_SLV		0.06	SLV 15	No
PF_SLU		4.264	SLU 80	Si
V_SLU		0.089	SLU 81	No

Trave di accoppiamento 91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1986.8	104.6	756	898	142	-2066.8	104.6	756	898	142	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC	
12			17.25	0.9		2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	391	69253	194792	SLU 79	2.81	Si
fin.	3	391	-61783	194792	SLU 79	3.15	Si
ini.	3	433	64942	194792	SLU 35	3	Si
fin.	3	433	-54292	194792	SLU 35	3.59	Si
ini.	3	355	62609	194792	SLU 78	3.11	Si
fin.	3	355	-55677	194792	SLU 78	3.5	Si
ini.	3	360	63194	194792	SLU 27	3.08	Si
fin.	3	360	-58920	194792	SLU 27	3.31	Si
ini.	3	347	67178	194792	SLU 69	2.9	Si
fin.	3	347	-65890	194792	SLU 69	2.96	Si
ini.	3	318	67504	194792	SLU 71	2.89	Si
fin.	3	318	-66411	194792	SLU 71	2.93	Si
ini.	3	326	62935	194792	SLU 80	3.1	Si
fin.	3	326	-56198	194792	SLU 80	3.47	Si
ini.	3	330	63520	194792	SLU 29	3.07	Si
fin.	3	330	-59441	194792	SLU 29	3.28	Si
ini.	3	421	68927	194792	SLU 77	2.83	Si
fin.	3	421	-61262	194792	SLU 77	3.18	Si
ini.	3	404	65268	194792	SLU 37	2.98	Si
fin.	3	404	-54813	194792	SLU 37	3.55	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	55698	-236			1531	576	SLU 83	2.44	Si
fin.	3	0	-45998	-2353			1531	576	SLU 83	0.24	No
ini.	3	0	68927	-676			1531	576	SLU 77	0.85	No
fin.	3	0	-61262	-2626			1531	576	SLU 77	0.22	No
ini.	3	0	62609	-527			1531	576	SLU 78	1.09	Si
fin.	3	0	-55677	-2477			1531	576	SLU 78	0.23	No
ini.	3	0	64942	-632			1531	576	SLU 35	0.91	No
fin.	3	0	-54292	-2383			1531	576	SLU 35	0.24	No
ini.	3	0	65268	-642			1531	576	SLU 37	0.9	No
fin.	3	0	-54813	-2393			1531	576	SLU 37	0.24	No
ini.	3	0	62935	-538			1531	576	SLU 80	1.07	Si
fin.	3	0	-56198	-2487			1531	576	SLU 80	0.23	No
ini.	3	0	67178	-907			1531	576	SLU 69	0.64	No
fin.	3	0	-65890	-2466			1531	576	SLU 69	0.23	No
ini.	3	0	67504	-918			1531	576	SLU 71	0.63	No
fin.	3	0	-66411	-2477			1531	576	SLU 71	0.23	No
ini.	3	0	61187	-769			1531	576	SLU 72	0.75	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-60826	-2328			1531	576	SLU 72	0.25	No
ini.	3	0	69253	-686			1531	576	SLU 79	0.84	No
fin.	3	0	-61783	-2636			1531	576	SLU 79	0.22	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-720	-436576	212694	SLV 14	0.49	No
fin.	2	-382	452781	212694	SLV 14	0.47	No
ini.	2	-310	-458258	212694	SLV 15	0.46	No
fin.	2	21	460238	212694	SLV 15	0.46	No
ini.	2	335	235825	212694	SLD 2	0.9	No
fin.	2	194	-236047	212694	SLD 2	0.9	No
ini.	2	-720	-436576	212694	SLV 13	0.49	No
fin.	2	-382	452781	212694	SLV 13	0.47	No
ini.	2	335	235825	212694	SLD 1	0.9	No
fin.	2	194	-236047	212694	SLD 1	0.9	No
ini.	2	998	492979	212694	SLV 3	0.43	No
fin.	2	660	-508076	212694	SLV 3	0.42	No
ini.	2	589	514661	212694	SLV 2	0.41	No
fin.	2	257	-515533	212694	SLV 2	0.41	No
ini.	2	998	492979	212694	SLV 4	0.43	No
fin.	2	660	-508076	212694	SLV 4	0.42	No
ini.	2	-310	-458258	212694	SLV 16	0.46	No
fin.	2	21	460238	212694	SLV 16	0.46	No
ini.	2	589	514661	212694	SLV 1	0.41	No
fin.	2	257	-515533	212694	SLV 1	0.41	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	514661	-12319			2297	864	SLV 2	0.07	No
fin.	2	0	-515533	-13740			2297	864	SLV 2	0.06	No
ini.	2	0	235825	-5321			2297	864	SLD 1	0.16	No
fin.	2	0	-236047	-6632			2297	864	SLD 1	0.13	No
ini.	2	0	-436576	12041			2297	864	SLV 14	0.07	No
fin.	2	0	452781	10565			2297	864	SLV 14	0.08	No
ini.	2	0	492979	-12235			2297	864	SLV 4	0.07	No
fin.	2	0	-508076	-13238			2297	864	SLV 4	0.07	No
ini.	2	0	235825	-5321			2297	864	SLD 2	0.16	No
fin.	2	0	-236047	-6632			2297	864	SLD 2	0.13	No
ini.	2	0	-458258	12125			2297	864	SLV 16	0.07	No
fin.	2	0	460238	11068			2297	864	SLV 16	0.08	No
ini.	2	0	514661	-12319			2297	864	SLV 1	0.07	No
fin.	2	0	-515533	-13740			2297	864	SLV 1	0.06	No
ini.	2	0	-458258	12125			2297	864	SLV 15	0.07	No
fin.	2	0	460238	11068			2297	864	SLV 15	0.08	No
ini.	2	0	492979	-12235			2297	864	SLV 3	0.07	No
fin.	2	0	-508076	-13238			2297	864	SLV 3	0.07	No
ini.	2	0	-436576	12041			2297	864	SLV 13	0.07	No
fin.	2	0	452781	10565			2297	864	SLV 13	0.08	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 1	No
V_SLV	0.063	SLV 1	No
PF_SLU	2.813	SLU 79	Si
V_SLU	0.219	SLU 79	No

Trave di accoppiamento 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1116.3	104.6	796	898	102	-1228.3	104.6	796	898	102	112	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9		0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1695	-76137	124792	SLU 38	1.64	Si
fin.	3	-1695	6344	124792	SLU 38	19.67	Si
ini.	3	-1600	-76740	124792	SLU 72	1.63	Si
fin.	3	-1600	19895	124792	SLU 72	6.27	Si
ini.	3	-1835	-83275	124792	SLU 79	1.5	Si
fin.	3	-1835	8086	124792	SLU 79	15.43	Si
ini.	3	-1904	-79761	124792	SLU 78	1.56	Si
fin.	3	-1904	7277	124792	SLU 78	17.15	Si
ini.	3	-1839	-81837	124792	SLU 77	1.52	Si
fin.	3	-1839	6967	124792	SLU 77	17.91	Si
ini.	3	-1539	-77378	124792	SLU 69	1.61	Si
fin.	3	-1539	18466	124792	SLU 69	6.76	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1535	-78816	124792	SLU 71	1.58	Si
fin.	3	-1535	19585	124792	SLU 71	6.37	Si
ini.	3	-1630	-78213	124792	SLU 37	1.6	Si
fin.	3	-1630	6035	124792	SLU 37	20.68	Si
ini.	3	-1634	-76775	124792	SLU 35	1.63	Si
fin.	3	-1634	4915	124792	SLU 35	25.39	Si
ini.	3	-1900	-81199	124792	SLU 80	1.54	Si
fin.	3	-1900	8396	124792	SLU 80	14.86	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-83275	1713			1002	377	SLU 79	0.22	No
fin.	3	0	8086	-88			1002	377	SLU 79	4.28	Si
ini.	3	0	-78816	1561			1002	377	SLU 71	0.24	No
fin.	3	0	19585	177			1002	377	SLU 71	2.13	Si
ini.	3	0	-77378	1538			1002	377	SLU 69	0.25	No
fin.	3	0	18466	154			1002	377	SLU 69	2.45	Si
ini.	3	0	-78213	1547			1002	377	SLU 37	0.24	No
fin.	3	0	6035	-42			1002	377	SLU 37	8.93	Si
ini.	3	0	-81199	1698			1002	377	SLU 80	0.22	No
fin.	3	0	8396	-104			1002	377	SLU 80	3.63	Si
ini.	3	0	-81837	1691			1002	377	SLU 77	0.22	No
fin.	3	0	6967	-111			1002	377	SLU 77	3.4	Si
ini.	3	0	-79761	1675			1002	377	SLU 78	0.23	No
fin.	3	0	7277	-127			1002	377	SLU 78	2.98	Si
ini.	3	0	-76740	1545			1002	377	SLU 72	0.24	No
fin.	3	0	19895	161			1002	377	SLU 72	2.34	Si
ini.	3	0	-70235	1554			1002	377	SLU 84	0.24	No
fin.	3	0	-7102	-427			1002	377	SLU 84	0.88	No
ini.	3	0	-72311	1569			1002	377	SLU 83	0.24	No
fin.	3	0	-7412	-411			1002	377	SLU 83	0.92	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2749	257289	142694	SLV 3	0.55	No
fin.	2	-2665	-579095	142694	SLV 3	0.25	No
ini.	2	421	-335092	142694	SLV 13	0.43	No
fin.	2	336	572275	142694	SLV 13	0.25	No
ini.	2	-1733	214117	142694	SLV 7	0.67	No
fin.	2	-1654	-324103	142694	SLV 7	0.44	No
ini.	2	-2687	149050	142694	SLV 2	0.96	No
fin.	2	-2639	-481520	142694	SLV 2	0.3	No
ini.	2	359	-226853	142694	SLV 15	0.63	No
fin.	2	310	474700	142694	SLV 15	0.3	No
ini.	2	-2749	257289	142694	SLV 4	0.55	No
fin.	2	-2665	-579095	142694	SLV 4	0.25	No
ini.	2	421	-335092	142694	SLV 14	0.43	No
fin.	2	336	572275	142694	SLV 14	0.25	No
ini.	2	-2687	149050	142694	SLV 1	0.96	No
fin.	2	-2639	-481520	142694	SLV 1	0.3	No
ini.	2	359	-226853	142694	SLV 16	0.63	No
fin.	2	310	474700	142694	SLV 16	0.3	No
ini.	2	-1733	214117	142694	SLV 8	0.67	No
fin.	2	-1654	-324103	142694	SLV 8	0.44	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-335092	8783			1503	565	SLV 13	0.06	No
fin.	2	0	572275	7606			1503	565	SLV 13	0.07	No
ini.	2	0	-291920	6028			1503	565	SLV 9	0.09	No
fin.	2	0	317283	4820			1503	565	SLV 9	0.12	No
ini.	2	0	-226853	6951			1503	565	SLV 15	0.08	No
fin.	2	0	474700	5813			1503	565	SLV 15	0.1	No
ini.	2	0	-335092	8783			1503	565	SLV 14	0.06	No
fin.	2	0	572275	7606			1503	565	SLV 14	0.07	No
ini.	2	0	257289	-7025			1503	565	SLV 4	0.08	No
fin.	2	0	-579095	-8120			1503	565	SLV 4	0.07	No
ini.	2	0	-291920	6028			1503	565	SLV 10	0.09	No
fin.	2	0	317283	4820			1503	565	SLV 10	0.12	No
ini.	2	0	149050	-5194			1503	565	SLV 1	0.11	No
fin.	2	0	-481520	-6328			1503	565	SLV 1	0.09	No
ini.	2	0	-226853	6951			1503	565	SLV 16	0.08	No
fin.	2	0	474700	5813			1503	565	SLV 16	0.1	No
ini.	2	0	257289	-7025			1503	565	SLV 3	0.08	No
fin.	2	0	-579095	-8120			1503	565	SLV 3	0.07	No
ini.	2	0	149050	-5194			1503	565	SLV 2	0.11	No
fin.	2	0	-481520	-6328			1503	565	SLV 2	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.246	SLV 3	No
V_SLV	0.064	SLV 13	No
PF_SLU	1.499	SLU 79	Si
V_SLU	0.22	SLU 79	No



Trave di accoppiamento 93

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-938.6	104.6	796	898	102	-1046.6	104.6	796	898	102	108	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1375	51650	124792	SLU 77	2.42	Si
fin.	3	-1375	-63486	124792	SLU 77	1.97	Si
ini.	3	-1134	44325	124792	SLU 71	2.82	Si
fin.	3	-1134	-59974	124792	SLU 71	2.08	Si
ini.	3	-980	49548	124792	SLU 29	2.52	Si
fin.	3	-980	-60769	124792	SLU 29	2.05	Si
ini.	3	-1224	57842	124792	SLU 37	2.16	Si
fin.	3	-1224	-65888	124792	SLU 37	1.89	Si
ini.	3	-1282	52051	124792	SLU 36	2.4	Si
fin.	3	-1282	-60434	124792	SLU 36	2.06	Si
ini.	3	-1440	47795	124792	SLU 80	2.61	Si
fin.	3	-1440	-61245	124792	SLU 80	2.04	Si
ini.	3	-1379	52618	124792	SLU 79	2.37	Si
fin.	3	-1379	-65092	124792	SLU 79	1.92	Si
ini.	3	-1286	53019	124792	SLU 38	2.35	Si
fin.	3	-1286	-62040	124792	SLU 38	2.01	Si
ini.	3	-1437	46827	124792	SLU 78	2.66	Si
fin.	3	-1437	-59638	124792	SLU 78	2.09	Si
ini.	3	-1221	56874	124792	SLU 35	2.19	Si
fin.	3	-1221	-64281	124792	SLU 35	1.94	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	57842	28			1039	391	SLU 37	13.94	Si
fin.	3	0	-65888	-2250			1039	391	SLU 37	0.17	No
ini.	3	0	56874	52			1039	391	SLU 35	7.53	Si
fin.	3	0	-64281	-2227			1039	391	SLU 35	0.18	No
ini.	3	0	46952	465			1039	391	SLU 83	0.84	No
fin.	3	0	-55245	-2275			1039	391	SLU 83	0.17	No
ini.	3	0	53019	108			1039	391	SLU 38	3.61	Si
fin.	3	0	-62040	-2170			1039	391	SLU 38	0.18	No
ini.	3	0	42129	545			1039	391	SLU 84	0.72	No
fin.	3	0	-51398	-2195			1039	391	SLU 84	0.18	No
ini.	3	0	46827	301			1039	391	SLU 78	1.3	Si
fin.	3	0	-59638	-2198			1039	391	SLU 78	0.18	No
ini.	3	0	52618	197			1039	391	SLU 79	1.99	Si
fin.	3	0	-65092	-2302			1039	391	SLU 79	0.17	No
ini.	3	0	51650	220			1039	391	SLU 77	1.77	Si
fin.	3	0	-63486	-2278			1039	391	SLU 77	0.17	No
ini.	3	0	47795	277			1039	391	SLU 80	1.41	Si
fin.	3	0	-61245	-2222			1039	391	SLU 80	0.18	No
ini.	3	0	52176	296			1039	391	SLU 41	1.32	Si
fin.	3	0	-56041	-2223			1039	391	SLU 41	0.18	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1197	523068	142694	SLV 1	0.27	No
fin.	2	-1512	-214295	142694	SLV 1	0.67	No
ini.	2	-740	-429718	142694	SLV 13	0.33	No
fin.	2	-285	74165	142694	SLV 13	1.92	Si
ini.	2	-575	-488461	142694	SLV 16	0.29	No
fin.	2	-260	164220	142694	SLV 16	0.87	No
ini.	2	-740	-429718	142694	SLV 14	0.33	No
fin.	2	-285	74165	142694	SLV 14	1.92	Si
ini.	2	-1230	258127	142694	SLV 6	0.55	No
fin.	2	-1113	-218397	142694	SLV 6	0.65	No
ini.	2	-1032	464325	142694	SLV 3	0.31	No
fin.	2	-1487	-124240	142694	SLV 3	1.15	Si
ini.	2	-1032	464325	142694	SLV 4	0.31	No
fin.	2	-1487	-124240	142694	SLV 4	1.15	Si
ini.	2	-575	-488461	142694	SLV 15	0.29	No
fin.	2	-260	164220	142694	SLV 15	0.87	No
ini.	2	-1230	258127	142694	SLV 5	0.55	No
fin.	2	-1113	-218397	142694	SLV 5	0.65	No
ini.	2	-1197	523068	142694	SLV 2	0.27	No
fin.	2	-1512	-214295	142694	SLV 2	0.67	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	258127	-3532			1558	586	SLV 5	0.17	No
fin.	2	0	-218397	-5181			1558	586	SLV 5	0.11	No
ini.	2	0	-488461	6934			1558	586	SLV 16	0.08	No

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Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	164220	5346			1558	586	SLV 16	0.11	No
ini.	2	0	258127	-3532			1558	586	SLV 6	0.17	No
fin.	2	0	-218397	-5181			1558	586	SLV 6	0.11	No
ini.	2	0	464325	-4820			1558	586	SLV 3	0.12	No
fin.	2	0	-124240	-6257			1558	586	SLV 3	0.09	No
ini.	2	0	-488461	6934			1558	586	SLV 15	0.08	No
fin.	2	0	164220	5346			1558	586	SLV 15	0.11	No
ini.	2	0	-429718	5630			1558	586	SLV 14	0.1	No
fin.	2	0	74165	3969			1558	586	SLV 14	0.15	No
ini.	2	0	464325	-4820			1558	586	SLV 4	0.12	No
fin.	2	0	-124240	-6257			1558	586	SLV 4	0.09	No
ini.	2	0	523068	-6124			1558	586	SLV 1	0.1	No
fin.	2	0	-214295	-7635			1558	586	SLV 1	0.08	No
ini.	2	0	523068	-6124			1558	586	SLV 2	0.1	No
fin.	2	0	-214295	-7635			1558	586	SLV 2	0.08	No
ini.	2	0	-429718	5630			1558	586	SLV 13	0.1	No
fin.	2	0	74165	3969			1558	586	SLV 13	0.15	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.273	SLV 1	No
V_SLV		0.077	SLV 1	No
PF_SLU		1.894	SLU 37	Si
V_SLU		0.17	SLU 79	No

Trave di accoppiamento 94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-647.8	104.6	756	898	142	-727.8	104.6	756	898	142	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1155	-81308	194792	SLU 81	2.4	Si
fin.	3	-1155	80884	194792	SLU 81	2.41	Si
ini.	3	-1066	-86702	194792	SLU 73	2.25	Si
fin.	3	-1066	82613	194792	SLU 73	2.36	Si
ini.	3	-1033	-79720	194792	SLU 75	2.44	Si
fin.	3	-1033	80400	194792	SLU 75	2.42	Si
ini.	3	-1131	-77318	194792	SLU 83	2.52	Si
fin.	3	-1131	80044	194792	SLU 83	2.43	Si
ini.	3	-1043	-82713	194792	SLU 76	2.36	Si
fin.	3	-1043	81772	194792	SLU 76	2.38	Si
ini.	3	-1149	-89425	194792	SLU 82	2.18	Si
fin.	3	-1149	87310	194792	SLU 82	2.23	Si
ini.	3	-1125	-85435	194792	SLU 84	2.28	Si
fin.	3	-1125	86470	194792	SLU 84	2.25	Si
ini.	3	-1013	-80454	194792	SLU 40	2.42	Si
fin.	3	-1013	80494	194792	SLU 40	2.42	Si
ini.	3	-990	-76464	194792	SLU 42	2.55	Si
fin.	3	-990	79654	194792	SLU 42	2.45	Si
ini.	3	-1006	-82276	194792	SLU 61	2.37	Si
fin.	3	-1006	77320	194792	SLU 61	2.52	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-79720	2985			1531	576	SLU 75	0.19	No
fin.	3	0	80400	946			1531	576	SLU 75	0.61	No
ini.	3	0	-86702	3100			1531	576	SLU 73	0.19	No
fin.	3	0	82613	1061			1531	576	SLU 73	0.54	No
ini.	3	0	-75731	2924			1531	576	SLU 78	0.2	No
fin.	3	0	79559	886			1531	576	SLU 78	0.65	No
ini.	3	0	-80454	2994			1531	576	SLU 40	0.19	No
fin.	3	0	80494	976			1531	576	SLU 40	0.59	No
ini.	3	0	-77318	3040			1531	576	SLU 83	0.19	No
fin.	3	0	80044	821			1531	576	SLU 83	0.7	No
ini.	3	0	-89425	3283			1531	576	SLU 82	0.18	No
fin.	3	0	87310	1064			1531	576	SLU 82	0.54	No
ini.	3	0	-81308	3101			1531	576	SLU 81	0.19	No
fin.	3	0	80884	882			1531	576	SLU 81	0.65	No
ini.	3	0	-76464	2934			1531	576	SLU 42	0.2	No
fin.	3	0	79654	916			1531	576	SLU 42	0.63	No
ini.	3	0	-85435	3222			1531	576	SLU 84	0.18	No
fin.	3	0	86470	1003			1531	576	SLU 84	0.57	No
ini.	3	0	-82713	3039			1531	576	SLU 76	0.19	No
fin.	3	0	81772	1001			1531	576	SLU 76	0.58	No



Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-728	-387683	212694	SLV 13	0.55	No
fin.	2	-361	544092	212694	SLV 13	0.39	No
ini.	2	-702	-205082	212694	SLD 16	1.04	Si
fin.	2	-546	267420	212694	SLD 16	0.8	No
ini.	2	-694	-419888	212694	SLV 16	0.51	No
fin.	2	-331	568980	212694	SLV 16	0.37	No
ini.	2	-689	296603	212694	SLV 4	0.72	No
fin.	2	-1056	-458130	212694	SLV 4	0.46	No
ini.	2	-728	-387683	212694	SLV 14	0.55	No
fin.	2	-361	544092	212694	SLV 14	0.39	No
ini.	2	-702	-205082	212694	SLD 15	1.04	Si
fin.	2	-546	267420	212694	SLD 15	0.8	No
ini.	2	-723	328808	212694	SLV 1	0.65	No
fin.	2	-1086	-483019	212694	SLV 1	0.44	No
ini.	2	-723	328808	212694	SLV 2	0.65	No
fin.	2	-1086	-483019	212694	SLV 2	0.44	No
ini.	2	-694	-419888	212694	SLV 15	0.51	No
fin.	2	-331	568980	212694	SLV 15	0.37	No
ini.	2	-689	296603	212694	SLV 3	0.72	No
fin.	2	-1056	-458130	212694	SLV 3	0.46	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	328808	-9770			2297	864	SLV 2	0.09	No
fin.	2	0	-483019	-10966			2297	864	SLV 2	0.08	No
ini.	2	0	-419888	13215			2297	864	SLV 15	0.07	No
fin.	2	0	568980	11834			2297	864	SLV 15	0.07	No
ini.	2	0	-205082	6622			2297	864	SLD 15	0.13	No
fin.	2	0	267420	5298			2297	864	SLD 15	0.16	No
ini.	2	0	-387683	12456			2297	864	SLV 13	0.07	No
fin.	2	0	544092	11239			2297	864	SLV 13	0.08	No
ini.	2	0	296603	-9012			2297	864	SLV 4	0.1	No
fin.	2	0	-458130	-10370			2297	864	SLV 4	0.08	No
ini.	2	0	328808	-9770			2297	864	SLV 1	0.09	No
fin.	2	0	-483019	-10966			2297	864	SLV 1	0.08	No
ini.	2	0	-419888	13215			2297	864	SLV 16	0.07	No
fin.	2	0	568980	11834			2297	864	SLV 16	0.07	No
ini.	2	0	-387683	12456			2297	864	SLV 14	0.07	No
fin.	2	0	544092	11239			2297	864	SLV 14	0.08	No
ini.	2	0	296603	-9012			2297	864	SLV 3	0.1	No
fin.	2	0	-458130	-10370			2297	864	SLV 3	0.08	No
ini.	2	0	-205082	6622			2297	864	SLD 16	0.13	No
fin.	2	0	267420	5298			2297	864	SLD 16	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.374	SLV 15	No
V_SLV	0.065	SLV 15	No
PF_SLU	2.178	SLU 82	Si
V_SLU	0.176	SLU 82	No

Trave di accoppiamento 95

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-416.8	104.6	756	898	142	-496.8	104.6	756	898	142	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-798	-63991	194792	SLU 35	3.04	Si
fin.	3	-798	29853	194792	SLU 35	6.52	Si
ini.	3	-964	-69186	194792	SLU 79	2.82	Si
fin.	3	-964	30863	194792	SLU 79	6.31	Si
ini.	3	-856	-63021	194792	SLU 58	3.09	Si
fin.	3	-856	28510	194792	SLU 58	6.83	Si
ini.	3	-803	-67919	194792	SLU 69	2.87	Si
fin.	3	-803	35094	194792	SLU 69	5.55	Si
ini.	3	-1034	-64142	194792	SLU 80	3.04	Si
fin.	3	-1034	23952	194792	SLU 80	8.13	Si
ini.	3	-929	-70058	194792	SLU 77	2.78	Si
fin.	3	-929	30265	194792	SLU 77	6.44	Si
ini.	3	-837	-67047	194792	SLU 71	2.91	Si
fin.	3	-837	35693	194792	SLU 71	5.46	Si
ini.	3	-999	-65014	194792	SLU 78	3	Si
fin.	3	-999	23354	194792	SLU 78	8.34	Si
ini.	3	-821	-63893	194792	SLU 56	3.05	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-821	27912	194792	SLU 56	6.98	Si
ini.	3	-833	-63119	194792	SLU 37	3.09	Si
fin.	3	-833	30452	194792	SLU 37	6.4	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-63991	2074			1531	576	SLU 35	0.28	No
fin.	3	0	29853	326			1531	576	SLU 35	1.77	Si
ini.	3	0	-63119	2070			1531	576	SLU 37	0.28	No
fin.	3	0	30452	323			1531	576	SLU 37	1.78	Si
ini.	3	0	-64142	2109			1531	576	SLU 80	0.27	No
fin.	3	0	23952	164			1531	576	SLU 80	3.5	Si
ini.	3	0	-67919	2100			1531	576	SLU 69	0.27	No
fin.	3	0	35094	546			1531	576	SLU 69	1.05	Si
ini.	3	0	-70058	2262			1531	576	SLU 77	0.25	No
fin.	3	0	30265	317			1531	576	SLU 77	1.82	Si
ini.	3	0	-67047	2096			1531	576	SLU 71	0.27	No
fin.	3	0	35693	543			1531	576	SLU 71	1.06	Si
ini.	3	0	-65014	2112			1531	576	SLU 78	0.27	No
fin.	3	0	23354	168			1531	576	SLU 78	3.43	Si
ini.	3	0	-69186	2258			1531	576	SLU 79	0.26	No
fin.	3	0	30863	314			1531	576	SLU 79	1.84	Si
ini.	3	0	-63893	1992			1531	576	SLU 56	0.29	No
fin.	3	0	27912	375			1531	576	SLU 56	1.54	Si
ini.	3	0	-63021	1989			1531	576	SLU 58	0.29	No
fin.	3	0	28510	371			1531	576	SLU 58	1.55	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-787	-260617	212694	SLD 16	0.82	No
fin.	2	-584	175652	212694	SLD 16	1.21	Si
ini.	2	-75	484555	212694	SLV 3	0.44	No
fin.	2	-346	-380924	212694	SLV 3	0.56	No
ini.	2	-992	-570475	212694	SLV 15	0.37	No
fin.	2	-512	407130	212694	SLV 15	0.52	No
ini.	2	-264	511188	212694	SLV 1	0.42	No
fin.	2	-744	-400420	212694	SLV 1	0.53	No
ini.	2	-264	511188	212694	SLV 2	0.42	No
fin.	2	-744	-400420	212694	SLV 2	0.53	No
ini.	2	-992	-570475	212694	SLV 16	0.37	No
fin.	2	-512	407130	212694	SLV 16	0.52	No
ini.	2	-1181	-543842	212694	SLV 14	0.39	No
fin.	2	-910	387634	212694	SLV 14	0.55	No
ini.	2	-1181	-543842	212694	SLV 13	0.39	No
fin.	2	-910	387634	212694	SLV 13	0.55	No
ini.	2	-787	-260617	212694	SLD 15	0.82	No
fin.	2	-584	175652	212694	SLD 15	1.21	Si
ini.	2	-75	484555	212694	SLV 4	0.44	No
fin.	2	-346	-380924	212694	SLV 4	0.56	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-570475	13083			2297	864	SLV 16	0.07	No
fin.	2	0	407130	11663			2297	864	SLV 16	0.07	No
ini.	2	0	511188	-10968			2297	864	SLV 2	0.08	No
fin.	2	0	-400420	-12018			2297	864	SLV 2	0.07	No
ini.	2	0	-543842	12516			2297	864	SLV 13	0.07	No
fin.	2	0	387634	11448			2297	864	SLV 13	0.08	No
ini.	2	0	-543842	12516			2297	864	SLV 14	0.07	No
fin.	2	0	387634	11448			2297	864	SLV 14	0.08	No
ini.	2	0	-260617	6189			2297	864	SLD 15	0.14	No
fin.	2	0	175652	4878			2297	864	SLD 15	0.18	No
ini.	2	0	484555	-10402			2297	864	SLV 3	0.08	No
fin.	2	0	-380924	-11803			2297	864	SLV 3	0.07	No
ini.	2	0	511188	-10968			2297	864	SLV 1	0.08	No
fin.	2	0	-400420	-12018			2297	864	SLV 1	0.07	No
ini.	2	0	484555	-10402			2297	864	SLV 4	0.08	No
fin.	2	0	-380924	-11803			2297	864	SLV 4	0.07	No
ini.	2	0	-570475	13083			2297	864	SLV 15	0.07	No
fin.	2	0	407130	11663			2297	864	SLV 15	0.07	No
ini.	2	0	-260617	6189			2297	864	SLD 16	0.14	No
fin.	2	0	175652	4878			2297	864	SLD 16	0.18	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.373	SLV 15	No
V_SLV	0.066	SLV 15	No
PF_SLU	2.78	SLU 77	Si
V_SLU	0.255	SLU 77	No

Trave di accoppiamento 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-867.8	-485.9	872	898	26	-1051.8	-485.9	872	898	26	184	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-75	-7509	10289	SLU 37	1.37	Si
fin.	3	-75	862	10289	SLU 37	11.94	Si
ini.	3	-89	-7297	10289	SLU 79	1.41	Si
fin.	3	-89	-1250	10289	SLU 79	8.23	Si
ini.	3	-92	-1153	10289	SLU 65	8.92	Si
fin.	3	-92	-7282	10289	SLU 65	1.41	Si
ini.	3	-100	-6911	10289	SLU 80	1.49	Si
fin.	3	-100	-1685	10289	SLU 80	6.11	Si
ini.	3	-95	-1661	10289	SLU 52	6.19	Si
fin.	3	-95	-6792	10289	SLU 52	1.51	Si
ini.	3	-89	-6953	10289	SLU 77	1.48	Si
fin.	3	-89	-1587	10289	SLU 77	6.48	Si
ini.	3	-87	114	10289	SLU 44	90.65	Si
fin.	3	-87	-8492	10289	SLU 44	1.21	Si
ini.	3	-69	-531	10289	SLU 43	19.37	Si
fin.	3	-69	-7766	10289	SLU 43	1.32	Si
ini.	3	-85	-7122	10289	SLU 38	1.44	Si
fin.	3	-85	426	10289	SLU 38	24.14	Si
ini.	3	-74	-7164	10289	SLU 35	1.44	Si
fin.	3	-74	525	10289	SLU 35	19.62	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-6953	152			200	75	SLU 77	0.49	No
fin.	3	0	-1587	-94			200	75	SLU 77	0.8	No
ini.	3	0	-1153	90			200	75	SLU 65	0.84	No
fin.	3	0	-7282	-156			200	75	SLU 65	0.48	No
ini.	3	0	-1749	96			200	75	SLU 47	0.78	No
fin.	3	0	-6689	-150			200	75	SLU 47	0.5	No
ini.	3	0	-531	84			200	75	SLU 43	0.9	No
fin.	3	0	-7766	-162			200	75	SLU 43	0.46	No
ini.	3	0	-1662	96			200	75	SLU 46	0.79	No
fin.	3	0	-6736	-151			200	75	SLU 46	0.5	No
ini.	3	0	-1798	97			200	75	SLU 64	0.78	No
fin.	3	0	-6556	-149			200	75	SLU 64	0.51	No
ini.	3	0	114	76			200	75	SLU 44	0.99	No
fin.	3	0	-8492	-170			200	75	SLU 44	0.44	No
ini.	3	0	-7297	156			200	75	SLU 79	0.48	No
fin.	3	0	-1250	-90			200	75	SLU 79	0.84	No
ini.	3	0	-1661	95			200	75	SLU 52	0.79	No
fin.	3	0	-6792	-151			200	75	SLU 52	0.5	No
ini.	3	0	-6911	151			200	75	SLU 80	0.5	No
fin.	3	0	-1685	-95			200	75	SLU 80	0.8	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	297	-54887	15434	SLV 13	0.28	No
fin.	2	273	50803	15434	SLV 13	0.3	No
ini.	2	-383	40540	15434	SLV 1	0.38	No
fin.	2	-408	-49328	15434	SLV 1	0.31	No
ini.	2	-209	31242	15434	SLV 8	0.49	No
fin.	2	-127	-38378	15434	SLV 8	0.4	No
ini.	2	-383	40540	15434	SLV 2	0.38	No
fin.	2	-408	-49328	15434	SLV 2	0.31	No
ini.	2	297	-54887	15434	SLV 14	0.28	No
fin.	2	273	50803	15434	SLV 14	0.3	No
ini.	2	268	-43763	15434	SLV 16	0.35	No
fin.	2	292	39681	15434	SLV 16	0.39	No
ini.	2	-413	51664	15434	SLV 3	0.3	No
fin.	2	-388	-60449	15434	SLV 3	0.26	No
ini.	2	268	-43763	15434	SLV 15	0.35	No
fin.	2	292	39681	15434	SLV 15	0.39	No
ini.	2	-209	31242	15434	SLV 7	0.49	No
fin.	2	-127	-38378	15434	SLV 7	0.4	No
ini.	2	-413	51664	15434	SLV 4	0.3	No
fin.	2	-388	-60449	15434	SLV 4	0.26	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	31242	-135			300	113	SLV 7	0.84	No
fin.	2	0	-38378	-463			300	113	SLV 7	0.24	No
ini.	2	0	31242	-135			300	113	SLV 8	0.84	No
fin.	2	0	-38378	-463			300	113	SLV 8	0.24	No
ini.	2	0	51664	-474			300	113	SLV 3	0.24	No
fin.	2	0	-60449	-501			300	113	SLV 3	0.23	No
ini.	2	0	-43763	598			300	113	SLV 16	0.19	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	39681	123			300	113	SLV 16	0.92	No
ini.	2	0	-54887	629			300	113	SLV 13	0.18	No
fin.	2	0	50803	277			300	113	SLV 13	0.41	No
ini.	2	0	40540	-444			300	113	SLV 2	0.25	No
fin.	2	0	-49328	-347			300	113	SLV 2	0.33	No
ini.	2	0	-54887	629			300	113	SLV 14	0.18	No
fin.	2	0	50803	277			300	113	SLV 14	0.41	No
ini.	2	0	51664	-474			300	113	SLV 4	0.24	No
fin.	2	0	-60449	-501			300	113	SLV 4	0.23	No
ini.	2	0	-43763	598			300	113	SLV 15	0.19	No
fin.	2	0	39681	123			300	113	SLV 15	0.92	No
ini.	2	0	40540	-444			300	113	SLV 1	0.25	No
fin.	2	0	-49328	-347			300	113	SLV 1	0.33	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.255	SLV 3	No
V_SLV	0.18	SLV 13	No
PF_SLU	1.212	SLU 44	Si
V_SLU	0.444	SLU 44	No

Trave di accoppiamento 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-854.8	-335.9	756	898	142	-944.8	-335.9	756	898	142	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-96	57393	194792	SLU 75	3.39	Si
fin.	3	-96	-105132	194792	SLU 75	1.85	Si
ini.	3	-240	56250	194792	SLU 81	3.46	Si
fin.	3	-240	-104482	194792	SLU 81	1.86	Si
ini.	3	-143	70154	194792	SLU 73	2.78	Si
fin.	3	-143	-114780	194792	SLU 73	1.7	Si
ini.	3	-129	56950	194792	SLU 84	3.42	Si
fin.	3	-129	-103910	194792	SLU 84	1.87	Si
ini.	3	-74	63785	194792	SLU 31	3.05	Si
fin.	3	-74	-100276	194792	SLU 31	1.94	Si
ini.	3	-193	66145	194792	SLU 82	2.94	Si
fin.	3	-193	-112814	194792	SLU 82	1.73	Si
ini.	3	-198	60809	194792	SLU 52	3.2	Si
fin.	3	-198	-100934	194792	SLU 52	1.93	Si
ini.	3	-80	60959	194792	SLU 76	3.2	Si
fin.	3	-80	-105876	194792	SLU 76	1.84	Si
ini.	3	-103	64116	194792	SLU 65	3.04	Si
fin.	3	-103	-106406	194792	SLU 65	1.83	Si
ini.	3	-247	56800	194792	SLU 61	3.43	Si
fin.	3	-247	-98969	194792	SLU 61	1.97	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	56250	-943			1531	576	SLU 81	0.61	No
fin.	3	0	-104482	-2569			1531	576	SLU 81	0.22	No
ini.	3	0	64116	-1209			1531	576	SLU 65	0.48	No
fin.	3	0	-106406	-2520			1531	576	SLU 65	0.23	No
ini.	3	0	66145	-1145			1531	576	SLU 82	0.5	No
fin.	3	0	-112814	-2772			1531	576	SLU 82	0.21	No
ini.	3	0	60959	-1058			1531	576	SLU 76	0.54	No
fin.	3	0	-105876	-2590			1531	576	SLU 76	0.22	No
ini.	3	0	57393	-1010			1531	576	SLU 75	0.57	No
fin.	3	0	-105132	-2542			1531	576	SLU 75	0.23	No
ini.	3	0	70154	-1259			1531	576	SLU 73	0.46	No
fin.	3	0	-114780	-2791			1531	576	SLU 73	0.21	No
ini.	3	0	59776	-1026			1531	576	SLU 40	0.56	No
fin.	3	0	-98310	-2442			1531	576	SLU 40	0.24	No
ini.	3	0	56950	-944			1531	576	SLU 84	0.61	No
fin.	3	0	-103910	-2571			1531	576	SLU 84	0.22	No
ini.	3	0	63785	-1140			1531	576	SLU 31	0.51	No
fin.	3	0	-100276	-2461			1531	576	SLU 31	0.23	No
ini.	3	0	60809	-1092			1531	576	SLU 52	0.53	No
fin.	3	0	-100934	-2439			1531	576	SLU 52	0.24	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1008	407554	212694	SLV 3	0.52	No
fin.	2	1038	-546606	212694	SLV 3	0.39	No



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1672	138019	212694	SLV 7	1.54	Si
fin.	2	-675	-306104	212694	SLV 7	0.69	No
ini.	2	-1672	138019	212694	SLV 8	1.54	Si
fin.	2	-675	-306104	212694	SLV 8	0.69	No
ini.	2	-2562	-341313	212694	SLV 16	0.62	No
fin.	2	-1941	344410	212694	SLV 16	0.62	No
ini.	2	-2562	-341313	212694	SLV 15	0.62	No
fin.	2	-1941	344410	212694	SLV 15	0.62	No
ini.	2	-1336	-334943	212694	SLV 13	0.64	No
fin.	2	-1366	405570	212694	SLV 13	0.52	No
ini.	2	2234	413923	212694	SLV 2	0.51	No
fin.	2	1613	-485446	212694	SLV 2	0.44	No
ini.	2	-1336	-334943	212694	SLV 14	0.64	No
fin.	2	-1366	405570	212694	SLV 14	0.52	No
ini.	2	1008	407554	212694	SLV 4	0.52	No
fin.	2	1038	-546606	212694	SLV 4	0.39	No
ini.	2	2234	413923	212694	SLV 1	0.51	No
fin.	2	1613	-485446	212694	SLV 1	0.44	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-341313	7741			2297	864	SLV 15	0.11	No
fin.	2	0	344410	7186			2297	864	SLV 15	0.12	No
ini.	2	0	-334943	9541			2297	864	SLV 13	0.09	No
fin.	2	0	405570	7684			2297	864	SLV 13	0.11	No
ini.	2	0	-334943	9541			2297	864	SLV 14	0.09	No
fin.	2	0	405570	7684			2297	864	SLV 14	0.11	No
ini.	2	0	413923	-9038			2297	864	SLV 1	0.1	No
fin.	2	0	-485446	-10543			2297	864	SLV 1	0.08	No
ini.	2	0	407554	-10837			2297	864	SLV 4	0.08	No
fin.	2	0	-546606	-11042			2297	864	SLV 4	0.08	No
ini.	2	0	138019	-6435			2297	864	SLV 8	0.13	No
fin.	2	0	-306104	-5244			2297	864	SLV 8	0.16	No
ini.	2	0	138019	-6435			2297	864	SLV 7	0.13	No
fin.	2	0	-306104	-5244			2297	864	SLV 7	0.16	No
ini.	2	0	413923	-9038			2297	864	SLV 2	0.1	No
fin.	2	0	-485446	-10543			2297	864	SLV 2	0.08	No
ini.	2	0	407554	-10837			2297	864	SLV 3	0.08	No
fin.	2	0	-546606	-11042			2297	864	SLV 3	0.08	No
ini.	2	0	-341313	7741			2297	864	SLV 16	0.11	No
fin.	2	0	344410	7186			2297	864	SLV 16	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.389	SLV 3	No
V_SLV	0.078	SLV 3	No
PF_SLU	1.697	SLU 73	Si
V_SLU	0.206	SLU 73	No

Trave di accoppiamento 98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-772.3	-486.1	872	898	26	-772.3	-377.1	872	898	26	109	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-24	-1252	10289	SLU 82	8.22	Si
fin.	3	-24	13004	10289	SLU 82	0.79	No
ini.	3	-26	-1848	10289	SLU 39	5.57	Si
fin.	3	-26	12514	10289	SLU 39	0.82	No
ini.	3	-24	-1098	10289	SLU 84	9.37	Si
fin.	3	-24	12028	10289	SLU 84	0.86	No
ini.	3	-19	-1073	10289	SLU 42	9.59	Si
fin.	3	-19	11441	10289	SLU 42	0.9	No
ini.	3	-31	-1873	10289	SLU 81	5.49	Si
fin.	3	-31	13101	10289	SLU 81	0.79	No
ini.	3	-18	-578	10289	SLU 73	17.8	Si
fin.	3	-18	11379	10289	SLU 73	0.9	No
ini.	3	-25	-1695	10289	SLU 41	6.07	Si
fin.	3	-25	11538	10289	SLU 41	0.89	No
ini.	3	-30	-1720	10289	SLU 83	5.98	Si
fin.	3	-30	12125	10289	SLU 83	0.85	No
ini.	3	-19	-1226	10289	SLU 40	8.39	Si
fin.	3	-19	12417	10289	SLU 40	0.83	No
ini.	3	-29	-1557	10289	SLU 74	6.61	Si
fin.	3	-29	11150	10289	SLU 74	0.92	No



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-1252	204			200	75	SLU 82	0.37	No
fin.	3	0	13004	57			200	75	SLU 82	1.32	Si
ini.	3	0	-1226	182			200	75	SLU 40	0.41	No
fin.	3	0	12417	69			200	75	SLU 40	1.1	Si
ini.	3	0	-936	184			200	75	SLU 75	0.41	No
fin.	3	0	11053	36			200	75	SLU 75	2.07	Si
ini.	3	0	-1557	190			200	75	SLU 74	0.4	No
fin.	3	0	11150	43			200	75	SLU 74	1.75	Si
ini.	3	0	-578	183			200	75	SLU 73	0.41	No
fin.	3	0	11379	36			200	75	SLU 73	2.09	Si
ini.	3	0	-1848	188			200	75	SLU 39	0.4	No
fin.	3	0	12514	75			200	75	SLU 39	1	Si
ini.	3	0	-1098	194			200	75	SLU 84	0.39	No
fin.	3	0	12028	47			200	75	SLU 84	1.61	Si
ini.	3	0	-1873	211			200	75	SLU 81	0.36	No
fin.	3	0	13101	64			200	75	SLU 81	1.18	Si
ini.	3	0	-1720	201			200	75	SLU 83	0.38	No
fin.	3	0	12125	53			200	75	SLU 83	1.41	Si
ini.	3	0	-1453	184			200	75	SLU 60	0.41	No
fin.	3	0	10603	37			200	75	SLU 60	2.04	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	29	-10229	15434	SLV 10	1.51	Si
fin.	2	62	53411	15434	SLV 10	0.29	No
ini.	2	5	-7405	15434	SLV 2	2.08	Si
fin.	2	5	45715	15434	SLV 2	0.34	No
ini.	2	-69	8515	15434	SLV 8	1.81	Si
fin.	2	-103	-40276	15434	SLV 8	0.38	No
ini.	2	-75	10572	15434	SLV 11	1.46	Si
fin.	2	-103	-54090	15434	SLV 11	0.29	No
ini.	2	5	-7405	15434	SLV 1	2.08	Si
fin.	2	5	45715	15434	SLV 1	0.34	No
ini.	2	-75	10572	15434	SLV 12	1.46	Si
fin.	2	-103	-54090	15434	SLV 12	0.29	No
ini.	2	-69	8515	15434	SLV 7	1.81	Si
fin.	2	-103	-40276	15434	SLV 7	0.38	No
ini.	2	35	-12286	15434	SLV 5	1.26	Si
fin.	2	63	67225	15434	SLV 5	0.23	No
ini.	2	29	-10229	15434	SLV 9	1.51	Si
fin.	2	62	53411	15434	SLV 9	0.29	No
ini.	2	35	-12286	15434	SLV 6	1.26	Si
fin.	2	63	67225	15434	SLV 6	0.23	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-12286	742			300	113	SLV 5	0.15	No
fin.	2	0	67225	2352			300	113	SLV 5	0.05	No
ini.	2	0	-5428	372			300	113	SLD 6	0.3	No
fin.	2	0	31025	927			300	113	SLD 6	0.12	No
ini.	2	0	10572	-493			300	113	SLV 11	0.23	No
fin.	2	0	-54090	-2329			300	113	SLV 11	0.05	No
ini.	2	0	-5428	372			300	113	SLD 5	0.3	No
fin.	2	0	31025	927			300	113	SLD 5	0.12	No
ini.	2	0	10572	-493			300	113	SLV 12	0.23	No
fin.	2	0	-54090	-2329			300	113	SLV 12	0.05	No
ini.	2	0	-10229	608			300	113	SLV 9	0.19	No
fin.	2	0	53411	2257			300	113	SLV 9	0.05	No
ini.	2	0	8515	-359			300	113	SLV 7	0.32	No
fin.	2	0	-40276	-2234			300	113	SLV 7	0.05	No
ini.	2	0	-10229	608			300	113	SLV 10	0.19	No
fin.	2	0	53411	2257			300	113	SLV 10	0.05	No
ini.	2	0	-12286	742			300	113	SLV 6	0.15	No
fin.	2	0	67225	2352			300	113	SLV 6	0.05	No
ini.	2	0	8515	-359			300	113	SLV 8	0.32	No
fin.	2	0	-40276	-2234			300	113	SLV 8	0.05	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.23	SLV 5	No
V_SLV	0.048	SLV 5	No
PF_SLU	0.785	SLU 81	No
V_SLU	0.357	SLU 81	No

Trave di accoppiamento 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	546	746	200	-515.8	650.6	546	746	200	50	28	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1066	22993	296292	SLU 60	12.89	Si
fin.	3	406	22477	296292	SLU 60	13.18	Si
ini.	3	1077	23028	296292	SLU 61	12.87	Si
fin.	3	410	22792	296292	SLU 61	13	Si
ini.	3	1185	23149	296292	SLU 84	12.8	Si
fin.	3	443	23536	296292	SLU 84	12.59	Si
ini.	3	1174	23113	296292	SLU 83	12.82	Si
fin.	3	439	23220	296292	SLU 83	12.76	Si
ini.	3	1056	22227	296292	SLU 39	13.33	Si
fin.	3	407	22403	296292	SLU 39	13.23	Si
ini.	3	1136	23853	296292	SLU 73	12.42	Si
fin.	3	431	23637	296292	SLU 73	12.54	Si
ini.	3	1202	25529	296292	SLU 81	11.61	Si
fin.	3	459	25232	296292	SLU 81	11.74	Si
ini.	3	1066	22262	296292	SLU 40	13.31	Si
fin.	3	411	22719	296292	SLU 40	13.04	Si
ini.	3	1128	22226	296292	SLU 75	13.33	Si
fin.	3	420	22246	296292	SLU 75	13.32	Si
ini.	3	1213	25565	296292	SLU 82	11.59	Si
fin.	3	463	25547	296292	SLU 82	11.6	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	21437	219			2157	812	SLU 76	3.71	Si
fin.	3	0	21625	3198			2157	812	SLU 76	0.25	No
ini.	3	0	18998	77			2157	812	SLU 80	10.49	Si
fin.	3	0	19403	3368			2157	812	SLU 80	0.24	No
ini.	3	0	23113	226			2157	812	SLU 83	3.59	Si
fin.	3	0	23220	3351			2157	812	SLU 83	0.24	No
ini.	3	0	23149	254			2157	812	SLU 84	3.2	Si
fin.	3	0	23536	3354			2157	812	SLU 84	0.24	No
ini.	3	0	22226	230			2157	812	SLU 75	3.54	Si
fin.	3	0	22246	3216			2157	812	SLU 75	0.25	No
ini.	3	0	19810	107			2157	812	SLU 78	7.59	Si
fin.	3	0	20234	3388			2157	812	SLU 78	0.24	No
ini.	3	0	18962	50			2157	812	SLU 79	16.39	Si
fin.	3	0	19088	3365			2157	812	SLU 79	0.24	No
ini.	3	0	22191	202			2157	812	SLU 74	4.02	Si
fin.	3	0	21930	3213			2157	812	SLU 74	0.25	No
ini.	3	0	25565	376			2157	812	SLU 82	2.16	Si
fin.	3	0	25547	3182			2157	812	SLU 82	0.26	No
ini.	3	0	19775	79			2157	812	SLU 77	10.26	Si
fin.	3	0	19919	3385			2157	812	SLU 77	0.24	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2323	67342	314194	SLV 1	4.67	Si
fin.	2	-724	-56784	314194	SLV 1	5.53	Si
ini.	2	-2977	89190	314194	SLV 4	3.52	Si
fin.	2	-894	-61850	314194	SLV 4	5.08	Si
ini.	2	-2977	89190	314194	SLV 3	3.52	Si
fin.	2	-894	-61850	314194	SLV 3	5.08	Si
ini.	2	3796	-35766	314194	SLV 16	8.78	Si
fin.	2	1274	86343	314194	SLV 16	3.64	Si
ini.	2	-1368	70944	314194	SLV 7	4.43	Si
fin.	2	-332	-15893	314194	SLV 7	19.77	Si
ini.	2	4450	-57614	314194	SLV 13	5.45	Si
fin.	2	1444	91409	314194	SLV 13	3.44	Si
ini.	2	-1368	70944	314194	SLV 8	4.43	Si
fin.	2	-332	-15893	314194	SLV 8	19.77	Si
ini.	2	4450	-57614	314194	SLV 14	5.45	Si
fin.	2	1444	91409	314194	SLV 14	3.44	Si
ini.	2	3796	-35766	314194	SLV 15	8.78	Si
fin.	2	1274	86343	314194	SLV 15	3.64	Si
ini.	2	-2323	67342	314194	SLV 2	4.67	Si
fin.	2	-724	-56784	314194	SLV 2	5.53	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	67342	-7290			3235	1217	SLV 2	0.17	No
fin.	2	0	-56784	-2655			3235	1217	SLV 2	0.46	No
ini.	2	0	89190	-8718			3235	1217	SLV 3	0.14	No
fin.	2	0	-61850	-3108			3235	1217	SLV 3	0.39	No
ini.	2	0	89190	-8718			3235	1217	SLV 4	0.14	No
fin.	2	0	-61850	-3108			3235	1217	SLV 4	0.39	No
ini.	2	0	67342	-7290			3235	1217	SLV 1	0.17	No
fin.	2	0	-56784	-2655			3235	1217	SLV 1	0.46	No
ini.	2	0	-39369	4996			3235	1217	SLV 10	0.24	No
fin.	2	0	45452	4302			3235	1217	SLV 10	0.28	No
ini.	2	0	-57614	9049			3235	1217	SLV 13	0.13	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	91409	7234			3235	1217	SLV 13	0.17	No
ini.	2	0	-35766	7621			3235	1217	SLV 15	0.16	No
fin.	2	0	86343	6781			3235	1217	SLV 15	0.18	No
ini.	2	0	-39369	4996			3235	1217	SLV 9	0.24	No
fin.	2	0	45452	4302			3235	1217	SLV 9	0.28	No
ini.	2	0	-35766	7621			3235	1217	SLV 16	0.16	No
fin.	2	0	86343	6781			3235	1217	SLV 16	0.18	No
ini.	2	0	-57614	9049			3235	1217	SLV 14	0.13	No
fin.	2	0	91409	7234			3235	1217	SLV 14	0.17	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.437	SLV 13	Si
V_SLV	0.135	SLV 13	No
PF_SLU	11.59	SLU 82	Si
V_SLU	0.24	SLU 78	No

Trave di accoppiamento 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	826	898	72	-515.8	650.6	826	898	72	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	33	-38154	72292	SLU 72	1.89	Si
fin.	3	148	3613	72292	SLU 72	20.01	Si
ini.	3	-33	-37499	72292	SLU 37	1.93	Si
fin.	3	67	3284	72292	SLU 37	22.01	Si
ini.	3	47	-38084	72292	SLU 71	1.9	Si
fin.	3	163	3636	72292	SLU 71	19.88	Si
ini.	3	-96	-41269	72292	SLU 80	1.75	Si
fin.	3	6	4000	72292	SLU 80	18.07	Si
ini.	3	-47	-37569	72292	SLU 38	1.92	Si
fin.	3	52	3261	72292	SLU 38	22.17	Si
ini.	3	-125	-40715	72292	SLU 77	1.78	Si
fin.	3	-32	4101	72292	SLU 77	17.63	Si
ini.	3	4	-37599	72292	SLU 69	1.92	Si
fin.	3	109	3714	72292	SLU 69	19.46	Si
ini.	3	-11	-37669	72292	SLU 70	1.92	Si
fin.	3	94	3691	72292	SLU 70	19.58	Si
ini.	3	-81	-41199	72292	SLU 79	1.75	Si
fin.	3	22	4023	72292	SLU 79	17.97	Si
ini.	3	-139	-40785	72292	SLU 78	1.77	Si
fin.	3	-47	4078	72292	SLU 78	17.73	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-41269	2885			776	292	SLU 80	0.1	No
fin.	3	0	4000	-523			776	292	SLU 80	0.56	No
ini.	3	0	-40715	2810			776	292	SLU 77	0.1	No
fin.	3	0	4101	-488			776	292	SLU 77	0.6	No
ini.	3	0	-37669	2776			776	292	SLU 70	0.11	No
fin.	3	0	3691	-586			776	292	SLU 70	0.5	No
ini.	3	0	-38154	2874			776	292	SLU 72	0.1	No
fin.	3	0	3613	-642			776	292	SLU 72	0.45	No
ini.	3	0	-37599	2799			776	292	SLU 69	0.1	No
fin.	3	0	3714	-607			776	292	SLU 69	0.48	No
ini.	3	0	-41199	2908			776	292	SLU 79	0.1	No
fin.	3	0	4023	-544			776	292	SLU 79	0.54	No
ini.	3	0	-38084	2897			776	292	SLU 71	0.1	No
fin.	3	0	3636	-664			776	292	SLU 71	0.44	No
ini.	3	0	-37499	2668			776	292	SLU 37	0.11	No
fin.	3	0	3284	-522			776	292	SLU 37	0.56	No
ini.	3	0	-34383	2657			776	292	SLU 29	0.11	No
fin.	3	0	2897	-642			776	292	SLU 29	0.46	No
ini.	3	0	-40785	2787			776	292	SLU 78	0.1	No
fin.	3	0	4078	-467			776	292	SLU 78	0.63	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2635	-131130	90194	SLV 13	0.69	No
fin.	2	-2060	22536	90194	SLV 13	4	Si
ini.	2	-903	-68239	90194	SLD 15	1.32	Si
fin.	2	-844	2954	90194	SLD 15	30.53	Si
ini.	2	-1780	-132476	90194	SLV 16	0.68	No
fin.	2	-1665	1964	90194	SLV 16	45.93	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2175	90559	90194	SLV 3	1	No
fin.	2	1633	-16495	90194	SLV 3	5.47	Si
ini.	2	-1780	-132476	90194	SLV 15	0.68	No
fin.	2	-1665	1964	90194	SLV 15	45.93	Si
ini.	2	2175	90559	90194	SLV 4	1	No
fin.	2	1633	-16495	90194	SLV 4	5.47	Si
ini.	2	1319	91904	90194	SLV 2	0.98	No
fin.	2	1238	4077	90194	SLV 2	22.12	Si
ini.	2	-903	-68239	90194	SLD 16	1.32	Si
fin.	2	-844	2954	90194	SLD 16	30.53	Si
ini.	2	-2635	-131130	90194	SLV 14	0.69	No
fin.	2	-2060	22536	90194	SLV 14	4	Si
ini.	2	1319	91904	90194	SLV 1	0.98	No
fin.	2	1238	4077	90194	SLV 1	22.12	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	90559	-1846			1165	438	SLV 4	0.24	No
fin.	2	0	-16495	-3257			1165	438	SLV 4	0.13	No
ini.	2	0	-67626	2531			1165	438	SLD 13	0.17	No
fin.	2	0	10995	1254			1165	438	SLD 13	0.35	No
ini.	2	0	-132476	4142			1165	438	SLV 16	0.11	No
fin.	2	0	1964	2361			1165	438	SLV 16	0.19	No
ini.	2	0	-131130	4311			1165	438	SLV 13	0.1	No
fin.	2	0	22536	3074			1165	438	SLV 13	0.14	No
ini.	2	0	-131130	4311			1165	438	SLV 14	0.1	No
fin.	2	0	22536	3074			1165	438	SLV 14	0.14	No
ini.	2	0	91904	-1677			1165	438	SLV 1	0.26	No
fin.	2	0	4077	-2544			1165	438	SLV 1	0.17	No
ini.	2	0	-132476	4142			1165	438	SLV 15	0.11	No
fin.	2	0	1964	2361			1165	438	SLV 15	0.19	No
ini.	2	0	-67626	2531			1165	438	SLD 14	0.17	No
fin.	2	0	10995	1254			1165	438	SLD 14	0.35	No
ini.	2	0	91904	-1677			1165	438	SLV 2	0.26	No
fin.	2	0	4077	-2544			1165	438	SLV 2	0.17	No
ini.	2	0	90559	-1846			1165	438	SLV 3	0.24	No
fin.	2	0	-16495	-3257			1165	438	SLV 3	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.681	SLV 15	No
V_SLV	0.102	SLV 13	No
PF_SLU	1.752	SLU 80	Si
V_SLU	0.1	SLU 79	No

Trave di accoppiamento 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	546	636	90	-741.3	-335.9	546	636	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	294	25975	103792	SLU 68	4	Si
fin.	3	378	-6558	103792	SLU 68	15.83	Si
ini.	3	129	26281	103792	SLU 44	3.95	Si
fin.	3	377	-9202	103792	SLU 44	11.28	Si
ini.	3	388	27681	103792	SLU 82	3.75	Si
fin.	3	400	-6255	103792	SLU 82	16.59	Si
ini.	3	335	29437	103792	SLU 73	3.53	Si
fin.	3	466	-9602	103792	SLU 73	10.81	Si
ini.	3	227	27827	103792	SLU 52	3.73	Si
fin.	3	404	-8947	103792	SLU 52	11.6	Si
ini.	3	391	27520	103792	SLU 76	3.77	Si
fin.	3	405	-6304	103792	SLU 76	16.46	Si
ini.	3	283	25910	103792	SLU 55	4.01	Si
fin.	3	343	-5649	103792	SLU 55	18.37	Si
ini.	3	279	26071	103792	SLU 61	3.98	Si
fin.	3	338	-5600	103792	SLU 61	18.53	Si
ini.	3	396	25889	103792	SLU 75	4.01	Si
fin.	3	358	-4158	103792	SLU 75	24.96	Si
ini.	3	238	27891	103792	SLU 65	3.72	Si
fin.	3	439	-9857	103792	SLU 65	10.53	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	29437	-2846			970	365	SLU 73	0.13	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-9602	1119			970	365	SLU 73	0.33	No
ini.	3	0	27891	-2704			970	365	SLU 65	0.14	No
fin.	3	0	-9857	995			970	365	SLU 65	0.37	No
ini.	3	0	25889	-2751			970	365	SLU 75	0.13	No
fin.	3	0	-4158	1386			970	365	SLU 75	0.26	No
ini.	3	0	25975	-2657			970	365	SLU 68	0.14	No
fin.	3	0	-6558	1178			970	365	SLU 68	0.31	No
ini.	3	0	25910	-2651			970	365	SLU 55	0.14	No
fin.	3	0	-5649	1214			970	365	SLU 55	0.3	No
ini.	3	0	23972	-2704			970	365	SLU 78	0.14	No
fin.	3	0	-860	1568			970	365	SLU 78	0.23	No
ini.	3	0	27681	-2799			970	365	SLU 82	0.13	No
fin.	3	0	-6255	1284			970	365	SLU 82	0.28	No
ini.	3	0	27827	-2698			970	365	SLU 52	0.14	No
fin.	3	0	-8947	1032			970	365	SLU 52	0.35	No
ini.	3	0	27520	-2799			970	365	SLU 76	0.13	No
fin.	3	0	-6304	1301			970	365	SLU 76	0.28	No
ini.	3	0	25765	-2752			970	365	SLU 84	0.13	No
fin.	3	0	-2957	1466			970	365	SLU 84	0.25	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1037	89495	121694	SLV 6	1.36	Si
fin.	2	2729	-95400	121694	SLV 6	1.28	Si
ini.	2	-2523	133260	121694	SLV 1	0.91	No
fin.	2	3826	-182337	121694	SLV 1	0.67	No
ini.	2	-2243	108408	121694	SLV 3	1.12	Si
fin.	2	2868	-156028	121694	SLV 3	0.78	No
ini.	2	2657	-74623	121694	SLV 14	1.63	Si
fin.	2	-2501	153750	121694	SLV 14	0.79	No
ini.	2	2937	-99476	121694	SLV 15	1.22	Si
fin.	2	-3459	180059	121694	SLV 15	0.68	No
ini.	2	2657	-74623	121694	SLV 13	1.63	Si
fin.	2	-2501	153750	121694	SLV 13	0.79	No
ini.	2	2937	-99476	121694	SLV 16	1.22	Si
fin.	2	-3459	180059	121694	SLV 16	0.68	No
ini.	2	-2523	133260	121694	SLV 2	0.91	No
fin.	2	3826	-182337	121694	SLV 2	0.67	No
ini.	2	-2243	108408	121694	SLV 4	1.12	Si
fin.	2	2868	-156028	121694	SLV 4	0.78	No
ini.	2	-1037	89495	121694	SLV 5	1.36	Si
fin.	2	2729	-95400	121694	SLV 5	1.28	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	89495	-6414			1456	548	SLV 6	0.09	No
fin.	2	0	-95400	-3469			1456	548	SLV 6	0.16	No
ini.	2	0	-74623	2767			1456	548	SLV 14	0.2	No
fin.	2	0	153750	6917			1456	548	SLV 14	0.08	No
ini.	2	0	-74623	2767			1456	548	SLV 13	0.2	No
fin.	2	0	153750	6917			1456	548	SLV 13	0.08	No
ini.	2	0	108408	-6527			1456	548	SLV 4	0.08	No
fin.	2	0	-156028	-4922			1456	548	SLV 4	0.11	No
ini.	2	0	-99476	4495			1456	548	SLV 15	0.12	No
fin.	2	0	180059	8398			1456	548	SLV 15	0.07	No
ini.	2	0	108408	-6527			1456	548	SLV 3	0.08	No
fin.	2	0	-156028	-4922			1456	548	SLV 3	0.11	No
ini.	2	0	133260	-8255			1456	548	SLV 2	0.07	No
fin.	2	0	-182337	-6403			1456	548	SLV 2	0.09	No
ini.	2	0	-99476	4495			1456	548	SLV 16	0.12	No
fin.	2	0	180059	8398			1456	548	SLV 16	0.07	No
ini.	2	0	133260	-8255			1456	548	SLV 1	0.07	No
fin.	2	0	-182337	-6403			1456	548	SLV 1	0.09	No
ini.	2	0	89495	-6414			1456	548	SLV 5	0.09	No
fin.	2	0	-95400	-3469			1456	548	SLV 5	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.667	SLV 1	No
V_SLV	0.065	SLV 15	No
PF_SLU	3.526	SLU 73	Si
V_SLU	0.128	SLU 73	No

Trave di accoppiamento 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	816	898	82	-741.3	-335.9	816	898	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	152	-10374	89792	SLU 60	8.66	Si
fin.	3	-31	-16389	89792	SLU 60	5.48	Si
ini.	3	201	-10621	89792	SLU 84	8.45	Si
fin.	3	30	-16985	89792	SLU 84	5.29	Si
ini.	3	270	-8024	89792	SLU 82	11.19	Si
fin.	3	-56	-18404	89792	SLU 82	4.88	Si
ini.	3	280	-7225	89792	SLU 76	12.43	Si
fin.	3	-6	-16908	89792	SLU 76	5.31	Si
ini.	3	167	-11868	89792	SLU 81	7.57	Si
fin.	3	8	-17260	89792	SLU 81	5.2	Si
ini.	3	249	-9362	89792	SLU 75	9.59	Si
fin.	3	35	-16660	89792	SLU 75	5.39	Si
ini.	3	334	-3135	89792	SLU 52	28.65	Si
fin.	3	-130	-17457	89792	SLU 52	5.14	Si
ini.	3	374	-2686	89792	SLU 65	33.43	Si
fin.	3	-74	-16370	89792	SLU 65	5.49	Si
ini.	3	349	-4629	89792	SLU 73	19.4	Si
fin.	3	-92	-18328	89792	SLU 73	4.9	Si
ini.	3	255	-6530	89792	SLU 61	13.75	Si
fin.	3	-95	-17533	89792	SLU 61	5.12	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-8024	1880			806	303	SLU 82	0.16	No
fin.	3	0	-18404	-2137			806	303	SLU 82	0.14	No
ini.	3	0	-14735	2084			806	303	SLU 58	0.15	No
fin.	3	0	-12710	-1699			806	303	SLU 58	0.18	No
ini.	3	0	-4629	1629			806	303	SLU 73	0.19	No
fin.	3	0	-18328	-2092			806	303	SLU 73	0.14	No
ini.	3	0	-11959	2101			806	303	SLU 78	0.14	No
fin.	3	0	-15240	-1966			806	303	SLU 78	0.15	No
ini.	3	0	-15803	2314			806	303	SLU 77	0.13	No
fin.	3	0	-14096	-1905			806	303	SLU 77	0.16	No
ini.	3	0	-11868	2092			806	303	SLU 81	0.14	No
fin.	3	0	-17260	-2076			806	303	SLU 81	0.15	No
ini.	3	0	-14465	2263			806	303	SLU 83	0.13	No
fin.	3	0	-15841	-2012			806	303	SLU 83	0.15	No
ini.	3	0	-12385	2112			806	303	SLU 80	0.14	No
fin.	3	0	-14726	-1924			806	303	SLU 80	0.16	No
ini.	3	0	-16229	2324			806	303	SLU 79	0.13	No
fin.	3	0	-13582	-1863			806	303	SLU 79	0.16	No
ini.	3	0	-13206	2143			806	303	SLU 74	0.14	No
fin.	3	0	-15516	-1969			806	303	SLU 74	0.15	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	4203	102208	107694	SLV 2	1.05	Si
fin.	2	-1033	-91909	107694	SLV 2	1.17	Si
ini.	2	2585	62180	107694	SLV 6	1.73	Si
fin.	2	-471	-90340	107694	SLV 6	1.19	Si
ini.	2	3398	78094	107694	SLV 4	1.38	Si
fin.	2	-921	-55828	107694	SLV 4	1.93	Si
ini.	2	4203	102208	107694	SLV 1	1.05	Si
fin.	2	-1033	-91909	107694	SLV 1	1.17	Si
ini.	2	-3911	-116651	107694	SLV 16	0.92	No
fin.	2	1057	68922	107694	SLV 16	1.56	Si
ini.	2	-3911	-116651	107694	SLV 15	0.92	No
fin.	2	1057	68922	107694	SLV 15	1.56	Si
ini.	2	-3106	-92537	107694	SLV 13	1.16	Si
fin.	2	945	32841	107694	SLV 13	3.28	Si
ini.	2	3398	78094	107694	SLV 3	1.38	Si
fin.	2	-921	-55828	107694	SLV 3	1.93	Si
ini.	2	2585	62180	107694	SLV 5	1.73	Si
fin.	2	-471	-90340	107694	SLV 5	1.19	Si
ini.	2	-3106	-92537	107694	SLV 14	1.16	Si
fin.	2	945	32841	107694	SLV 14	3.28	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	102208	-3482			1208	455	SLV 2	0.13	No
fin.	2	0	-91909	-5512			1208	455	SLV 2	0.08	No
ini.	2	0	-76624	4169			1208	455	SLV 12	0.11	No
fin.	2	0	67353	1946			1208	455	SLV 12	0.23	No
ini.	2	0	-92537	5278			1208	455	SLV 14	0.09	No
fin.	2	0	32841	1323			1208	455	SLV 14	0.34	No
ini.	2	0	-116651	6181			1208	455	SLV 15	0.07	No
fin.	2	0	68922	2715			1208	455	SLV 15	0.17	No
ini.	2	0	102208	-3482			1208	455	SLV 1	0.13	No
fin.	2	0	-91909	-5512			1208	455	SLV 1	0.08	No
ini.	2	0	-76624	4169			1208	455	SLV 11	0.11	No
fin.	2	0	67353	1946			1208	455	SLV 11	0.23	No
ini.	2	0	62180	-1470			1208	455	SLV 5	0.31	No
fin.	2	0	-90340	-4744			1208	455	SLV 5	0.1	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-116651	6181			1208	455	SLV 16	0.07	No
fin.	2	0	68922	2715			1208	455	SLV 16	0.17	No
ini.	2	0	-92537	5278			1208	455	SLV 13	0.09	No
fin.	2	0	32841	1323			1208	455	SLV 13	0.34	No
ini.	2	0	62180	-1470			1208	455	SLV 6	0.31	No
fin.	2	0	-90340	-4744			1208	455	SLV 6	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.923	SLV 15	No
V_SLV	0.074	SLV 15	No
PF_SLU	4.879	SLU 82	Si
V_SLU	0.13	SLU 79	No

Trave di accoppiamento 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	546	746	200	-600.8	-335.9	546	746	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-921	159012	296292	SLU 82	1.86	Si
fin.	3	64	96023	296292	SLU 82	3.09	Si
ini.	3	-917	162394	296292	SLU 84	1.82	Si
fin.	3	93	100131	296292	SLU 84	2.96	Si
ini.	3	-866	157386	296292	SLU 83	1.88	Si
fin.	3	90	99696	296292	SLU 83	2.97	Si
ini.	3	-860	153548	296292	SLU 77	1.93	Si
fin.	3	81	99465	296292	SLU 77	2.98	Si
ini.	3	-903	157874	296292	SLU 80	1.88	Si
fin.	3	88	99755	296292	SLU 80	2.97	Si
ini.	3	-941	157831	296292	SLU 76	1.88	Si
fin.	3	61	95937	296292	SLU 76	3.09	Si
ini.	3	-871	154003	296292	SLU 81	1.92	Si
fin.	3	61	95587	296292	SLU 81	3.1	Si
ini.	3	-915	155174	296292	SLU 75	1.91	Si
fin.	3	54	95792	296292	SLU 75	3.09	Si
ini.	3	-911	158557	296292	SLU 78	1.87	Si
fin.	3	84	99900	296292	SLU 78	2.97	Si
ini.	3	-945	154448	296292	SLU 73	1.92	Si
fin.	3	32	91828	296292	SLU 73	3.23	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	154003	-3662			2157	812	SLU 81	0.22	No
fin.	3	0	95587	-926			2157	812	SLU 81	0.88	No
ini.	3	0	162394	-3908			2157	812	SLU 84	0.21	No
fin.	3	0	100131	-1129			2157	812	SLU 84	0.72	No
ini.	3	0	154448	-3790			2157	812	SLU 73	0.21	No
fin.	3	0	91828	-1205			2157	812	SLU 73	0.67	No
ini.	3	0	157874	-3775			2157	812	SLU 80	0.21	No
fin.	3	0	99755	-1038			2157	812	SLU 80	0.78	No
ini.	3	0	157831	-3846			2157	812	SLU 76	0.21	No
fin.	3	0	95937	-1193			2157	812	SLU 76	0.68	No
ini.	3	0	159012	-3852			2157	812	SLU 82	0.21	No
fin.	3	0	96023	-1141			2157	812	SLU 82	0.71	No
ini.	3	0	157386	-3718			2157	812	SLU 83	0.22	No
fin.	3	0	99696	-914			2157	812	SLU 83	0.89	No
ini.	3	0	153548	-3612			2157	812	SLU 77	0.22	No
fin.	3	0	99465	-817			2157	812	SLU 77	0.99	No
ini.	3	0	158557	-3802			2157	812	SLU 78	0.21	No
fin.	3	0	99900	-1032			2157	812	SLU 78	0.79	No
ini.	3	0	155174	-3746			2157	812	SLU 75	0.22	No
fin.	3	0	95792	-1044			2157	812	SLU 75	0.78	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2535	307524	314194	SLV 4	1.02	Si
fin.	2	-696	-54291	314194	SLV 4	5.79	Si
ini.	2	25	216713	314194	SLV 8	1.45	Si
fin.	2	1415	82616	314194	SLV 8	3.8	Si
ini.	2	2052	-71846	314194	SLV 15	4.37	Si
fin.	2	1711	215934	314194	SLV 15	1.46	Si
ini.	2	-1468	188035	314194	SLD 4	1.67	Si
fin.	2	-338	11587	314194	SLD 4	27.12	Si
ini.	2	-1468	188035	314194	SLD 3	1.67	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-338	11587	314194	SLD 3	27.12	Si
ini.	2	-3352	271552	314194	SLV 1	1.16	Si
fin.	2	-1783	-90572	314194	SLV 1	3.47	Si
ini.	2	-2535	307524	314194	SLV 3	1.02	Si
fin.	2	-696	-54291	314194	SLV 3	5.79	Si
ini.	2	2052	-71846	314194	SLV 16	4.37	Si
fin.	2	1711	215934	314194	SLV 16	1.46	Si
ini.	2	25	216713	314194	SLV 7	1.45	Si
fin.	2	1415	82616	314194	SLV 7	3.8	Si
ini.	2	-3352	271552	314194	SLV 2	1.16	Si
fin.	2	-1783	-90572	314194	SLV 2	3.47	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	271552	-10437			3235	1217	SLV 1	0.12	No
fin.	2	0	-90572	-9043			3235	1217	SLV 1	0.13	No
ini.	2	0	-107819	6113			3235	1217	SLV 14	0.2	No
fin.	2	0	179652	8836			3235	1217	SLV 14	0.14	No
ini.	2	0	307524	-10872			3235	1217	SLV 3	0.11	No
fin.	2	0	-54291	-9902			3235	1217	SLV 3	0.12	No
ini.	2	0	-71846	5678			3235	1217	SLV 15	0.21	No
fin.	2	0	215934	7977			3235	1217	SLV 15	0.15	No
ini.	2	0	-107819	6113			3235	1217	SLV 13	0.2	No
fin.	2	0	179652	8836			3235	1217	SLV 13	0.14	No
ini.	2	0	188035	-6019			3235	1217	SLD 3	0.2	No
fin.	2	0	11587	-4549			3235	1217	SLD 3	0.27	No
ini.	2	0	271552	-10437			3235	1217	SLV 2	0.12	No
fin.	2	0	-90572	-9043			3235	1217	SLV 2	0.13	No
ini.	2	0	-71846	5678			3235	1217	SLV 16	0.21	No
fin.	2	0	215934	7977			3235	1217	SLV 16	0.15	No
ini.	2	0	188035	-6019			3235	1217	SLD 4	0.2	No
fin.	2	0	11587	-4549			3235	1217	SLD 4	0.27	No
ini.	2	0	307524	-10872			3235	1217	SLV 4	0.11	No
fin.	2	0	-54291	-9902			3235	1217	SLV 4	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 3	Si
V_SLV	0.112	SLV 3	No
PF_SLU	1.825	SLU 84	Si
V_SLU	0.208	SLU 84	No

Trave di accoppiamento 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	826	898	72	-600.8	-335.9	826	898	72	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	460	14832	72292	SLU 79	4.87	Si
fin.	3	157	-19075	72292	SLU 79	3.79	Si
ini.	3	544	15609	72292	SLU 74	4.63	Si
fin.	3	259	-17401	72292	SLU 74	4.15	Si
ini.	3	596	17199	72292	SLU 76	4.2	Si
fin.	3	338	-14816	72292	SLU 76	4.88	Si
ini.	3	517	16248	72292	SLU 83	4.45	Si
fin.	3	209	-18671	72292	SLU 83	3.87	Si
ini.	3	617	17839	72292	SLU 82	4.05	Si
fin.	3	342	-15514	72292	SLU 82	4.66	Si
ini.	3	554	16344	72292	SLU 78	4.42	Si
fin.	3	268	-17253	72292	SLU 78	4.19	Si
ini.	3	515	15996	72292	SLU 80	4.52	Si
fin.	3	228	-17423	72292	SLU 80	4.15	Si
ini.	3	641	17628	72292	SLU 73	4.1	Si
fin.	3	399	-13311	72292	SLU 73	5.43	Si
ini.	3	499	15180	72292	SLU 77	4.76	Si
fin.	3	197	-18905	72292	SLU 77	3.82	Si
ini.	3	572	17411	72292	SLU 84	4.15	Si
fin.	3	281	-17019	72292	SLU 84	4.25	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	16344	-20			776	292	SLU 78	14.42	Si
fin.	3	0	-17253	-2640			776	292	SLU 78	0.11	No
ini.	3	0	16248	-26			776	292	SLU 83	11.23	Si
fin.	3	0	-18671	-2769			776	292	SLU 83	0.11	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	15996	-28			776	292	SLU 80	10.57	Si
fin.	3	0	-17423	-2613			776	292	SLU 80	0.11	No
ini.	3	0	16676	-10			776	292	SLU 81	28.1	Si
fin.	3	0	-17166	-2694			776	292	SLU 81	0.11	No
ini.	3	0	17839	-17			776	292	SLU 82	16.94	Si
fin.	3	0	-15514	-2605			776	292	SLU 82	0.11	No
ini.	3	0	16772	-5			776	292	SLU 75	62.93	Si
fin.	3	0	-15748	-2565			776	292	SLU 75	0.11	No
ini.	3	0	17411	-33			776	292	SLU 84	8.89	Si
fin.	3	0	-17019	-2681			776	292	SLU 84	0.11	No
ini.	3	0	15180	-13			776	292	SLU 77	21.8	Si
fin.	3	0	-18905	-2729			776	292	SLU 77	0.11	No
ini.	3	0	14832	-21			776	292	SLU 79	14.06	Si
fin.	3	0	-19075	-2701			776	292	SLU 79	0.11	No
ini.	3	0	15609	2			776	292	SLU 74	132.16	Si
fin.	3	0	-17401	-2653			776	292	SLU 74	0.11	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3819	-78295	90194	SLV 15	1.15	Si
fin.	2	-2986	-21598	90194	SLV 15	4.18	Si
ini.	2	3916	89248	90194	SLV 3	1.01	Si
fin.	2	2904	-12936	90194	SLV 3	6.97	Si
ini.	2	2719	52631	90194	SLV 6	1.71	Si
fin.	2	1988	12639	90194	SLV 6	7.14	Si
ini.	2	-3122	-68131	90194	SLV 13	1.32	Si
fin.	2	-2457	-8395	90194	SLV 13	10.74	Si
ini.	2	2719	52631	90194	SLV 5	1.71	Si
fin.	2	1988	12639	90194	SLV 5	7.14	Si
ini.	2	3916	89248	90194	SLV 4	1.01	Si
fin.	2	2904	-12936	90194	SLV 4	6.97	Si
ini.	2	-3819	-78295	90194	SLV 16	1.15	Si
fin.	2	-2986	-21598	90194	SLV 16	4.18	Si
ini.	2	4613	99412	90194	SLV 1	0.91	No
fin.	2	3433	267	90194	SLV 1	338.01	Si
ini.	2	-3122	-68131	90194	SLV 14	1.32	Si
fin.	2	-2457	-8395	90194	SLV 14	10.74	Si
ini.	2	4613	99412	90194	SLV 2	0.91	No
fin.	2	3433	267	90194	SLV 2	338.01	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-68131	2694			1165	438	SLV 13	0.16	No
fin.	2	0	-8395	586			1165	438	SLV 13	0.75	No
ini.	2	0	44406	-1094			1165	438	SLD 3	0.4	No
fin.	2	0	-11460	-2720			1165	438	SLD 3	0.16	No
ini.	2	0	-68131	2694			1165	438	SLV 14	0.16	No
fin.	2	0	-8395	586			1165	438	SLV 14	0.75	No
ini.	2	0	89248	-2621			1165	438	SLV 3	0.17	No
fin.	2	0	-12936	-4060			1165	438	SLV 3	0.11	No
ini.	2	0	18749	-2003			1165	438	SLV 7	0.22	No
fin.	2	0	-31372	-3464			1165	438	SLV 7	0.13	No
ini.	2	0	18749	-2003			1165	438	SLV 8	0.22	No
fin.	2	0	-31372	-3464			1165	438	SLV 8	0.13	No
ini.	2	0	99412	-1802			1165	438	SLV 2	0.24	No
fin.	2	0	267	-3381			1165	438	SLV 2	0.13	No
ini.	2	0	89248	-2621			1165	438	SLV 4	0.17	No
fin.	2	0	-12936	-4060			1165	438	SLV 4	0.11	No
ini.	2	0	99412	-1802			1165	438	SLV 1	0.24	No
fin.	2	0	267	-3381			1165	438	SLV 1	0.13	No
ini.	2	0	44406	-1094			1165	438	SLD 4	0.4	No
fin.	2	0	-11460	-2720			1165	438	SLD 4	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.907	SLV 1	No
V_SLV	0.108	SLV 3	No
PF_SLU	3.79	SLU 79	Si
V_SLU	0.106	SLU 83	No

Trave di accoppiamento 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	546	636	90	-318.3	-335.9	546	636	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1027	-37237	103792	SLU 76	2.79	Si
fin.	3	-2859	65117	103792	SLU 76	1.59	Si
ini.	3	-1022	-32935	103792	SLU 55	3.15	Si
fin.	3	-2681	59232	103792	SLU 55	1.75	Si
ini.	3	-1003	-33589	103792	SLU 80	3.09	Si
fin.	3	-2701	62289	103792	SLU 80	1.67	Si
ini.	3	-919	-36131	103792	SLU 82	2.87	Si
fin.	3	-2685	63742	103792	SLU 82	1.63	Si
ini.	3	-984	-37633	103792	SLU 73	2.76	Si
fin.	3	-2813	64653	103792	SLU 73	1.61	Si
ini.	3	-860	-30855	103792	SLU 83	3.36	Si
fin.	3	-2425	59268	103792	SLU 83	1.75	Si
ini.	3	-950	-34619	103792	SLU 75	3	Si
fin.	3	-2669	62576	103792	SLU 75	1.66	Si
ini.	3	-963	-35735	103792	SLU 84	2.9	Si
fin.	3	-2731	64206	103792	SLU 84	1.62	Si
ini.	3	-1019	-33152	103792	SLU 68	3.13	Si
fin.	3	-2683	59563	103792	SLU 68	1.74	Si
ini.	3	-994	-34223	103792	SLU 78	3.03	Si
fin.	3	-2715	63040	103792	SLU 78	1.65	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-30855	1059			970	365	SLU 83	0.34	No
fin.	3	0	59268	2899			970	365	SLU 83	0.13	No
ini.	3	0	-35735	1364			970	365	SLU 84	0.27	No
fin.	3	0	64206	2976			970	365	SLU 84	0.12	No
ini.	3	0	-37237	1501			970	365	SLU 76	0.24	No
fin.	3	0	65117	2926			970	365	SLU 76	0.12	No
ini.	3	0	-33589	1267			970	365	SLU 80	0.29	No
fin.	3	0	62289	2914			970	365	SLU 80	0.13	No
ini.	3	0	-37633	1531			970	365	SLU 73	0.24	No
fin.	3	0	64653	2886			970	365	SLU 73	0.13	No
ini.	3	0	-34619	1311			970	365	SLU 75	0.28	No
fin.	3	0	62576	2919			970	365	SLU 75	0.13	No
ini.	3	0	-31251	1089			970	365	SLU 81	0.34	No
fin.	3	0	58804	2859			970	365	SLU 81	0.13	No
ini.	3	0	-29343	976			970	365	SLU 77	0.37	No
fin.	3	0	58102	2881			970	365	SLU 77	0.13	No
ini.	3	0	-36131	1394			970	365	SLU 82	0.26	No
fin.	3	0	63742	2936			970	365	SLU 82	0.12	No
ini.	3	0	-34223	1281			970	365	SLU 78	0.29	No
fin.	3	0	63040	2959			970	365	SLU 78	0.12	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2141	133058	121694	SLV 4	0.91	No
fin.	2	2852	-90990	121694	SLV 4	1.34	Si
ini.	2	903	-172599	121694	SLV 14	0.71	No
fin.	2	-6148	169838	121694	SLV 14	0.72	No
ini.	2	-3198	129533	121694	SLV 2	0.94	No
fin.	2	1833	-73956	121694	SLV 2	1.65	Si
ini.	2	-1765	-70966	121694	SLV 10	1.71	Si
fin.	2	4543	104384	121694	SLV 10	1.17	Si
ini.	2	-3198	129533	121694	SLV 1	0.94	No
fin.	2	1833	-73956	121694	SLV 1	1.65	Si
ini.	2	903	-172599	121694	SLV 13	0.71	No
fin.	2	-6148	169838	121694	SLV 13	0.72	No
ini.	2	-1765	-70966	121694	SLV 9	1.71	Si
fin.	2	4543	104384	121694	SLV 9	1.17	Si
ini.	2	1960	-169075	121694	SLV 16	0.72	No
fin.	2	-5129	152803	121694	SLV 16	0.8	No
ini.	2	1960	-169075	121694	SLV 15	0.72	No
fin.	2	-5129	152803	121694	SLV 15	0.8	No
ini.	2	-2141	133058	121694	SLV 3	0.91	No
fin.	2	2852	-90990	121694	SLV 3	1.34	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-169075	6918			1456	548	SLV 16	0.08	No
fin.	2	0	152803	7871			1456	548	SLV 16	0.07	No
ini.	2	0	-84896	3069			1456	548	SLD 14	0.18	No
fin.	2	0	94885	4673			1456	548	SLD 14	0.12	No
ini.	2	0	129533	-5561			1456	548	SLV 1	0.1	No
fin.	2	0	-73956	-3980			1456	548	SLV 1	0.14	No
ini.	2	0	-172599	6252			1456	548	SLV 14	0.09	No
fin.	2	0	169838	8336			1456	548	SLV 14	0.07	No
ini.	2	0	133058	-4896			1456	548	SLV 3	0.11	No
fin.	2	0	-90990	-4445			1456	548	SLV 3	0.12	No
ini.	2	0	-169075	6918			1456	548	SLV 15	0.08	No
fin.	2	0	152803	7871			1456	548	SLV 15	0.07	No
ini.	2	0	133058	-4896			1456	548	SLV 4	0.11	No
fin.	2	0	-90990	-4445			1456	548	SLV 4	0.12	No
ini.	2	0	-84896	3069			1456	548	SLD 13	0.18	No
fin.	2	0	94885	4673			1456	548	SLD 13	0.12	No
ini.	2	0	-172599	6252			1456	548	SLV 13	0.09	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	169838	8336			1456	548	SLV 13	0.07	No
ini.	2	0	129533	-5561			1456	548	SLV 2	0.1	No
fin.	2	0	-73956	-3980			1456	548	SLV 2	0.14	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.705	SLV 13	No
V_SLV	0.066	SLV 13	No
PF_SLU	1.594	SLU 76	Si
V_SLU	0.123	SLU 84	No

Trave di accoppiamento 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	816	898	82	-318.3	-335.9	816	898	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1759	-57347	89792	SLU 78	1.57	Si
fin.	3	-361	3722	89792	SLU 78	24.12	Si
ini.	3	-1746	-57094	89792	SLU 75	1.57	Si
fin.	3	-334	4569	89792	SLU 75	19.65	Si
ini.	3	-1854	-59296	89792	SLU 73	1.51	Si
fin.	3	-349	6794	89792	SLU 73	13.22	Si
ini.	3	-1750	-56465	89792	SLU 80	1.59	Si
fin.	3	-386	3374	89792	SLU 80	26.61	Si
ini.	3	-1866	-59549	89792	SLU 76	1.51	Si
fin.	3	-376	5947	89792	SLU 76	15.1	Si
ini.	3	-1798	-58471	89792	SLU 82	1.54	Si
fin.	3	-341	5305	89792	SLU 82	16.93	Si
ini.	3	-1696	-53687	89792	SLU 68	1.67	Si
fin.	3	-354	5394	89792	SLU 68	16.65	Si
ini.	3	-1606	-53465	89792	SLU 81	1.68	Si
fin.	3	-316	2716	89792	SLU 81	33.06	Si
ini.	3	-1618	-53718	89792	SLU 83	1.67	Si
fin.	3	-343	1870	89792	SLU 83	48.03	Si
ini.	3	-1811	-58724	89792	SLU 84	1.53	Si
fin.	3	-368	4458	89792	SLU 84	20.14	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-53718	3012			806	303	SLU 83	0.1	No
fin.	3	0	1870	-878			806	303	SLU 83	0.35	No
ini.	3	0	-59549	3127			806	303	SLU 76	0.1	No
fin.	3	0	5947	-527			806	303	SLU 76	0.57	No
ini.	3	0	-59296	3105			806	303	SLU 73	0.1	No
fin.	3	0	6794	-470			806	303	SLU 73	0.65	No
ini.	3	0	-57094	3072			806	303	SLU 75	0.1	No
fin.	3	0	4569	-646			806	303	SLU 75	0.47	No
ini.	3	0	-56465	3047			806	303	SLU 80	0.1	No
fin.	3	0	3374	-709			806	303	SLU 80	0.43	No
ini.	3	0	-52341	2942			806	303	SLU 77	0.1	No
fin.	3	0	1134	-889			806	303	SLU 77	0.34	No
ini.	3	0	-58471	3143			806	303	SLU 82	0.1	No
fin.	3	0	5305	-635			806	303	SLU 82	0.48	No
ini.	3	0	-53465	2990			806	303	SLU 81	0.1	No
fin.	3	0	2716	-821			806	303	SLU 81	0.37	No
ini.	3	0	-57347	3095			806	303	SLU 78	0.1	No
fin.	3	0	3722	-703			806	303	SLU 78	0.43	No
ini.	3	0	-58724	3165			806	303	SLU 84	0.1	No
fin.	3	0	4458	-692			806	303	SLU 84	0.44	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1037	73974	107694	SLV 2	1.46	Si
fin.	2	-2486	-92747	107694	SLV 2	1.16	Si
ini.	2	-2619	-95520	107694	SLV 9	1.13	Si
fin.	2	369	29921	107694	SLV 9	3.6	Si
ini.	2	-3668	-159264	107694	SLV 13	0.68	No
fin.	2	1987	95722	107694	SLV 13	1.13	Si
ini.	2	1037	73974	107694	SLV 1	1.46	Si
fin.	2	-2486	-92747	107694	SLV 1	1.16	Si
ini.	2	1549	89307	107694	SLV 4	1.21	Si
fin.	2	-2441	-92887	107694	SLV 4	1.16	Si
ini.	2	1549	89307	107694	SLV 3	1.21	Si
fin.	2	-2441	-92887	107694	SLV 3	1.16	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3156	-143930	107694	SLV 15	0.75	No
fin.	2	2032	95582	107694	SLV 15	1.13	Si
ini.	2	-3156	-143930	107694	SLV 16	0.75	No
fin.	2	2032	95582	107694	SLV 16	1.13	Si
ini.	2	-3668	-159264	107694	SLV 14	0.68	No
fin.	2	1987	95722	107694	SLV 14	1.13	Si
ini.	2	-2619	-95520	107694	SLV 10	1.13	Si
fin.	2	369	29921	107694	SLV 10	3.6	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-143930	6313			1208	455	SLV 15	0.07	No
fin.	2	0	95582	4100			1208	455	SLV 15	0.11	No
ini.	2	0	-95520	4045			1208	455	SLV 9	0.11	No
fin.	2	0	29921	318			1208	455	SLV 9	1.43	Si
ini.	2	0	89307	-2827			1208	455	SLV 4	0.16	No
fin.	2	0	-92887	-4884			1208	455	SLV 4	0.09	No
ini.	2	0	-143930	6313			1208	455	SLV 16	0.07	No
fin.	2	0	95582	4100			1208	455	SLV 16	0.11	No
ini.	2	0	-159264	6743			1208	455	SLV 14	0.07	No
fin.	2	0	95722	3805			1208	455	SLV 14	0.12	No
ini.	2	0	73974	-2397			1208	455	SLV 1	0.19	No
fin.	2	0	-92747	-5178			1208	455	SLV 1	0.09	No
ini.	2	0	73974	-2397			1208	455	SLV 2	0.19	No
fin.	2	0	-92747	-5178			1208	455	SLV 2	0.09	No
ini.	2	0	-95520	4045			1208	455	SLV 10	0.11	No
fin.	2	0	29921	318			1208	455	SLV 10	1.43	Si
ini.	2	0	89307	-2827			1208	455	SLV 3	0.16	No
fin.	2	0	-92887	-4884			1208	455	SLV 3	0.09	No
ini.	2	0	-159264	6743			1208	455	SLV 13	0.07	No
fin.	2	0	95722	3805			1208	455	SLV 13	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.676	SLV 13	No
V_SLV	0.067	SLV 13	No
PF_SLU	1.508	SLU 76	Si
V_SLU	0.096	SLU 84	No

Trave di accoppiamento 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	546	636	90	-296.3	595.1	546	636	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1219	4290	103792	SLU 83	24.19	Si
fin.	3	-1778	18633	103792	SLU 83	5.57	Si
ini.	3	-958	-677	103792	SLU 82	153.33	Si
fin.	3	-1600	20542	103792	SLU 82	5.05	Si
ini.	3	-1189	4119	103792	SLU 74	25.2	Si
fin.	3	-1731	18225	103792	SLU 74	5.7	Si
ini.	3	-936	-237	103792	SLU 73	437.64	Si
fin.	3	-1545	19494	103792	SLU 73	5.32	Si
ini.	3	-863	-1095	103792	SLU 61	94.78	Si
fin.	3	-1447	18894	103792	SLU 61	5.49	Si
ini.	3	-840	-655	103792	SLU 52	158.37	Si
fin.	3	-1392	17846	103792	SLU 52	5.82	Si
ini.	3	-1143	3522	103792	SLU 75	29.47	Si
fin.	3	-1699	18372	103792	SLU 75	5.65	Si
ini.	3	-1004	-81	103792	SLU 81	1285.24	Si
fin.	3	-1631	20396	103792	SLU 81	5.09	Si
ini.	3	-1173	3694	103792	SLU 84	28.1	Si
fin.	3	-1746	18780	103792	SLU 84	5.53	Si
ini.	3	-909	-499	103792	SLU 60	208.01	Si
fin.	3	-1479	18748	103792	SLU 60	5.54	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-677	-462			970	365	SLU 82	0.79	No
fin.	3	0	20542	1284			970	365	SLU 82	0.28	No
ini.	3	0	3694	-601			970	365	SLU 84	0.61	No
fin.	3	0	18780	1208			970	365	SLU 84	0.3	No
ini.	3	0	-499	-475			970	365	SLU 60	0.77	No
fin.	3	0	18748	1190			970	365	SLU 60	0.31	No
ini.	3	0	-1095	-431			970	365	SLU 61	0.85	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	18894	1185			970	365	SLU 61	0.31	No
ini.	3	0	3522	-609			970	365	SLU 75	0.6	No
fin.	3	0	18372	1195			970	365	SLU 75	0.31	No
ini.	3	0	4119	-652			970	365	SLU 74	0.56	No
fin.	3	0	18225	1200			970	365	SLU 74	0.3	No
ini.	3	0	-237	-456			970	365	SLU 73	0.8	No
fin.	3	0	19494	1221			970	365	SLU 73	0.3	No
ini.	3	0	4134	-595			970	365	SLU 76	0.61	No
fin.	3	0	17732	1146			970	365	SLU 76	0.32	No
ini.	3	0	4290	-644			970	365	SLU 83	0.57	No
fin.	3	0	18633	1214			970	365	SLU 83	0.3	No
ini.	3	0	-81	-506			970	365	SLU 81	0.72	No
fin.	3	0	20396	1289			970	365	SLU 81	0.28	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2414	108751	121694	SLV 2	1.12	Si
fin.	2	1606	-134774	121694	SLV 2	0.9	No
ini.	2	2138	-113454	121694	SLV 14	1.07	Si
fin.	2	-2740	139610	121694	SLV 14	0.87	No
ini.	2	-3673	116323	121694	SLV 3	1.05	Si
fin.	2	425	-113306	121694	SLV 3	1.07	Si
ini.	2	879	-105882	121694	SLV 15	1.15	Si
fin.	2	-3921	161079	121694	SLV 15	0.76	No
ini.	2	-2183	-19276	121694	SLV 12	6.31	Si
fin.	2	-3777	90090	121694	SLV 12	1.35	Si
ini.	2	-2414	108751	121694	SLV 1	1.12	Si
fin.	2	1606	-134774	121694	SLV 1	0.9	No
ini.	2	879	-105882	121694	SLV 16	1.15	Si
fin.	2	-3921	161079	121694	SLV 16	0.76	No
ini.	2	2138	-113454	121694	SLV 13	1.07	Si
fin.	2	-2740	139610	121694	SLV 13	0.87	No
ini.	2	-3673	116323	121694	SLV 4	1.05	Si
fin.	2	425	-113306	121694	SLV 4	1.07	Si
ini.	2	-2183	-19276	121694	SLV 11	6.31	Si
fin.	2	-3777	90090	121694	SLV 11	1.35	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	108751	-4814			1456	548	SLV 2	0.11	No
fin.	2	0	-134774	-4466			1456	548	SLV 2	0.12	No
ini.	2	0	116323	-5569			1456	548	SLV 4	0.1	No
fin.	2	0	-113306	-4088			1456	548	SLV 4	0.13	No
ini.	2	0	-105882	3962			1456	548	SLV 15	0.14	No
fin.	2	0	161079	6182			1456	548	SLV 15	0.09	No
ini.	2	0	108751	-4814			1456	548	SLV 1	0.11	No
fin.	2	0	-134774	-4466			1456	548	SLV 1	0.12	No
ini.	2	0	-44365	1451			1456	548	SLD 15	0.38	No
fin.	2	0	76131	3130			1456	548	SLD 15	0.18	No
ini.	2	0	-113454	4718			1456	548	SLV 14	0.12	No
fin.	2	0	139610	5804			1456	548	SLV 14	0.09	No
ini.	2	0	-105882	3962			1456	548	SLV 16	0.14	No
fin.	2	0	161079	6182			1456	548	SLV 16	0.09	No
ini.	2	0	-113454	4718			1456	548	SLV 13	0.12	No
fin.	2	0	139610	5804			1456	548	SLV 13	0.09	No
ini.	2	0	116323	-5569			1456	548	SLV 3	0.1	No
fin.	2	0	-113306	-4088			1456	548	SLV 3	0.13	No
ini.	2	0	-44365	1451			1456	548	SLD 16	0.38	No
fin.	2	0	76131	3130			1456	548	SLD 16	0.18	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.755	SLV 15	No
V_SLV	0.089	SLV 15	No
PF_SLU	5.053	SLU 82	Si
V_SLU	0.283	SLU 81	No

Trave di accoppiamento 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	816	898	82	-296.3	595.1	816	898	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{mmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-745	-25467	89792	SLU 83	3.53	Si
fin.	3	-554	-11242	89792	SLU 83	7.99	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-713	-24832	89792	SLU 74	3.62	Si
fin.	3	-515	-10375	89792	SLU 74	8.65	Si
ini.	3	-836	-28924	89792	SLU 81	3.1	Si
fin.	3	-462	-4324	89792	SLU 81	20.77	Si
ini.	3	-775	-27037	89792	SLU 73	3.32	Si
fin.	3	-422	-4038	89792	SLU 73	22.24	Si
ini.	3	-744	-25459	89792	SLU 84	3.53	Si
fin.	3	-540	-10670	89792	SLU 84	8.42	Si
ini.	3	-761	-26626	89792	SLU 60	3.37	Si
fin.	3	-386	-2404	89792	SLU 60	37.34	Si
ini.	3	-725	-24828	89792	SLU 39	3.62	Si
fin.	3	-407	-3762	89792	SLU 39	23.87	Si
ini.	3	-759	-26618	89792	SLU 61	3.37	Si
fin.	3	-373	-1832	89792	SLU 61	49.01	Si
ini.	3	-711	-24824	89792	SLU 75	3.62	Si
fin.	3	-502	-9803	89792	SLU 75	9.16	Si
ini.	3	-835	-28916	89792	SLU 82	3.11	Si
fin.	3	-449	-3752	89792	SLU 82	23.93	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-25459	2097			806	303	SLU 84	0.14	No
fin.	3	0	-10670	-1241			806	303	SLU 84	0.24	No
ini.	3	0	-27037	2170			806	303	SLU 73	0.14	No
fin.	3	0	-4038	-1012			806	303	SLU 73	0.3	No
ini.	3	0	-24832	2043			806	303	SLU 74	0.15	No
fin.	3	0	-10375	-1209			806	303	SLU 74	0.25	No
ini.	3	0	-24828	1995			806	303	SLU 39	0.15	No
fin.	3	0	-3762	-927			806	303	SLU 39	0.33	No
ini.	3	0	-25467	2103			806	303	SLU 83	0.14	No
fin.	3	0	-11242	-1265			806	303	SLU 83	0.24	No
ini.	3	0	-24824	2037			806	303	SLU 75	0.15	No
fin.	3	0	-9803	-1184			806	303	SLU 75	0.26	No
ini.	3	0	-26618	2123			806	303	SLU 61	0.14	No
fin.	3	0	-1832	-911			806	303	SLU 61	0.33	No
ini.	3	0	-28916	2318			806	303	SLU 82	0.13	No
fin.	3	0	-3752	-1058			806	303	SLU 82	0.29	No
ini.	3	0	-28924	2324			806	303	SLU 81	0.13	No
fin.	3	0	-4324	-1082			806	303	SLU 81	0.28	No
ini.	3	0	-26626	2129			806	303	SLU 60	0.14	No
fin.	3	0	-2404	-936			806	303	SLU 60	0.32	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1487	-70427	107694	SLV 11	1.53	Si
fin.	2	1002	59866	107694	SLV 11	1.8	Si
ini.	2	-2145	-114004	107694	SLV 15	0.94	No
fin.	2	2269	110536	107694	SLV 15	0.97	No
ini.	2	795	62135	107694	SLV 4	1.73	Si
fin.	2	-2527	-99344	107694	SLV 4	1.08	Si
ini.	2	795	62135	107694	SLV 3	1.73	Si
fin.	2	-2527	-99344	107694	SLV 3	1.08	Si
ini.	2	-2145	-114004	107694	SLV 16	0.94	No
fin.	2	2269	110536	107694	SLV 16	0.97	No
ini.	2	1113	77626	107694	SLV 1	1.39	Si
fin.	2	-2880	-118877	107694	SLV 1	0.91	No
ini.	2	-1828	-98513	107694	SLV 13	1.09	Si
fin.	2	1916	91004	107694	SLV 13	1.18	Si
ini.	2	-1487	-70427	107694	SLV 12	1.53	Si
fin.	2	1002	59866	107694	SLV 12	1.8	Si
ini.	2	-1828	-98513	107694	SLV 14	1.09	Si
fin.	2	1916	91004	107694	SLV 14	1.18	Si
ini.	2	1113	77626	107694	SLV 2	1.39	Si
fin.	2	-2880	-118877	107694	SLV 2	0.91	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-98513	5116			1208	455	SLV 14	0.09	No
fin.	2	0	91004	3358			1208	455	SLV 14	0.14	No
ini.	2	0	62135	-2172			1208	455	SLV 3	0.21	No
fin.	2	0	-99344	-4849			1208	455	SLV 3	0.09	No
ini.	2	0	77626	-2711			1208	455	SLV 1	0.17	No
fin.	2	0	-118877	-4406			1208	455	SLV 1	0.1	No
ini.	2	0	-98513	5116			1208	455	SLV 13	0.09	No
fin.	2	0	91004	3358			1208	455	SLV 13	0.14	No
ini.	2	0	-70427	3545			1208	455	SLV 12	0.13	No
fin.	2	0	59866	-320			1208	455	SLV 12	1.42	Si
ini.	2	0	-114004	5655			1208	455	SLV 15	0.08	No
fin.	2	0	110536	2915			1208	455	SLV 15	0.16	No
ini.	2	0	62135	-2172			1208	455	SLV 4	0.21	No
fin.	2	0	-99344	-4849			1208	455	SLV 4	0.09	No
ini.	2	0	-114004	5655			1208	455	SLV 16	0.08	No
fin.	2	0	110536	2915			1208	455	SLV 16	0.16	No
ini.	2	0	-70427	3545			1208	455	SLV 11	0.13	No
fin.	2	0	59866	-320			1208	455	SLV 11	1.42	Si
ini.	2	0	77626	-2711			1208	455	SLV 2	0.17	No
fin.	2	0	-118877	-4406			1208	455	SLV 2	0.1	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.906	SLV 1	No
V_SLV	0.08	SLV 15	No
PF_SLU	3.104	SLU 81	Si
V_SLU	0.13	SLU 81	No

Trave di accoppiamento 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2467.8	126.6	1108	1250	142	-2467.8	206.6	1108	1250	142	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1396	21981	194792	SLU 83	8.86	Si
fin.	3	1396	-51362	194792	SLU 83	3.79	Si
ini.	3	1144	30460	194792	SLU 41	6.4	Si
fin.	3	1144	-58158	194792	SLU 41	3.35	Si
ini.	3	1087	25712	194792	SLU 32	7.58	Si
fin.	3	1087	-51818	194792	SLU 32	3.76	Si
ini.	3	1159	8246	194792	SLU 37	23.62	Si
fin.	3	1159	-47676	194792	SLU 37	4.09	Si
ini.	3	1447	-48995	194792	SLU 49	3.98	Si
fin.	3	1447	13536	194792	SLU 49	14.39	Si
ini.	3	1573	-52343	194792	SLU 47	3.72	Si
fin.	3	1573	26400	194792	SLU 47	7.38	Si
ini.	3	1101	42042	194792	SLU 39	4.63	Si
fin.	3	1101	-58052	194792	SLU 39	3.36	Si
ini.	3	1476	-54880	194792	SLU 51	3.55	Si
fin.	3	1476	17784	194792	SLU 51	10.95	Si
ini.	3	1130	14130	194792	SLU 35	13.79	Si
fin.	3	1130	-51924	194792	SLU 35	3.75	Si
ini.	3	1353	33563	194792	SLU 81	5.8	Si
fin.	3	1353	-51256	194792	SLU 81	3.8	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	25712	-715			1531	576	SLU 32	0.81	No
fin.	3	0	-51818	-1265			1531	576	SLU 32	0.46	No
ini.	3	0	42042	-997			1531	576	SLU 39	0.58	No
fin.	3	0	-58052	-1548			1531	576	SLU 39	0.37	No
ini.	3	0	-54880	1231			1531	576	SLU 51	0.47	No
fin.	3	0	17784	527			1531	576	SLU 51	1.09	Si
ini.	3	0	-40761	1163			1531	576	SLU 44	0.5	No
fin.	3	0	26506	460			1531	576	SLU 44	1.25	Si
ini.	3	0	30460	-854			1531	576	SLU 41	0.68	No
fin.	3	0	-58158	-1404			1531	576	SLU 41	0.41	No
ini.	3	0	-52343	1307			1531	576	SLU 47	0.44	No
fin.	3	0	26400	603			1531	576	SLU 47	0.95	No
ini.	3	0	33563	-733			1531	576	SLU 81	0.79	No
fin.	3	0	-51256	-1444			1531	576	SLU 81	0.4	No
ini.	3	0	21981	-590			1531	576	SLU 83	0.98	No
fin.	3	0	-51362	-1300			1531	576	SLU 83	0.44	No
ini.	3	0	17233	-451			1531	576	SLU 74	1.28	Si
fin.	3	0	-45022	-1162			1531	576	SLU 74	0.5	No
ini.	3	0	28473	-668			1531	576	SLU 40	0.86	No
fin.	3	0	-45287	-1218			1531	576	SLU 40	0.47	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2031	131226	212694	SLV 4	1.62	Si
fin.	2	1901	-146201	212694	SLV 4	1.45	Si
ini.	2	615	-194908	212694	SLV 9	1.09	Si
fin.	2	990	178747	212694	SLV 9	1.19	Si
ini.	2	695	152848	212694	SLV 11	1.39	Si
fin.	2	332	-159649	212694	SLV 11	1.33	Si
ini.	2	1324	199045	212694	SLV 7	1.07	Si
fin.	2	950	-208107	212694	SLV 7	1.02	Si
ini.	2	1324	199045	212694	SLV 8	1.07	Si
fin.	2	950	-208107	212694	SLV 8	1.02	Si
ini.	2	2031	131226	212694	SLV 3	1.62	Si
fin.	2	1901	-146201	212694	SLV 3	1.45	Si
ini.	2	615	-194908	212694	SLV 10	1.09	Si
fin.	2	990	178747	212694	SLV 10	1.19	Si
ini.	2	1245	-148711	212694	SLV 5	1.43	Si
fin.	2	1608	130290	212694	SLV 5	1.63	Si
ini.	2	1245	-148711	212694	SLV 6	1.43	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	1608	130290	212694	SLV 6	1.63	Si
ini.	2	695	152848	212694	SLV 12	1.39	Si
fin.	2	332	-159649	212694	SLV 12	1.33	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-148711	3750			2297	864	SLV 5	0.23	No
fin.	2	0	130290	3158			2297	864	SLV 5	0.27	No
ini.	2	0	152848	-3667			2297	864	SLV 12	0.24	No
fin.	2	0	-159649	-4166			2297	864	SLV 12	0.21	No
ini.	2	0	152848	-3667			2297	864	SLV 11	0.24	No
fin.	2	0	-159649	-4166			2297	864	SLV 11	0.21	No
ini.	2	0	131226	-3212			2297	864	SLV 3	0.27	No
fin.	2	0	-146201	-3717			2297	864	SLV 3	0.23	No
ini.	2	0	131226	-3212			2297	864	SLV 4	0.27	No
fin.	2	0	-146201	-3717			2297	864	SLV 4	0.23	No
ini.	2	0	-194908	4929			2297	864	SLV 9	0.18	No
fin.	2	0	178747	4322			2297	864	SLV 9	0.2	No
ini.	2	0	199045	-4846			2297	864	SLV 7	0.18	No
fin.	2	0	-208107	-5329			2297	864	SLV 7	0.16	No
ini.	2	0	-194908	4929			2297	864	SLV 10	0.18	No
fin.	2	0	178747	4322			2297	864	SLV 10	0.2	No
ini.	2	0	-148711	3750			2297	864	SLV 6	0.23	No
fin.	2	0	130290	3158			2297	864	SLV 6	0.27	No
ini.	2	0	199045	-4846			2297	864	SLV 8	0.18	No
fin.	2	0	-208107	-5329			2297	864	SLV 8	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.022	SLV 7	Si
V_SLV	0.162	SLV 7	No
PF_SLU	3.349	SLU 41	Si
V_SLU	0.372	SLU 39	No

Trave di accoppiamento 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	898	988	90	-2271.3	595.1	898	988	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	f _{vk0}	f _{mmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-267	10613	103792	SLU 40	9.78	Si
fin.	3	74	3265	103792	SLU 40	31.79	Si
ini.	3	-346	12080	103792	SLU 60	8.59	Si
fin.	3	5	4492	103792	SLU 60	23.11	Si
ini.	3	-290	10155	103792	SLU 18	10.22	Si
fin.	3	24	3574	103792	SLU 18	29.04	Si
ini.	3	-288	11609	103792	SLU 73	8.94	Si
fin.	3	48	3897	103792	SLU 73	26.63	Si
ini.	3	-259	10503	103792	SLU 39	9.88	Si
fin.	3	72	3341	103792	SLU 39	31.07	Si
ini.	3	-315	12427	103792	SLU 81	8.35	Si
fin.	3	54	4258	103792	SLU 81	24.37	Si
ini.	3	-355	12191	103792	SLU 61	8.51	Si
fin.	3	7	4416	103792	SLU 61	23.5	Si
ini.	3	-324	12538	103792	SLU 82	8.28	Si
fin.	3	56	4183	103792	SLU 82	24.81	Si
ini.	3	-319	11262	103792	SLU 52	9.22	Si
fin.	3	-1	4131	103792	SLU 52	25.13	Si
ini.	3	-298	10266	103792	SLU 19	10.11	Si
fin.	3	25	3499	103792	SLU 19	29.67	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	1918	-641			970	365	SLU 48	0.57	No
fin.	3	0	1216	1107			970	365	SLU 48	0.33	No
ini.	3	0	2266	-666			970	365	SLU 69	0.55	No
fin.	3	0	983	1117			970	365	SLU 69	0.33	No
ini.	3	0	2377	-657			970	365	SLU 70	0.56	No
fin.	3	0	907	1084			970	365	SLU 70	0.34	No
ini.	3	0	2029	-632			970	365	SLU 49	0.58	No
fin.	3	0	1140	1074			970	365	SLU 49	0.34	No
ini.	3	0	4605	-757			970	365	SLU 77	0.48	No
fin.	3	0	1530	1061			970	365	SLU 77	0.34	No
ini.	3	0	1201	-593			970	365	SLU 71	0.62	No
fin.	3	0	790	1105			970	365	SLU 71	0.33	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt _{lim}	Comb.	c.s.	Verifica
ini.	3	0	854	-568			970	365	SLU 50	0.64	No
fin.	3	0	1023	1095			970	365	SLU 50	0.33	No
ini.	3	0	1312	-585			970	365	SLU 72	0.62	No
fin.	3	0	714	1072			970	365	SLU 72	0.34	No
ini.	3	0	965	-560			970	365	SLU 51	0.65	No
fin.	3	0	948	1062			970	365	SLU 51	0.34	No
ini.	3	0	4258	-732			970	365	SLU 56	0.5	No
fin.	3	0	1764	1051			970	365	SLU 56	0.35	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1303	73311	121694	SLV 2	1.66	Si
fin.	2	2794	-59690	121694	SLV 2	2.04	Si
ini.	2	-811	42840	121694	SLV 8	2.84	Si
fin.	2	2633	-28961	121694	SLV 8	4.2	Si
ini.	2	1126	-66704	121694	SLV 14	1.82	Si
fin.	2	-3749	72647	121694	SLV 14	1.68	Si
ini.	2	961	-58150	121694	SLV 16	2.09	Si
fin.	2	-2767	65452	121694	SLV 16	1.86	Si
ini.	2	961	-58150	121694	SLV 15	2.09	Si
fin.	2	-2767	65452	121694	SLV 15	1.86	Si
ini.	2	-1303	73311	121694	SLV 1	1.66	Si
fin.	2	2794	-59690	121694	SLV 1	2.04	Si
ini.	2	-811	42840	121694	SLV 7	2.84	Si
fin.	2	2633	-28961	121694	SLV 7	4.2	Si
ini.	2	-1468	81865	121694	SLV 4	1.49	Si
fin.	2	3777	-66885	121694	SLV 4	1.82	Si
ini.	2	1126	-66704	121694	SLV 13	1.82	Si
fin.	2	-3749	72647	121694	SLV 13	1.68	Si
ini.	2	-1468	81865	121694	SLV 3	1.49	Si
fin.	2	3777	-66885	121694	SLV 3	1.82	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt _{lim}	Comb.	c.s.	Verifica
ini.	2	0	-66704	3294			1456	548	SLV 13	0.17	No
fin.	2	0	72647	4332			1456	548	SLV 13	0.13	No
ini.	2	0	81865	-4748			1456	548	SLV 3	0.12	No
fin.	2	0	-66885	-2951			1456	548	SLV 3	0.19	No
ini.	2	0	73311	-4195			1456	548	SLV 2	0.13	No
fin.	2	0	-59690	-3094			1456	548	SLV 2	0.18	No
ini.	2	0	42840	-2771			1456	548	SLV 7	0.2	No
fin.	2	0	-28961	-184			1456	548	SLV 7	2.97	Si
ini.	2	0	42840	-2771			1456	548	SLV 8	0.2	No
fin.	2	0	-28961	-184			1456	548	SLV 8	2.97	Si
ini.	2	0	-58150	2742			1456	548	SLV 16	0.2	No
fin.	2	0	65452	4475			1456	548	SLV 16	0.12	No
ini.	2	0	73311	-4195			1456	548	SLV 1	0.13	No
fin.	2	0	-59690	-3094			1456	548	SLV 1	0.18	No
ini.	2	0	-66704	3294			1456	548	SLV 14	0.17	No
fin.	2	0	72647	4332			1456	548	SLV 14	0.13	No
ini.	2	0	81865	-4748			1456	548	SLV 4	0.12	No
fin.	2	0	-66885	-2951			1456	548	SLV 4	0.19	No
ini.	2	0	-58150	2742			1456	548	SLV 15	0.2	No
fin.	2	0	65452	4475			1456	548	SLV 15	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.487	SLV 3	Si
V_SLV	0.115	SLV 3	No
PF_SLU	8.278	SLU 82	Si
V_SLU	0.327	SLU 69	No

Trave di accoppiamento 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	1168	1250	82	-2271.3	595.1	1168	1250	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	497	3297	89792	SLU 83	27.24	Si
fin.	3	-102	-11094	89792	SLU 83	8.09	Si
ini.	3	491	3067	89792	SLU 74	29.27	Si
fin.	3	-71	-10773	89792	SLU 74	8.33	Si
ini.	3	525	3422	89792	SLU 76	26.24	Si
fin.	3	-70	-10496	89792	SLU 76	8.56	Si
ini.	3	191	1987	89792	SLU 81	45.19	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-295	-11801	89792	SLU 81	7.61	Si
ini.	3	102	1340	89792	SLU 61	67.03	Si
fin.	3	-293	-10491	89792	SLU 61	8.56	Si
ini.	3	496	3375	89792	SLU 84	26.6	Si
fin.	3	-114	-11228	89792	SLU 84	8	Si
ini.	3	219	2112	89792	SLU 73	42.52	Si
fin.	3	-264	-11203	89792	SLU 73	8.01	Si
ini.	3	190	2065	89792	SLU 82	43.48	Si
fin.	3	-307	-11935	89792	SLU 82	7.52	Si
ini.	3	167	1970	89792	SLU 40	45.57	Si
fin.	3	-286	-10557	89792	SLU 40	8.51	Si
ini.	3	490	3146	89792	SLU 75	28.54	Si
fin.	3	-83	-10907	89792	SLU 75	8.23	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	3422	946			806	303	SLU 76	0.32	No
fin.	3	0	-10496	-1526			806	303	SLU 76	0.2	No
ini.	3	0	2065	1241			806	303	SLU 82	0.24	No
fin.	3	0	-11935	-1661			806	303	SLU 82	0.18	No
ini.	3	0	3375	1034			806	303	SLU 84	0.29	No
fin.	3	0	-11228	-1619			806	303	SLU 84	0.19	No
ini.	3	0	4456	829			806	303	SLU 78	0.37	No
fin.	3	0	-10200	-1537			806	303	SLU 78	0.2	No
ini.	3	0	3297	1040			806	303	SLU 83	0.29	No
fin.	3	0	-11094	-1613			806	303	SLU 83	0.19	No
ini.	3	0	1987	1247			806	303	SLU 81	0.24	No
fin.	3	0	-11801	-1654			806	303	SLU 81	0.18	No
ini.	3	0	3146	1036			806	303	SLU 75	0.29	No
fin.	3	0	-10907	-1579			806	303	SLU 75	0.19	No
ini.	3	0	2112	1153			806	303	SLU 73	0.26	No
fin.	3	0	-11203	-1567			806	303	SLU 73	0.19	No
ini.	3	0	4377	835			806	303	SLU 77	0.36	No
fin.	3	0	-10066	-1531			806	303	SLU 77	0.2	No
ini.	3	0	3067	1043			806	303	SLU 74	0.29	No
fin.	3	0	-10773	-1573			806	303	SLU 74	0.19	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1691	38811	107694	SLV 8	2.77	Si
fin.	2	-1178	-43784	107694	SLV 8	2.46	Si
ini.	2	-2255	-60645	107694	SLV 13	1.78	Si
fin.	2	1619	55042	107694	SLV 13	1.96	Si
ini.	2	2109	50928	107694	SLV 2	2.11	Si
fin.	2	-1522	-57642	107694	SLV 2	1.87	Si
ini.	2	1691	38811	107694	SLV 7	2.77	Si
fin.	2	-1178	-43784	107694	SLV 7	2.46	Si
ini.	2	-1743	-48214	107694	SLV 15	2.23	Si
fin.	2	1270	43235	107694	SLV 15	2.49	Si
ini.	2	-1743	-48214	107694	SLV 16	2.23	Si
fin.	2	1270	43235	107694	SLV 16	2.49	Si
ini.	2	-2255	-60645	107694	SLV 14	1.78	Si
fin.	2	1619	55042	107694	SLV 14	1.96	Si
ini.	2	2109	50928	107694	SLV 1	2.11	Si
fin.	2	-1522	-57642	107694	SLV 1	1.87	Si
ini.	2	2621	63359	107694	SLV 3	1.7	Si
fin.	2	-1871	-69449	107694	SLV 3	1.55	Si
ini.	2	2621	63359	107694	SLV 4	1.7	Si
fin.	2	-1871	-69449	107694	SLV 4	1.55	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	50928	-2138			1208	455	SLV 2	0.21	No
fin.	2	0	-57642	-3653			1208	455	SLV 2	0.12	No
ini.	2	0	-60645	4390			1208	455	SLV 13	0.1	No
fin.	2	0	55042	2242			1208	455	SLV 13	0.2	No
ini.	2	0	50928	-2138			1208	455	SLV 1	0.21	No
fin.	2	0	-57642	-3653			1208	455	SLV 1	0.12	No
ini.	2	0	63359	-2821			1208	455	SLV 4	0.16	No
fin.	2	0	-69449	-4334			1208	455	SLV 4	0.1	No
ini.	2	0	-60645	4390			1208	455	SLV 14	0.1	No
fin.	2	0	55042	2242			1208	455	SLV 14	0.2	No
ini.	2	0	38811	-1332			1208	455	SLV 7	0.34	No
fin.	2	0	-43784	-3067			1208	455	SLV 7	0.15	No
ini.	2	0	-48214	3707			1208	455	SLV 16	0.12	No
fin.	2	0	43235	1560			1208	455	SLV 16	0.29	No
ini.	2	0	38811	-1332			1208	455	SLV 8	0.34	No
fin.	2	0	-43784	-3067			1208	455	SLV 8	0.15	No
ini.	2	0	63359	-2821			1208	455	SLV 3	0.16	No
fin.	2	0	-69449	-4334			1208	455	SLV 3	0.1	No
ini.	2	0	-48214	3707			1208	455	SLV 15	0.12	No
fin.	2	0	43235	1560			1208	455	SLV 15	0.29	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.551	SLV 3	Si
V_SLV	0.104	SLV 13	No



Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	7.524	SLU 82	Si
V SLU	0.183	SLU 82	No

Trave di accoppiamento 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	898	988	90	-2249.3	-335.9	898	988	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1473	61232	103792	SLU 78	1.7	Si
fin.	3	494	-22416	103792	SLU 78	4.63	Si
ini.	3	-1540	62274	103792	SLU 76	1.67	Si
fin.	3	476	-23386	103792	SLU 76	4.44	Si
ini.	3	-1422	56190	103792	SLU 68	1.85	Si
fin.	3	387	-20659	103792	SLU 68	5.02	Si
ini.	3	-1459	60271	103792	SLU 82	1.72	Si
fin.	3	495	-22134	103792	SLU 82	4.69	Si
ini.	3	-1493	61622	103792	SLU 84	1.68	Si
fin.	3	498	-22611	103792	SLU 84	4.59	Si
ini.	3	-1347	56733	103792	SLU 83	1.83	Si
fin.	3	474	-19697	103792	SLU 83	5.27	Si
ini.	3	-1506	60922	103792	SLU 73	1.7	Si
fin.	3	473	-22908	103792	SLU 73	4.53	Si
ini.	3	-1439	59881	103792	SLU 75	1.73	Si
fin.	3	491	-21938	103792	SLU 75	4.73	Si
ini.	3	-1477	60366	103792	SLU 80	1.72	Si
fin.	3	462	-21921	103792	SLU 80	4.73	Si
ini.	3	-1327	56344	103792	SLU 77	1.84	Si
fin.	3	470	-19501	103792	SLU 77	5.32	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	61232	-2396			970	365	SLU 78	0.15	No
fin.	3	0	-22416	-848			970	365	SLU 78	0.43	No
ini.	3	0	56344	-2235			970	365	SLU 77	0.16	No
fin.	3	0	-19501	-668			970	365	SLU 77	0.55	No
ini.	3	0	60271	-2318			970	365	SLU 82	0.16	No
fin.	3	0	-22134	-929			970	365	SLU 82	0.39	No
ini.	3	0	55477	-2190			970	365	SLU 79	0.17	No
fin.	3	0	-19006	-664			970	365	SLU 79	0.55	No
ini.	3	0	60366	-2352			970	365	SLU 80	0.16	No
fin.	3	0	-21921	-843			970	365	SLU 80	0.43	No
ini.	3	0	60922	-2336			970	365	SLU 73	0.16	No
fin.	3	0	-22908	-969			970	365	SLU 73	0.38	No
ini.	3	0	62274	-2398			970	365	SLU 76	0.15	No
fin.	3	0	-23386	-966			970	365	SLU 76	0.38	No
ini.	3	0	56733	-2218			970	365	SLU 83	0.16	No
fin.	3	0	-19697	-746			970	365	SLU 83	0.49	No
ini.	3	0	61622	-2379			970	365	SLU 84	0.15	No
fin.	3	0	-22611	-926			970	365	SLU 84	0.39	No
ini.	3	0	59881	-2335			970	365	SLU 75	0.16	No
fin.	3	0	-21938	-851			970	365	SLU 75	0.43	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1672	87491	121694	SLD 2	1.39	Si
fin.	2	1282	-41224	121694	SLD 2	2.95	Si
ini.	2	-1786	102196	121694	SLV 5	1.19	Si
fin.	2	1590	-44661	121694	SLV 5	2.72	Si
ini.	2	-1672	87491	121694	SLD 1	1.39	Si
fin.	2	1282	-41224	121694	SLD 1	2.95	Si
ini.	2	-2509	137253	121694	SLV 4	0.89	No
fin.	2	2248	-72797	121694	SLV 4	1.67	Si
ini.	2	-2737	156967	121694	SLV 2	0.78	No
fin.	2	2650	-80815	121694	SLV 2	1.51	Si
ini.	2	-1786	102196	121694	SLV 6	1.19	Si
fin.	2	1590	-44661	121694	SLV 6	2.72	Si
ini.	2	-2509	137253	121694	SLV 3	0.89	No
fin.	2	2248	-72797	121694	SLV 3	1.67	Si
ini.	2	969	-84949	121694	SLV 16	1.43	Si
fin.	2	-2118	57228	121694	SLV 16	2.13	Si
ini.	2	969	-84949	121694	SLV 15	1.43	Si
fin.	2	-2118	57228	121694	SLV 15	2.13	Si
ini.	2	-2737	156967	121694	SLV 1	0.78	No
fin.	2	2650	-80815	121694	SLV 1	1.51	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-65235	2404			1456	548	SLV 14	0.23	No
fin.	2	0	49210	3367			1456	548	SLV 14	0.16	No
ini.	2	0	102196	-3469			1456	548	SLV 5	0.16	No
fin.	2	0	-44661	-1411			1456	548	SLV 5	0.39	No
ini.	2	0	-84949	2892			1456	548	SLV 15	0.19	No
fin.	2	0	57228	3314			1456	548	SLV 15	0.17	No
ini.	2	0	156967	-5755			1456	548	SLV 1	0.1	No
fin.	2	0	-80815	-4078			1456	548	SLV 1	0.13	No
ini.	2	0	137253	-5267			1456	548	SLV 4	0.1	No
fin.	2	0	-72797	-4131			1456	548	SLV 4	0.13	No
ini.	2	0	-84949	2892			1456	548	SLV 16	0.19	No
fin.	2	0	57228	3314			1456	548	SLV 16	0.17	No
ini.	2	0	-65235	2404			1456	548	SLV 13	0.23	No
fin.	2	0	49210	3367			1456	548	SLV 13	0.16	No
ini.	2	0	102196	-3469			1456	548	SLV 6	0.16	No
fin.	2	0	-44661	-1411			1456	548	SLV 6	0.39	No
ini.	2	0	137253	-5267			1456	548	SLV 3	0.1	No
fin.	2	0	-72797	-4131			1456	548	SLV 3	0.13	No
ini.	2	0	156967	-5755			1456	548	SLV 2	0.1	No
fin.	2	0	-80815	-4078			1456	548	SLV 2	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.775	SLV 1	No
V_SLV		0.095	SLV 1	No
PF_SLU		1.667	SLU 76	Si
V_SLU		0.152	SLU 76	No

Trave di accoppiamento 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	1168	1250	82	-2249.3	-335.9	1168	1250	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmed	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-108	33800	89792	SLU 83	2.66	Si
fin.	3	-1662	-37029	89792	SLU 83	2.42	Si
ini.	3	-58	36235	89792	SLU 75	2.48	Si
fin.	3	-1675	-38310	89792	SLU 75	2.34	Si
ini.	3	16	38340	89792	SLU 80	2.34	Si
fin.	3	-1712	-38930	89792	SLU 80	2.31	Si
ini.	3	-173	34766	89792	SLU 82	2.58	Si
fin.	3	-1731	-38248	89792	SLU 82	2.35	Si
ini.	3	-135	35595	89792	SLU 73	2.52	Si
fin.	3	-1703	-38083	89792	SLU 73	2.36	Si
ini.	3	6	35270	89792	SLU 77	2.55	Si
fin.	3	-1607	-37090	89792	SLU 77	2.42	Si
ini.	3	-92	37307	89792	SLU 84	2.41	Si
fin.	3	-1771	-39493	89792	SLU 84	2.27	Si
ini.	3	23	38777	89792	SLU 78	2.32	Si
fin.	3	-1716	-39555	89792	SLU 78	2.27	Si
ini.	3	-54	38136	89792	SLU 76	2.35	Si
fin.	3	-1744	-39328	89792	SLU 76	2.28	Si
ini.	3	0	34833	89792	SLU 79	2.58	Si
fin.	3	-1603	-36466	89792	SLU 79	2.46	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	34766	-540			806	303	SLU 82	0.56	No
fin.	3	0	-38248	-2935			806	303	SLU 82	0.1	No
ini.	3	0	38136	-713			806	303	SLU 76	0.43	No
fin.	3	0	-39328	-2934			806	303	SLU 76	0.1	No
ini.	3	0	36235	-613			806	303	SLU 75	0.49	No
fin.	3	0	-38310	-2925			806	303	SLU 75	0.1	No
ini.	3	0	38340	-733			806	303	SLU 80	0.41	No
fin.	3	0	-38930	-2930			806	303	SLU 80	0.1	No
ini.	3	0	37307	-648			806	303	SLU 84	0.47	No
fin.	3	0	-39493	-3005			806	303	SLU 84	0.1	No
ini.	3	0	31258	-407			806	303	SLU 81	0.75	No
fin.	3	0	-35784	-2824			806	303	SLU 81	0.11	No
ini.	3	0	38777	-722			806	303	SLU 78	0.42	No
fin.	3	0	-39555	-2994			806	303	SLU 78	0.1	No
ini.	3	0	35270	-589			806	303	SLU 77	0.51	No
fin.	3	0	-37090	-2883			806	303	SLU 77	0.11	No
ini.	3	0	33800	-516			806	303	SLU 83	0.59	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-37029	-2893			806	303	SLU 83	0.1	No
ini.	3	0	35595	-604			806	303	SLU 73	0.5	No
fin.	3	0	-38083	-2865			806	303	SLU 73	0.11	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	873	77197	107694	SLV 6	1.4	Si
fin.	2	-2251	-59767	107694	SLV 6	1.8	Si
ini.	2	352	56107	107694	SLD 1	1.92	Si
fin.	2	-1754	-47868	107694	SLD 1	2.25	Si
ini.	2	520	83912	107694	SLV 4	1.28	Si
fin.	2	-2306	-68748	107694	SLV 4	1.57	Si
ini.	2	873	77197	107694	SLV 5	1.4	Si
fin.	2	-2251	-59767	107694	SLV 5	1.8	Si
ini.	2	352	56107	107694	SLD 2	1.92	Si
fin.	2	-1754	-47868	107694	SLD 2	2.25	Si
ini.	2	950	104857	107694	SLV 2	1.03	Si
fin.	2	-2778	-81446	107694	SLV 2	1.32	Si
ini.	2	520	83912	107694	SLV 3	1.28	Si
fin.	2	-2306	-68748	107694	SLV 3	1.57	Si
ini.	2	950	104857	107694	SLV 1	1.03	Si
fin.	2	-2778	-81446	107694	SLV 1	1.32	Si
ini.	2	-1137	-64938	107694	SLV 16	1.66	Si
fin.	2	774	35518	107694	SLV 16	3.03	Si
ini.	2	-1137	-64938	107694	SLV 15	1.66	Si
fin.	2	774	35518	107694	SLV 15	3.03	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	104857	-3030			1208	455	SLV 2	0.15	No
fin.	2	0	-81446	-4652			1208	455	SLV 2	0.1	No
ini.	2	0	47349	-1149			1208	455	SLD 4	0.4	No
fin.	2	0	-42636	-2738			1208	455	SLD 4	0.17	No
ini.	2	0	56107	-1428			1208	455	SLD 2	0.32	No
fin.	2	0	-47868	-3023			1208	455	SLD 2	0.15	No
ini.	2	0	104857	-3030			1208	455	SLV 1	0.15	No
fin.	2	0	-81446	-4652			1208	455	SLV 1	0.1	No
ini.	2	0	77197	-2088			1208	455	SLV 5	0.22	No
fin.	2	0	-59767	-3708			1208	455	SLV 5	0.12	No
ini.	2	0	77197	-2088			1208	455	SLV 6	0.22	No
fin.	2	0	-59767	-3708			1208	455	SLV 6	0.12	No
ini.	2	0	83912	-2363			1208	455	SLV 3	0.19	No
fin.	2	0	-68748	-3966			1208	455	SLV 3	0.11	No
ini.	2	0	56107	-1428			1208	455	SLD 1	0.32	No
fin.	2	0	-47868	-3023			1208	455	SLD 1	0.15	No
ini.	2	0	83912	-2363			1208	455	SLV 4	0.19	No
fin.	2	0	-68748	-3966			1208	455	SLV 4	0.11	No
ini.	2	0	47349	-1149			1208	455	SLD 3	0.4	No
fin.	2	0	-42636	-2738			1208	455	SLD 3	0.17	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 1	Si
V_SLV	0.098	SLV 1	No
PF_SLU	2.27	SLU 78	Si
V_SLU	0.101	SLU 84	No

Trave di accoppiamento 114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	898	1098	200	-1936.8	-335.9	898	1098	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9		0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1226	20588	296292	SLU 74	14.39	Si
fin.	3	-1226	46065	296292	SLU 74	6.43	Si
ini.	3	-1130	11986	296292	SLU 39	24.72	Si
fin.	3	-1142	42806	296292	SLU 39	6.92	Si
ini.	3	-1388	12216	296292	SLU 81	24.25	Si
fin.	3	-1392	48999	296292	SLU 81	6.05	Si
ini.	3	-1375	15376	296292	SLU 84	19.27	Si
fin.	3	-1380	43882	296292	SLU 84	6.75	Si
ini.	3	-1533	5815	296292	SLU 82	50.95	Si
fin.	3	-1530	45111	296292	SLU 82	6.57	Si
ini.	3	-1067	30150	296292	SLU 77	9.83	Si
fin.	3	-1076	44836	296292	SLU 77	6.61	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1023	31189	296292	SLU 79	9.5	Si
fin.	3	-1036	43298	296292	SLU 79	6.84	Si
ini.	3	-1176	16774	296292	SLU 62	17.66	Si
fin.	3	-1185	42475	296292	SLU 62	6.98	Si
ini.	3	-1334	7213	296292	SLU 60	41.08	Si
fin.	3	-1335	43704	296292	SLU 60	6.78	Si
ini.	3	-1229	21777	296292	SLU 83	13.61	Si
fin.	3	-1242	47770	296292	SLU 83	6.2	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	21777	480			2157	812	SLU 83	1.69	Si
fin.	3	0	47770	1339			2157	812	SLU 83	0.61	No
ini.	3	0	5815	748			2157	812	SLU 82	1.09	Si
fin.	3	0	45111	1483			2157	812	SLU 82	0.55	No
ini.	3	0	-3605	719			2157	812	SLU 52	1.13	Si
fin.	3	0	33979	1302			2157	812	SLU 52	0.62	No
ini.	3	0	12216	685			2157	812	SLU 81	1.18	Si
fin.	3	0	48999	1520			2157	812	SLU 81	0.53	No
ini.	3	0	7213	687			2157	812	SLU 60	1.18	Si
fin.	3	0	43704	1461			2157	812	SLU 60	0.56	No
ini.	3	0	1398	717			2157	812	SLU 73	1.13	Si
fin.	3	0	39275	1361			2157	812	SLU 73	0.6	No
ini.	3	0	16774	482			2157	812	SLU 62	1.68	Si
fin.	3	0	42475	1280			2157	812	SLU 62	0.63	No
ini.	3	0	20588	440			2157	812	SLU 74	1.84	Si
fin.	3	0	46065	1314			2157	812	SLU 74	0.62	No
ini.	3	0	15376	542			2157	812	SLU 84	1.5	Si
fin.	3	0	43882	1302			2157	812	SLU 84	0.62	No
ini.	3	0	812	749			2157	812	SLU 61	1.08	Si
fin.	3	0	39815	1424			2157	812	SLU 61	0.57	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2206	-139175	314194	SLV 15	2.26	Si
fin.	2	-2588	137057	314194	SLV 15	2.29	Si
ini.	2	-2206	-139175	314194	SLV 16	2.26	Si
fin.	2	-2588	137057	314194	SLV 16	2.29	Si
ini.	2	414	153397	314194	SLV 3	2.05	Si
fin.	2	288	-63136	314194	SLV 3	4.98	Si
ini.	2	274	155202	314194	SLV 1	2.02	Si
fin.	2	685	-76310	314194	SLV 1	4.12	Si
ini.	2	274	155202	314194	SLV 2	2.02	Si
fin.	2	685	-76310	314194	SLV 2	4.12	Si
ini.	2	-2346	-137370	314194	SLV 13	2.29	Si
fin.	2	-2192	123882	314194	SLV 13	2.54	Si
ini.	2	-1126	-38880	314194	SLV 11	8.08	Si
fin.	2	-2044	82360	314194	SLV 11	3.81	Si
ini.	2	-2346	-137370	314194	SLV 14	2.29	Si
fin.	2	-2192	123882	314194	SLV 14	2.54	Si
ini.	2	-1126	-38880	314194	SLV 12	8.08	Si
fin.	2	-2044	82360	314194	SLV 12	3.81	Si
ini.	2	414	153397	314194	SLV 4	2.05	Si
fin.	2	288	-63136	314194	SLV 4	4.98	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-38880	4931			3235	1217	SLV 11	0.25	No
fin.	2	0	82360	5354			3235	1217	SLV 11	0.23	No
ini.	2	0	-137370	5688			3235	1217	SLV 13	0.21	No
fin.	2	0	123882	5365			3235	1217	SLV 13	0.23	No
ini.	2	0	-139175	7312			3235	1217	SLV 15	0.17	No
fin.	2	0	137057	7053			3235	1217	SLV 15	0.17	No
ini.	2	0	155202	-6532			3235	1217	SLV 2	0.19	No
fin.	2	0	-76310	-5111			3235	1217	SLV 2	0.24	No
ini.	2	0	-139175	7312			3235	1217	SLV 16	0.17	No
fin.	2	0	137057	7053			3235	1217	SLV 16	0.17	No
ini.	2	0	153397	-4907			3235	1217	SLV 4	0.25	No
fin.	2	0	-63136	-3424			3235	1217	SLV 4	0.36	No
ini.	2	0	-137370	5688			3235	1217	SLV 14	0.21	No
fin.	2	0	123882	5365			3235	1217	SLV 14	0.23	No
ini.	2	0	155202	-6532			3235	1217	SLV 1	0.19	No
fin.	2	0	-76310	-5111			3235	1217	SLV 1	0.24	No
ini.	2	0	-38880	4931			3235	1217	SLV 12	0.25	No
fin.	2	0	82360	5354			3235	1217	SLV 12	0.23	No
ini.	2	0	153397	-4907			3235	1217	SLV 3	0.25	No
fin.	2	0	-63136	-3424			3235	1217	SLV 3	0.36	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.024	SLV 1	Si
V_SLV	0.166	SLV 15	No
PF_SLU	6.047	SLU 81	Si
V_SLU	0.534	SLU 81	No



Trave di accoppiamento 115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	1178	1250	72	-1936.8	-335.9	1178	1250	72	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-460	-7194	72292	SLU 37	10.05	Si
fin.	3	-408	-6800	72292	SLU 37	10.63	Si
ini.	3	-389	-6089	72292	SLU 71	11.87	Si
fin.	3	-359	-7066	72292	SLU 71	10.23	Si
ini.	3	-449	-7484	72292	SLU 77	9.66	Si
fin.	3	-396	-6536	72292	SLU 77	11.06	Si
ini.	3	-381	-5838	72292	SLU 29	12.38	Si
fin.	3	-348	-6974	72292	SLU 29	10.37	Si
ini.	3	-354	-6588	72292	SLU 56	10.97	Si
fin.	3	-309	-5588	72292	SLU 56	12.94	Si
ini.	3	-440	-7232	72292	SLU 35	10	Si
fin.	3	-385	-6445	72292	SLU 35	11.22	Si
ini.	3	-374	-6550	72292	SLU 58	11.04	Si
fin.	3	-332	-5943	72292	SLU 58	12.16	Si
ini.	3	-360	-5876	72292	SLU 27	12.3	Si
fin.	3	-325	-6619	72292	SLU 27	10.92	Si
ini.	3	-369	-6127	72292	SLU 69	11.8	Si
fin.	3	-337	-6710	72292	SLU 69	10.77	Si
ini.	3	-469	-7446	72292	SLU 79	9.71	Si
fin.	3	-419	-6892	72292	SLU 79	10.49	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-4947	531			776	292	SLU 81	0.55	No
fin.	3	0	-2179	-853			776	292	SLU 81	0.34	No
ini.	3	0	-5943	514			776	292	SLU 74	0.57	No
fin.	3	0	-4217	-868			776	292	SLU 74	0.34	No
ini.	3	0	-3336	489			776	292	SLU 82	0.6	No
fin.	3	0	-1309	-831			776	292	SLU 82	0.35	No
ini.	3	0	-6487	526			776	292	SLU 83	0.56	No
fin.	3	0	-4498	-863			776	292	SLU 83	0.34	No
ini.	3	0	-7446	484			776	292	SLU 79	0.6	No
fin.	3	0	-6892	-850			776	292	SLU 79	0.34	No
ini.	3	0	-4333	473			776	292	SLU 75	0.62	No
fin.	3	0	-3347	-847			776	292	SLU 75	0.35	No
ini.	3	0	-5873	467			776	292	SLU 78	0.63	No
fin.	3	0	-5666	-857			776	292	SLU 78	0.34	No
ini.	3	0	-7484	509			776	292	SLU 77	0.57	No
fin.	3	0	-6536	-878			776	292	SLU 77	0.33	No
ini.	3	0	-5835	442			776	292	SLU 80	0.66	No
fin.	3	0	-6022	-828			776	292	SLU 80	0.35	No
ini.	3	0	-4876	484			776	292	SLU 84	0.6	No
fin.	3	0	-3628	-842			776	292	SLU 84	0.35	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2049	81	90194	SLV 13	1114.99	Si
fin.	2	2129	41627	90194	SLV 13	2.17	Si
ini.	2	-2424	-5092	90194	SLV 3	17.71	Si
fin.	2	-2489	-44845	90194	SLV 3	2.01	Si
ini.	2	1542	-15221	90194	SLV 16	5.93	Si
fin.	2	1981	45199	90194	SLV 16	2	Si
ini.	2	-1917	10210	90194	SLV 1	8.83	Si
fin.	2	-2341	-48418	90194	SLV 1	1.86	Si
ini.	2	-2424	-5092	90194	SLV 4	17.71	Si
fin.	2	-2489	-44845	90194	SLV 4	2.01	Si
ini.	2	1542	-15221	90194	SLV 15	5.93	Si
fin.	2	1981	45199	90194	SLV 15	2	Si
ini.	2	2049	81	90194	SLV 14	1114.99	Si
fin.	2	2129	41627	90194	SLV 14	2.17	Si
ini.	2	-438	-29527	90194	SLV 12	3.05	Si
fin.	2	244	17852	90194	SLV 12	5.05	Si
ini.	2	-438	-29527	90194	SLV 11	3.05	Si
fin.	2	244	17852	90194	SLV 11	5.05	Si
ini.	2	-1917	10210	90194	SLV 2	8.83	Si
fin.	2	-2341	-48418	90194	SLV 2	1.86	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	10210	-1230			1165	438	SLV 1	0.36	No
fin.	2	0	-48418	-2491			1165	438	SLV 1	0.18	No
ini.	2	0	-15221	1891			1165	438	SLV 16	0.23	No

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Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	45199	1307			1165	438	SLV 16	0.34	No
ini.	2	0	-5092	-550			1165	438	SLV 3	0.8	No
fin.	2	0	-44845	-1767			1165	438	SLV 3	0.25	No
ini.	2	0	-5092	-550			1165	438	SLV 4	0.8	No
fin.	2	0	-44845	-1767			1165	438	SLV 4	0.25	No
ini.	2	0	-29527	1830			1165	438	SLV 11	0.24	No
fin.	2	0	17852	1076			1165	438	SLV 11	0.41	No
ini.	2	0	-29527	1830			1165	438	SLV 12	0.24	No
fin.	2	0	17852	1076			1165	438	SLV 12	0.41	No
ini.	2	0	24517	-1169			1165	438	SLV 6	0.37	No
fin.	2	0	-21071	-2260			1165	438	SLV 6	0.19	No
ini.	2	0	-15221	1891			1165	438	SLV 15	0.23	No
fin.	2	0	45199	1307			1165	438	SLV 15	0.34	No
ini.	2	0	10210	-1230			1165	438	SLV 2	0.36	No
fin.	2	0	-48418	-2491			1165	438	SLV 2	0.18	No
ini.	2	0	24517	-1169			1165	438	SLV 5	0.37	No
fin.	2	0	-21071	-2260			1165	438	SLV 5	0.19	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		1.863	SLV 1
V_SLV		0.176	SLV 1
PF_SLU		9.66	SLU 77
V_SLU		0.333	SLU 77

Trave di accoppiamento 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	898	988	90	-1826.3	-335.9	898	988	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{tk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-380	-9398	103792	SLU 76	11.04	Si
fin.	3	-949	35624	103792	SLU 76	2.91	Si
ini.	3	-318	-15615	103792	SLU 65	6.65	Si
fin.	3	-1090	39667	103792	SLU 65	2.62	Si
ini.	3	-316	-10278	103792	SLU 60	10.1	Si
fin.	3	-886	35423	103792	SLU 60	2.93	Si
ini.	3	-341	-9757	103792	SLU 81	10.64	Si
fin.	3	-888	36457	103792	SLU 81	2.85	Si
ini.	3	-338	-16903	103792	SLU 73	6.14	Si
fin.	3	-1155	42540	103792	SLU 73	2.44	Si
ini.	3	-345	-14376	103792	SLU 82	7.22	Si
fin.	3	-1065	40846	103792	SLU 82	2.54	Si
ini.	3	-320	-14897	103792	SLU 61	6.97	Si
fin.	3	-1063	39811	103792	SLU 61	2.61	Si
ini.	3	-314	-17424	103792	SLU 52	5.96	Si
fin.	3	-1153	41505	103792	SLU 52	2.5	Si
ini.	3	-279	-14819	103792	SLU 31	7	Si
fin.	3	-972	35586	103792	SLU 31	2.92	Si
ini.	3	-293	-16136	103792	SLU 44	6.43	Si
fin.	3	-1089	38632	103792	SLU 44	2.69	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-17424	536			970	365	SLU 52	0.68	No
fin.	3	0	41505	1515			970	365	SLU 52	0.24	No
ini.	3	0	-9757	91			970	365	SLU 81	3.99	Si
fin.	3	0	36457	1384			970	365	SLU 81	0.26	No
ini.	3	0	-16903	515			970	365	SLU 73	0.71	No
fin.	3	0	42540	1525			970	365	SLU 73	0.24	No
ini.	3	0	-10278	113			970	365	SLU 60	3.23	Si
fin.	3	0	35423	1374			970	365	SLU 60	0.27	No
ini.	3	0	-8001	68			970	365	SLU 75	5.36	Si
fin.	3	0	34685	1287			970	365	SLU 75	0.28	No
ini.	3	0	-8522	90			970	365	SLU 54	4.07	Si
fin.	3	0	33650	1277			970	365	SLU 54	0.29	No
ini.	3	0	-15615	457			970	365	SLU 65	0.8	No
fin.	3	0	39667	1443			970	365	SLU 65	0.25	No
ini.	3	0	-14897	382			970	365	SLU 61	0.96	No
fin.	3	0	39811	1480			970	365	SLU 61	0.25	No
ini.	3	0	-14376	360			970	365	SLU 82	1.01	Si
fin.	3	0	40846	1489			970	365	SLU 82	0.25	No
ini.	3	0	-16136	479			970	365	SLU 44	0.76	No
fin.	3	0	38632	1433			970	365	SLU 44	0.25	No



Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1483	-130011	121694	SLV 16	0.94	No
fin.	2	-2211	108809	121694	SLV 16	1.12	Si
ini.	2	2217	-147687	121694	SLV 13	0.82	No
fin.	2	-2348	129543	121694	SLV 13	0.94	No
ini.	2	-2698	134543	121694	SLV 4	0.9	No
fin.	2	1089	-78582	121694	SLV 4	1.55	Si
ini.	2	1610	-75716	121694	SLV 9	1.61	Si
fin.	2	-1354	88146	121694	SLV 9	1.38	Si
ini.	2	1610	-75716	121694	SLV 10	1.61	Si
fin.	2	-1354	88146	121694	SLV 10	1.38	Si
ini.	2	1483	-130011	121694	SLV 15	0.94	No
fin.	2	-2211	108809	121694	SLV 15	1.12	Si
ini.	2	-2698	134543	121694	SLV 3	0.9	No
fin.	2	1089	-78582	121694	SLV 3	1.55	Si
ini.	2	-1964	116867	121694	SLV 1	1.04	Si
fin.	2	951	-57848	121694	SLV 1	2.1	Si
ini.	2	-1964	116867	121694	SLV 2	1.04	Si
fin.	2	951	-57848	121694	SLV 2	2.1	Si
ini.	2	2217	-147687	121694	SLV 14	0.82	No
fin.	2	-2348	129543	121694	SLV 14	0.94	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	134543	-5733			1456	548	SLV 3	0.1	No
fin.	2	0	-78582	-3541			1456	548	SLV 3	0.15	No
ini.	2	0	-75716	3917			1456	548	SLV 10	0.14	No
fin.	2	0	88146	4319			1456	548	SLV 10	0.13	No
ini.	2	0	134543	-5733			1456	548	SLV 4	0.1	No
fin.	2	0	-78582	-3541			1456	548	SLV 4	0.15	No
ini.	2	0	-130011	4365			1456	548	SLV 16	0.13	No
fin.	2	0	108809	4239			1456	548	SLV 16	0.13	No
ini.	2	0	-75716	3917			1456	548	SLV 9	0.14	No
fin.	2	0	88146	4319			1456	548	SLV 9	0.13	No
ini.	2	0	-130011	4365			1456	548	SLV 15	0.13	No
fin.	2	0	108809	4239			1456	548	SLV 15	0.13	No
ini.	2	0	-147687	5790			1456	548	SLV 14	0.09	No
fin.	2	0	129543	5533			1456	548	SLV 14	0.1	No
ini.	2	0	116867	-4309			1456	548	SLV 1	0.13	No
fin.	2	0	-57848	-2247			1456	548	SLV 1	0.24	No
ini.	2	0	116867	-4309			1456	548	SLV 2	0.13	No
fin.	2	0	-57848	-2247			1456	548	SLV 2	0.24	No
ini.	2	0	-147687	5790			1456	548	SLV 13	0.09	No
fin.	2	0	129543	5533			1456	548	SLV 13	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.824	SLV 13	No
V_SLV	0.095	SLV 13	No
PF_SLU	2.44	SLU 73	Si
V_SLU	0.24	SLU 73	No

Trave di accoppiamento 117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	1168	1250	82	-1826.3	-335.9	1168	1250	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	254	6204	89792	SLU 71	14.47	Si
fin.	3	-546	-17591	89792	SLU 71	5.1	Si
ini.	3	228	5407	89792	SLU 16	16.61	Si
fin.	3	-495	-15904	89792	SLU 16	5.65	Si
ini.	3	202	5059	89792	SLU 69	17.75	Si
fin.	3	-540	-16839	89792	SLU 69	5.33	Si
ini.	3	146	3607	89792	SLU 58	24.9	Si
fin.	3	-532	-15941	89792	SLU 58	5.63	Si
ini.	3	165	5016	89792	SLU 35	17.9	Si
fin.	3	-595	-17543	89792	SLU 35	5.12	Si
ini.	3	335	8005	89792	SLU 29	11.22	Si
fin.	3	-510	-17554	89792	SLU 29	5.12	Si
ini.	3	135	4360	89792	SLU 79	20.59	Si
fin.	3	-639	-18332	89792	SLU 79	4.9	Si
ini.	3	284	6859	89792	SLU 27	13.09	Si
fin.	3	-503	-16802	89792	SLU 27	5.34	Si
ini.	3	217	6161	89792	SLU 37	14.57	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-602	-18295	89792	SLU 37	4.91	Si
ini.	3	84	3215	89792	SLU 77	27.93	Si
fin.	3	-632	-17580	89792	SLU 77	5.11	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	6204	580			806	303	SLU 71	0.52	No
fin.	3	0	-17591	-1764			806	303	SLU 71	0.17	No
ini.	3	0	6161	504			806	303	SLU 37	0.6	No
fin.	3	0	-18295	-1744			806	303	SLU 37	0.17	No
ini.	3	0	3215	826			806	303	SLU 77	0.37	No
fin.	3	0	-17580	-1881			806	303	SLU 77	0.16	No
ini.	3	0	5059	660			806	303	SLU 69	0.46	No
fin.	3	0	-16839	-1752			806	303	SLU 69	0.17	No
ini.	3	0	3607	690			806	303	SLU 58	0.44	No
fin.	3	0	-15941	-1676			806	303	SLU 58	0.18	No
ini.	3	0	509	874			806	303	SLU 80	0.35	No
fin.	3	0	-14694	-1687			806	303	SLU 80	0.18	No
ini.	3	0	-637	954			806	303	SLU 78	0.32	No
fin.	3	0	-13942	-1675			806	303	SLU 78	0.18	No
ini.	3	0	2461	771			806	303	SLU 56	0.39	No
fin.	3	0	-15189	-1664			806	303	SLU 56	0.18	No
ini.	3	0	4360	745			806	303	SLU 79	0.41	No
fin.	3	0	-18332	-1893			806	303	SLU 79	0.16	No
ini.	3	0	5016	584			806	303	SLU 35	0.52	No
fin.	3	0	-17543	-1732			806	303	SLU 35	0.18	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	652	42492	107694	SLV 2	2.53	Si
fin.	2	-2187	-78275	107694	SLV 2	1.38	Si
ini.	2	-126	-38748	107694	SLV 14	2.78	Si
fin.	2	2633	79966	107694	SLV 14	1.35	Si
ini.	2	-516	27844	107694	SLV 4	3.87	Si
fin.	2	-3237	-87469	107694	SLV 4	1.23	Si
ini.	2	-1295	-53396	107694	SLV 15	2.02	Si
fin.	2	1584	70772	107694	SLV 15	1.52	Si
ini.	2	-126	-38748	107694	SLV 13	2.78	Si
fin.	2	2633	79966	107694	SLV 13	1.35	Si
ini.	2	-2152	-17679	107694	SLV 8	6.09	Si
fin.	2	-2774	-42812	107694	SLV 8	2.52	Si
ini.	2	652	42492	107694	SLV 1	2.53	Si
fin.	2	-2187	-78275	107694	SLV 1	1.38	Si
ini.	2	-2152	-17679	107694	SLV 7	6.09	Si
fin.	2	-2774	-42812	107694	SLV 7	2.52	Si
ini.	2	-516	27844	107694	SLV 3	3.87	Si
fin.	2	-3237	-87469	107694	SLV 3	1.23	Si
ini.	2	-1295	-53396	107694	SLV 16	2.02	Si
fin.	2	1584	70772	107694	SLV 16	1.52	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-38748	3362			1208	455	SLV 13	0.14	No
fin.	2	0	79966	2350			1208	455	SLV 13	0.19	No
ini.	2	0	42492	-1165			1208	455	SLV 2	0.39	No
fin.	2	0	-78275	-3368			1208	455	SLV 2	0.14	No
ini.	2	0	-53396	3025			1208	455	SLV 16	0.15	No
fin.	2	0	70772	1682			1208	455	SLV 16	0.27	No
ini.	2	0	27844	-1503			1208	455	SLV 3	0.3	No
fin.	2	0	-87469	-4035			1208	455	SLV 3	0.11	No
ini.	2	0	42492	-1165			1208	455	SLV 1	0.39	No
fin.	2	0	-78275	-3368			1208	455	SLV 1	0.14	No
ini.	2	0	-38748	3362			1208	455	SLV 14	0.14	No
fin.	2	0	79966	2350			1208	455	SLV 14	0.19	No
ini.	2	0	-53396	3025			1208	455	SLV 15	0.15	No
fin.	2	0	70772	1682			1208	455	SLV 15	0.27	No
ini.	2	0	-17679	-312			1208	455	SLV 8	1.46	Si
fin.	2	0	-42812	-2813			1208	455	SLV 8	0.16	No
ini.	2	0	27844	-1503			1208	455	SLV 4	0.3	No
fin.	2	0	-87469	-4035			1208	455	SLV 4	0.11	No
ini.	2	0	-17679	-312			1208	455	SLV 7	1.46	Si
fin.	2	0	-42812	-2813			1208	455	SLV 7	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.231	SLV 3	Si
V_SLV	0.113	SLV 3	No
PF_SLU	4.898	SLU 79	Si
V_SLU	0.16	SLU 79	No

Trave di accoppiamento 118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1705.3	-486.2	1224	1250	26	-1705.3	-377.2	1224	1250	26	109	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{mmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ _M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	4	-516	10289	SLU 31	19.96	Si
fin.	3	4	19139	10289	SLU 31	0.54	No
ini.	3	5	-310	10289	SLU 34	33.2	Si
fin.	3	5	17248	10289	SLU 34	0.6	No
ini.	3	2	-126	10289	SLU 82	81.46	Si
fin.	3	2	15603	10289	SLU 82	0.66	No
ini.	3	5	105	10289	SLU 55	97.94	Si
fin.	3	5	15686	10289	SLU 55	0.66	No
ini.	3	4	29	10289	SLU 65	360.27	Si
fin.	3	4	16253	10289	SLU 65	0.63	No
ini.	3	5	-64	10289	SLU 76	161.48	Si
fin.	3	5	17345	10289	SLU 76	0.59	No
ini.	3	4	-269	10289	SLU 73	38.2	Si
fin.	3	4	19236	10289	SLU 73	0.53	No
ini.	3	4	-347	10289	SLU 10	29.67	Si
fin.	3	4	17480	10289	SLU 10	0.59	No
ini.	3	4	-101	10289	SLU 52	102.31	Si
fin.	3	4	17577	10289	SLU 52	0.59	No
ini.	3	4	-218	10289	SLU 23	47.27	Si
fin.	3	4	16156	10289	SLU 23	0.64	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ _M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-126	218			200	75	SLU 82	0.35	No
fin.	3	0	15603	71			200	75	SLU 82	1.07	Si
ini.	3	0	-64	233			200	75	SLU 76	0.32	No
fin.	3	0	17345	86			200	75	SLU 76	0.88	No
ini.	3	0	-310	218			200	75	SLU 34	0.35	No
fin.	3	0	17248	104			200	75	SLU 34	0.72	No
ini.	3	0	-218	207			200	75	SLU 23	0.36	No
fin.	3	0	16156	94			200	75	SLU 23	0.81	No
ini.	3	0	-101	236			200	75	SLU 52	0.32	No
fin.	3	0	17577	89			200	75	SLU 52	0.85	No
ini.	3	0	29	222			200	75	SLU 65	0.34	No
fin.	3	0	16253	75			200	75	SLU 65	1	Si
ini.	3	0	-269	253			200	75	SLU 73	0.3	No
fin.	3	0	19236	105			200	75	SLU 73	0.72	No
ini.	3	0	-516	237			200	75	SLU 31	0.32	No
fin.	3	0	19139	124			200	75	SLU 31	0.61	No
ini.	3	0	-347	220			200	75	SLU 10	0.34	No
fin.	3	0	17480	107			200	75	SLU 10	0.7	No
ini.	3	0	105	217			200	75	SLU 55	0.35	No
fin.	3	0	15686	69			200	75	SLU 55	1.09	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ _M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	951	21304	15434	SLV 9	0.72	No
fin.	2	-147	76776	15434	SLV 9	0.2	No
ini.	2	265	2710	15434	SLV 14	5.7	Si
fin.	2	17	40116	15434	SLV 14	0.38	No
ini.	2	-950	-20315	15434	SLV 7	0.76	No
fin.	2	147	-69684	15434	SLV 7	0.22	No
ini.	2	-950	-20315	15434	SLV 8	0.76	No
fin.	2	147	-69684	15434	SLV 8	0.22	No
ini.	2	951	21304	15434	SLV 10	0.72	No
fin.	2	-147	76776	15434	SLV 10	0.2	No
ini.	2	265	2710	15434	SLV 13	5.7	Si
fin.	2	17	40116	15434	SLV 13	0.38	No
ini.	2	964	23960	15434	SLV 5	0.64	No
fin.	2	-186	67149	15434	SLV 5	0.23	No
ini.	2	964	23960	15434	SLV 6	0.64	No
fin.	2	-186	67149	15434	SLV 6	0.23	No
ini.	2	-963	-22971	15434	SLV 12	0.67	No
fin.	2	187	-60057	15434	SLV 12	0.26	No
ini.	2	-963	-22971	15434	SLV 11	0.67	No
fin.	2	187	-60057	15434	SLV 11	0.26	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ _M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-20315	-1000			300	113	SLV 7	0.11	No
fin.	2	0	-69684	185			300	113	SLV 7	0.61	No
ini.	2	0	23960	1108			300	113	SLV 5	0.1	No
fin.	2	0	67149	-297			300	113	SLV 5	0.38	No
ini.	2	0	-20315	-1000			300	113	SLV 8	0.11	No
fin.	2	0	-69684	185			300	113	SLV 8	0.61	No
ini.	2	0	-22971	-939			300	113	SLV 12	0.12	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-60057	239			300	113	SLV 12	0.47	No
ini.	2	0	23960	1108			300	113	SLV 6	0.1	No
fin.	2	0	67149	-297			300	113	SLV 6	0.38	No
ini.	2	0	8802	519			300	113	SLD 10	0.22	No
fin.	2	0	32671	-103			300	113	SLD 10	1.1	Si
ini.	2	0	-22971	-939			300	113	SLV 11	0.12	No
fin.	2	0	-60057	239			300	113	SLV 11	0.47	No
ini.	2	0	8802	519			300	113	SLD 9	0.22	No
fin.	2	0	32671	-103			300	113	SLD 9	1.1	Si
ini.	2	0	21304	1170			300	113	SLV 9	0.1	No
fin.	2	0	76776	-242			300	113	SLV 9	0.47	No
ini.	2	0	21304	1170			300	113	SLV 10	0.1	No
fin.	2	0	76776	-242			300	113	SLV 10	0.47	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 9	No
V_SLV	0.097	SLV 9	No
PF_SLU	0.535	SLU 73	No
V_SLU	0.298	SLU 73	No

Trave di accoppiamento 119

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1543.3	-335.9	1108	1250	142	-1633.3	-335.9	1108	1250	142	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1010	-94029	194792	SLU 73	2.07	Si
fin.	3	-1010	90490	194792	SLU 73	2.15	Si
ini.	3	-994	-90619	194792	SLU 61	2.15	Si
fin.	3	-994	82814	194792	SLU 61	2.35	Si
ini.	3	-697	-83969	194792	SLU 75	2.32	Si
fin.	3	-697	80799	194792	SLU 75	2.41	Si
ini.	3	-859	-82661	194792	SLU 39	2.36	Si
fin.	3	-859	78874	194792	SLU 39	2.47	Si
ini.	3	-1052	-98395	194792	SLU 82	1.98	Si
fin.	3	-1052	93447	194792	SLU 82	2.08	Si
ini.	3	-653	-83070	194792	SLU 74	2.34	Si
fin.	3	-653	78687	194792	SLU 74	2.48	Si
ini.	3	-1008	-97495	194792	SLU 81	2	Si
fin.	3	-1008	91335	194792	SLU 81	2.13	Si
ini.	3	-950	-89719	194792	SLU 60	2.17	Si
fin.	3	-950	80702	194792	SLU 60	2.41	Si
ini.	3	-952	-86253	194792	SLU 52	2.26	Si
fin.	3	-952	79857	194792	SLU 52	2.44	Si
ini.	3	-904	-83561	194792	SLU 40	2.33	Si
fin.	3	-904	80986	194792	SLU 40	2.41	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-98395	3128			1531	576	SLU 82	0.18	No
fin.	3	0	93447	1154			1531	576	SLU 82	0.5	No
ini.	3	0	-81563	2778			1531	576	SLU 83	0.21	No
fin.	3	0	78791	804			1531	576	SLU 83	0.72	No
ini.	3	0	-90619	2802			1531	576	SLU 61	0.21	No
fin.	3	0	82814	1070			1531	576	SLU 61	0.54	No
ini.	3	0	-89719	2768			1531	576	SLU 60	0.21	No
fin.	3	0	80702	1037			1531	576	SLU 60	0.56	No
ini.	3	0	-82462	2812			1531	576	SLU 84	0.2	No
fin.	3	0	80903	838			1531	576	SLU 84	0.69	No
ini.	3	0	-83969	2764			1531	576	SLU 75	0.21	No
fin.	3	0	80799	917			1531	576	SLU 75	0.63	No
ini.	3	0	-83561	2704			1531	576	SLU 40	0.21	No
fin.	3	0	80986	968			1531	576	SLU 40	0.6	No
ini.	3	0	-97495	3095			1531	576	SLU 81	0.19	No
fin.	3	0	91335	1121			1531	576	SLU 81	0.51	No
ini.	3	0	-94029	2983			1531	576	SLU 73	0.19	No
fin.	3	0	90490	1136			1531	576	SLU 73	0.51	No
ini.	3	0	-83070	2730			1531	576	SLU 74	0.21	No
fin.	3	0	78687	883			1531	576	SLU 74	0.65	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1023	-332765	212694	SLV 15	0.64	No
fin.	2	-752	279761	212694	SLV 15	0.76	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1078	-313064	212694	SLV 13	0.68	No
fin.	2	1658	303106	212694	SLV 13	0.7	No
ini.	2	-2330	185331	212694	SLV 3	1.15	Si
fin.	2	-2911	-183829	212694	SLV 3	1.16	Si
ini.	2	-782	-178781	212694	SLD 15	1.19	Si
fin.	2	-655	153757	212694	SLD 15	1.38	Si
ini.	2	-2330	185331	212694	SLV 4	1.15	Si
fin.	2	-2911	-183829	212694	SLV 4	1.16	Si
ini.	2	-782	-178781	212694	SLD 16	1.19	Si
fin.	2	-655	153757	212694	SLD 16	1.38	Si
ini.	2	-1023	-332765	212694	SLV 16	0.64	No
fin.	2	-752	279761	212694	SLV 16	0.76	No
ini.	2	-229	205032	212694	SLV 2	1.04	Si
fin.	2	-500	-160485	212694	SLV 2	1.33	Si
ini.	2	-229	205032	212694	SLV 1	1.04	Si
fin.	2	-500	-160485	212694	SLV 1	1.33	Si
ini.	2	1078	-313064	212694	SLV 14	0.68	No
fin.	2	1658	303106	212694	SLV 14	0.7	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-313064	7478			2297	864	SLV 14	0.12	No
fin.	2	0	303106	5984			2297	864	SLV 14	0.14	No
ini.	2	0	-332765	7739			2297	864	SLV 15	0.11	No
fin.	2	0	279761	6919			2297	864	SLV 15	0.12	No
ini.	2	0	-178781	4445			2297	864	SLD 15	0.19	No
fin.	2	0	153757	3377			2297	864	SLD 15	0.26	No
ini.	2	0	185331	-3494			2297	864	SLV 3	0.25	No
fin.	2	0	-183829	-4450			2297	864	SLV 3	0.19	No
ini.	2	0	-332765	7739			2297	864	SLV 16	0.11	No
fin.	2	0	279761	6919			2297	864	SLV 16	0.12	No
ini.	2	0	-178781	4445			2297	864	SLD 16	0.19	No
fin.	2	0	153757	3377			2297	864	SLD 16	0.26	No
ini.	2	0	185331	-3494			2297	864	SLV 4	0.25	No
fin.	2	0	-183829	-4450			2297	864	SLV 4	0.19	No
ini.	2	0	205032	-3755			2297	864	SLV 2	0.23	No
fin.	2	0	-160485	-5384			2297	864	SLV 2	0.16	No
ini.	2	0	-313064	7478			2297	864	SLV 13	0.12	No
fin.	2	0	303106	5984			2297	864	SLV 13	0.14	No
ini.	2	0	205032	-3755			2297	864	SLV 1	0.23	No
fin.	2	0	-160485	-5384			2297	864	SLV 1	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.639	SLV 15	No
V_SLV	0.112	SLV 15	No
PF_SLU	1.98	SLU 82	Si
V_SLU	0.184	SLU 82	No

Trave di accoppiamento 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1443.8	-485.9	1224	1250	26	-1627.8	-485.9	1224	1250	26	184	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-50	-7811	10289	SLU 2	1.32	Si
fin.	3	-50	1631	10289	SLU 2	6.31	Si
ini.	3	-30	-7322	10289	SLU 61	1.41	Si
fin.	3	-30	-536	10289	SLU 61	19.19	Si
ini.	3	-40	-7323	10289	SLU 73	1.41	Si
fin.	3	-40	-600	10289	SLU 73	17.15	Si
ini.	3	-9	-7726	10289	SLU 46	1.33	Si
fin.	3	-9	-42	10289	SLU 46	242.72	Si
ini.	3	5	-7065	10289	SLU 64	1.46	Si
fin.	3	5	-630	10289	SLU 64	16.33	Si
ini.	3	-6	-8374	10289	SLU 43	1.23	Si
fin.	3	-6	641	10289	SLU 43	16.05	Si
ini.	3	-23	-8102	10289	SLU 47	1.27	Si
fin.	3	-23	263	10289	SLU 47	39.06	Si
ini.	3	-51	-8632	10289	SLU 52	1.19	Si
fin.	3	-51	671	10289	SLU 52	15.33	Si
ini.	3	-43	-8779	10289	SLU 65	1.17	Si
fin.	3	-43	843	10289	SLU 65	12.21	Si
ini.	3	-54	-10089	10289	SLU 44	1.02	Si
fin.	3	-54	2114	10289	SLU 44	4.87	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-7323	160			200	75	SLU 73	0.47	No
fin.	3	0	-600	-87			200	75	SLU 73	0.87	No
ini.	3	0	-8374	172			200	75	SLU 43	0.44	No
fin.	3	0	641	-74			200	75	SLU 43	1.02	Si
ini.	3	0	-7726	165			200	75	SLU 46	0.46	No
fin.	3	0	-42	-81			200	75	SLU 46	0.93	No
ini.	3	0	-7322	160			200	75	SLU 61	0.47	No
fin.	3	0	-536	-86			200	75	SLU 61	0.87	No
ini.	3	0	-7065	158			200	75	SLU 64	0.48	No
fin.	3	0	-630	-88			200	75	SLU 64	0.86	No
ini.	3	0	-10089	189			200	75	SLU 44	0.4	No
fin.	3	0	2114	-57			200	75	SLU 44	1.33	Si
ini.	3	0	-6793	155			200	75	SLU 68	0.49	No
fin.	3	0	-1008	-92			200	75	SLU 68	0.82	No
ini.	3	0	-8102	169			200	75	SLU 47	0.45	No
fin.	3	0	263	-78			200	75	SLU 47	0.97	No
ini.	3	0	-8632	174			200	75	SLU 52	0.43	No
fin.	3	0	671	-73			200	75	SLU 52	1.04	Si
ini.	3	0	-8779	175			200	75	SLU 65	0.43	No
fin.	3	0	843	-71			200	75	SLU 65	1.06	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-583	-53657	15434	SLV 16	0.29	No
fin.	2	-574	43869	15434	SLV 16	0.35	No
ini.	2	413	33421	15434	SLV 5	0.46	No
fin.	2	512	-36305	15434	SLV 5	0.43	No
ini.	2	588	43045	15434	SLV 1	0.36	No
fin.	2	578	-45104	15434	SLV 1	0.34	No
ini.	2	413	33421	15434	SLV 6	0.46	No
fin.	2	512	-36305	15434	SLV 6	0.43	No
ini.	2	-429	-37687	15434	SLV 14	0.41	No
fin.	2	-352	29138	15434	SLV 14	0.53	No
ini.	2	-408	-44033	15434	SLV 12	0.35	No
fin.	2	-508	35070	15434	SLV 12	0.44	No
ini.	2	-583	-53657	15434	SLV 15	0.29	No
fin.	2	-574	43869	15434	SLV 15	0.35	No
ini.	2	588	43045	15434	SLV 2	0.36	No
fin.	2	578	-45104	15434	SLV 2	0.34	No
ini.	2	-408	-44033	15434	SLV 11	0.35	No
fin.	2	-508	35070	15434	SLV 11	0.44	No
ini.	2	-429	-37687	15434	SLV 13	0.41	No
fin.	2	-352	29138	15434	SLV 13	0.53	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-44033	624			300	113	SLV 12	0.18	No
fin.	2	0	35070	541			300	113	SLV 12	0.21	No
ini.	2	0	43045	-329			300	113	SLV 1	0.34	No
fin.	2	0	-45104	-638			300	113	SLV 1	0.18	No
ini.	2	0	43045	-329			300	113	SLV 2	0.34	No
fin.	2	0	-45104	-638			300	113	SLV 2	0.18	No
ini.	2	0	33421	-384			300	113	SLV 5	0.29	No
fin.	2	0	-36305	-679			300	113	SLV 5	0.17	No
ini.	2	0	-19813	428			300	113	SLV 7	0.26	No
fin.	2	0	12797	287			300	113	SLV 7	0.39	No
ini.	2	0	-19813	428			300	113	SLV 8	0.26	No
fin.	2	0	12797	287			300	113	SLV 8	0.39	No
ini.	2	0	-53657	569			300	113	SLV 16	0.2	No
fin.	2	0	43869	499			300	113	SLV 16	0.23	No
ini.	2	0	-44033	624			300	113	SLV 11	0.18	No
fin.	2	0	35070	541			300	113	SLV 11	0.21	No
ini.	2	0	33421	-384			300	113	SLV 6	0.29	No
fin.	2	0	-36305	-679			300	113	SLV 6	0.17	No
ini.	2	0	-53657	569			300	113	SLV 15	0.2	No
fin.	2	0	43869	499			300	113	SLV 15	0.23	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.288	SLV 15	No
V_SLV	0.166	SLV 5	No
PF_SLU	1.02	SLU 44	Si
V_SLU	0.398	SLU 44	No

Trave di accoppiamento 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1375.3	-22.8	1108	1250	142	-1375.3	67.2	1108	1250	142	90	28	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	462	-72238	194792	SLU 27	2.7	Si
fin.	3	462	22876	194792	SLU 27	8.52	Si
ini.	3	456	-66484	194792	SLU 72	2.93	Si
fin.	3	456	25992	194792	SLU 72	7.49	Si
ini.	3	432	-68384	194792	SLU 30	2.85	Si
fin.	3	432	22172	194792	SLU 30	8.79	Si
ini.	3	460	-65868	194792	SLU 70	2.96	Si
fin.	3	460	25640	194792	SLU 70	7.6	Si
ini.	3	459	-72853	194792	SLU 29	2.67	Si
fin.	3	459	23228	194792	SLU 29	8.39	Si
ini.	3	367	-59057	194792	SLU 8	3.3	Si
fin.	3	367	19969	194792	SLU 8	9.75	Si
ini.	3	371	-58441	194792	SLU 6	3.33	Si
fin.	3	371	19617	194792	SLU 6	9.93	Si
ini.	3	483	-70953	194792	SLU 71	2.75	Si
fin.	3	483	27048	194792	SLU 71	7.2	Si
ini.	3	436	-67768	194792	SLU 28	2.87	Si
fin.	3	436	21820	194792	SLU 28	8.93	Si
ini.	3	487	-70338	194792	SLU 69	2.77	Si
fin.	3	487	26696	194792	SLU 69	7.3	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-66484	1485			1531	576	SLU 72	0.39	No
fin.	3	0	25992	627			1531	576	SLU 72	0.92	No
ini.	3	0	-70953	1546			1531	576	SLU 71	0.37	No
fin.	3	0	27048	689			1531	576	SLU 71	0.84	No
ini.	3	0	-70338	1535			1531	576	SLU 69	0.38	No
fin.	3	0	26696	678			1531	576	SLU 69	0.85	No
ini.	3	0	-72853	1424			1531	576	SLU 29	0.4	No
fin.	3	0	23228	754			1531	576	SLU 29	0.76	No
ini.	3	0	-72238	1413			1531	576	SLU 27	0.41	No
fin.	3	0	22876	743			1531	576	SLU 27	0.78	No
ini.	3	0	-67768	1352			1531	576	SLU 28	0.43	No
fin.	3	0	21820	681			1531	576	SLU 28	0.85	No
ini.	3	0	-65868	1474			1531	576	SLU 70	0.39	No
fin.	3	0	25640	617			1531	576	SLU 70	0.93	No
ini.	3	0	-56541	1336			1531	576	SLU 48	0.43	No
fin.	3	0	23437	501			1531	576	SLU 48	1.15	Si
ini.	3	0	-57157	1346			1531	576	SLU 50	0.43	No
fin.	3	0	23789	512			1531	576	SLU 50	1.13	Si
ini.	3	0	-68384	1363			1531	576	SLU 30	0.42	No
fin.	3	0	22172	692			1531	576	SLU 30	0.83	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	349	274606	212694	SLV 7	0.77	No
fin.	2	497	-98353	212694	SLV 7	2.16	Si
ini.	2	349	274606	212694	SLV 8	0.77	No
fin.	2	497	-98353	212694	SLV 8	2.16	Si
ini.	2	57	-290711	212694	SLV 10	0.73	No
fin.	2	-90	132329	212694	SLV 10	1.61	Si
ini.	2	411	-239949	212694	SLV 1	0.89	No
fin.	2	-1298	29021	212694	SLV 1	7.33	Si
ini.	2	211	355578	212694	SLV 11	0.6	No
fin.	2	1275	-85930	212694	SLV 11	2.48	Si
ini.	2	211	355578	212694	SLV 12	0.6	No
fin.	2	1275	-85930	212694	SLV 12	2.48	Si
ini.	2	196	-371683	212694	SLV 6	0.57	No
fin.	2	-868	119906	212694	SLV 6	1.77	Si
ini.	2	57	-290711	212694	SLV 9	0.73	No
fin.	2	-90	132329	212694	SLV 9	1.61	Si
ini.	2	196	-371683	212694	SLV 5	0.57	No
fin.	2	-868	119906	212694	SLV 5	1.77	Si
ini.	2	411	-239949	212694	SLV 2	0.89	No
fin.	2	-1298	29021	212694	SLV 2	7.33	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	355578	-4174			2297	864	SLV 12	0.21	No
fin.	2	0	-85930	-5314			2297	864	SLV 12	0.16	No
ini.	2	0	274606	-3319			2297	864	SLV 7	0.26	No
fin.	2	0	-98353	-4331			2297	864	SLV 7	0.2	No
ini.	2	0	274606	-3319			2297	864	SLV 8	0.26	No
fin.	2	0	-98353	-4331			2297	864	SLV 8	0.2	No
ini.	2	0	355578	-4174			2297	864	SLV 11	0.21	No
fin.	2	0	-85930	-5314			2297	864	SLV 11	0.16	No
ini.	2	0	-290711	4574			2297	864	SLV 10	0.19	No
fin.	2	0	132329	4278			2297	864	SLV 10	0.2	No
ini.	2	0	-239949	3365			2297	864	SLV 2	0.26	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	29021	3049			2297	864	SLV 2	0.28	No
ini.	2	0	-371683	5429			2297	864	SLV 5	0.16	No
fin.	2	0	119906	5260			2297	864	SLV 5	0.16	No
ini.	2	0	-239949	3365			2297	864	SLV 1	0.26	No
fin.	2	0	29021	3049			2297	864	SLV 1	0.28	No
ini.	2	0	-371683	5429			2297	864	SLV 6	0.16	No
fin.	2	0	119906	5260			2297	864	SLV 6	0.16	No
ini.	2	0	-290711	4574			2297	864	SLV 9	0.19	No
fin.	2	0	132329	4278			2297	864	SLV 9	0.2	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.572	SLV 5	No
V_SLV	0.159	SLV 5	No
PF_SLU	2.674	SLU 29	Si
V_SLU	0.373	SLU 71	No

Trave di accoppiamento 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1074.8	333.1	1088	1250	162	-994.8	333.1	1088	1250	162	80	14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-104	343533	176083	SLU 77	0.51	No
fin.	3	-104	29918	176083	SLU 77	5.89	Si
ini.	3	-106	335112	176083	SLU 80	0.53	No
fin.	3	-106	29776	176083	SLU 80	5.91	Si
ini.	3	-105	335482	176083	SLU 75	0.52	No
fin.	3	-105	29310	176083	SLU 75	6.01	Si
ini.	3	-113	352318	176083	SLU 84	0.5	No
fin.	3	-113	32026	176083	SLU 84	5.5	Si
ini.	3	-106	334828	176083	SLU 79	0.53	No
fin.	3	-106	29762	176083	SLU 79	5.92	Si
ini.	3	-113	343700	176083	SLU 81	0.51	No
fin.	3	-113	31390	176083	SLU 81	5.61	Si
ini.	3	-113	352035	176083	SLU 83	0.5	No
fin.	3	-113	32012	176083	SLU 83	5.5	Si
ini.	3	-113	343984	176083	SLU 82	0.51	No
fin.	3	-113	31404	176083	SLU 82	5.61	Si
ini.	3	-104	335199	176083	SLU 74	0.53	No
fin.	3	-104	29296	176083	SLU 74	6.01	Si
ini.	3	-104	343817	176083	SLU 78	0.51	No
fin.	3	-104	29932	176083	SLU 78	5.88	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	352035	-3364			873	329	SLU 83	0.1	No
fin.	3	0	32012	-4596			873	329	SLU 83	0.07	No
ini.	3	0	334828	-3227			873	329	SLU 79	0.1	No
fin.	3	0	29762	-4358			873	329	SLU 79	0.08	No
ini.	3	0	343700	-3267			873	329	SLU 81	0.1	No
fin.	3	0	31390	-4499			873	329	SLU 81	0.07	No
ini.	3	0	335199	-3238			873	329	SLU 74	0.1	No
fin.	3	0	29296	-4369			873	329	SLU 74	0.08	No
ini.	3	0	335112	-3231			873	329	SLU 80	0.1	No
fin.	3	0	29776	-4362			873	329	SLU 80	0.08	No
ini.	3	0	335482	-3241			873	329	SLU 75	0.1	No
fin.	3	0	29310	-4372			873	329	SLU 75	0.08	No
ini.	3	0	343984	-3271			873	329	SLU 82	0.1	No
fin.	3	0	31404	-4503			873	329	SLU 82	0.07	No
ini.	3	0	343533	-3334			873	329	SLU 77	0.1	No
fin.	3	0	29918	-4465			873	329	SLU 77	0.07	No
ini.	3	0	343817	-3338			873	329	SLU 78	0.1	No
fin.	3	0	29932	-4469			873	329	SLU 78	0.07	No
ini.	3	0	352318	-3367			873	329	SLU 84	0.1	No
fin.	3	0	32026	-4599			873	329	SLU 84	0.07	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-598	442632	211889	SLV 4	0.48	No
fin.	2	-182	34955	211889	SLV 4	6.06	Si
ini.	2	-598	442632	211889	SLV 3	0.48	No
fin.	2	-182	34955	211889	SLV 3	6.06	Si
ini.	2	-298	569529	211889	SLV 7	0.37	No
fin.	2	-252	42114	211889	SLV 7	5.03	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-42	324109	211889	SLD 11	0.65	No
fin.	2	-131	24992	211889	SLD 11	8.48	Si
ini.	2	4	484845	211889	SLV 12	0.44	No
fin.	2	-216	35470	211889	SLV 12	5.97	Si
ini.	2	-170	360148	211889	SLD 8	0.59	No
fin.	2	-144	27824	211889	SLD 8	7.62	Si
ini.	2	4	484845	211889	SLV 11	0.44	No
fin.	2	-216	35470	211889	SLV 11	5.97	Si
ini.	2	-298	569529	211889	SLV 8	0.37	No
fin.	2	-252	42114	211889	SLV 8	5.03	Si
ini.	2	-170	360148	211889	SLD 7	0.59	No
fin.	2	-144	27824	211889	SLD 7	7.62	Si
ini.	2	-42	324109	211889	SLD 12	0.65	No
fin.	2	-131	24992	211889	SLD 12	8.48	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	442632	-4617			1310	493	SLV 3	0.11	No
fin.	2	0	34955	-5089			1310	493	SLV 3	0.1	No
ini.	2	0	442632	-4617			1310	493	SLV 4	0.11	No
fin.	2	0	34955	-5089			1310	493	SLV 4	0.1	No
ini.	2	0	324109	-3397			1310	493	SLD 12	0.15	No
fin.	2	0	24992	-4152			1310	493	SLD 12	0.12	No
ini.	2	0	324109	-3397			1310	493	SLD 11	0.15	No
fin.	2	0	24992	-4152			1310	493	SLD 11	0.12	No
ini.	2	0	484845	-5321			1310	493	SLV 12	0.09	No
fin.	2	0	35470	-6130			1310	493	SLV 12	0.08	No
ini.	2	0	569529	-6225			1310	493	SLV 7	0.08	No
fin.	2	0	42114	-6885			1310	493	SLV 7	0.07	No
ini.	2	0	484845	-5321			1310	493	SLV 11	0.09	No
fin.	2	0	35470	-6130			1310	493	SLV 11	0.08	No
ini.	2	0	360148	-3782			1310	493	SLD 7	0.13	No
fin.	2	0	27824	-4473			1310	493	SLD 7	0.11	No
ini.	2	0	569529	-6225			1310	493	SLV 8	0.08	No
fin.	2	0	42114	-6885			1310	493	SLV 8	0.07	No
ini.	2	0	360148	-3782			1310	493	SLD 8	0.13	No
fin.	2	0	27824	-4473			1310	493	SLD 8	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 7	No
V_SLV	0.072	SLV 7	No
PF_SLU	0.5	SLU 84	No
V_SLU	0.071	SLU 84	No

Trave di accoppiamento 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	898	988	90	-1681.8	666.1	898	988	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmed	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	233	3592	103792	SLU 76	28.9	Si
fin.	3	114	10722	103792	SLU 76	9.68	Si
ini.	3	206	4827	103792	SLU 83	21.5	Si
fin.	3	133	10898	103792	SLU 83	9.52	Si
ini.	3	-133	11268	103792	SLU 60	9.21	Si
fin.	3	4	9183	103792	SLU 60	11.3	Si
ini.	3	491	-2051	103792	SLU 79	50.61	Si
fin.	3	203	11069	103792	SLU 79	9.38	Si
ini.	3	210	4667	103792	SLU 84	22.24	Si
fin.	3	126	11061	103792	SLU 84	9.38	Si
ini.	3	440	-745	103792	SLU 78	139.4	Si
fin.	3	182	11258	103792	SLU 78	9.22	Si
ini.	3	-58	10737	103792	SLU 81	9.67	Si
fin.	3	56	10280	103792	SLU 81	10.1	Si
ini.	3	495	-2211	103792	SLU 80	46.95	Si
fin.	3	196	11232	103792	SLU 80	9.24	Si
ini.	3	-130	11108	103792	SLU 61	9.34	Si
fin.	3	-4	9346	103792	SLU 61	11.11	Si
ini.	3	436	-585	103792	SLU 77	177.51	Si
fin.	3	189	11095	103792	SLU 77	9.35	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-213	-771			970	365	SLU 57	0.47	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	10161	1654			970	365	SLU 57	0.22	No
ini.	3	0	-2845	-688			970	365	SLU 69	0.53	No
fin.	3	0	10051	1723			970	365	SLU 69	0.21	No
ini.	3	0	-4471	-579			970	365	SLU 72	0.63	No
fin.	3	0	10188	1699			970	365	SLU 72	0.21	No
ini.	3	0	-4312	-589			970	365	SLU 71	0.62	No
fin.	3	0	10025	1692			970	365	SLU 71	0.22	No
ini.	3	0	-585	-788			970	365	SLU 77	0.46	No
fin.	3	0	11095	1745			970	365	SLU 77	0.21	No
ini.	3	0	-54	-781			970	365	SLU 56	0.47	No
fin.	3	0	9999	1647			970	365	SLU 56	0.22	No
ini.	3	0	-3005	-677			970	365	SLU 70	0.54	No
fin.	3	0	10214	1729			970	365	SLU 70	0.21	No
ini.	3	0	-745	-777			970	365	SLU 78	0.47	No
fin.	3	0	11258	1751			970	365	SLU 78	0.21	No
ini.	3	0	-2211	-679			970	365	SLU 80	0.54	No
fin.	3	0	11232	1721			970	365	SLU 80	0.21	No
ini.	3	0	-2051	-689			970	365	SLU 79	0.53	No
fin.	3	0	11069	1714			970	365	SLU 79	0.21	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	246	58	121694	SLV 6	2083.52	Si
fin.	2	-817	44938	121694	SLV 6	2.71	Si
ini.	2	2165	-63325	121694	SLV 4	1.92	Si
fin.	2	-2818	61433	121694	SLV 4	1.98	Si
ini.	2	1952	-55354	121694	SLV 1	2.2	Si
fin.	2	-2810	73398	121694	SLV 1	1.66	Si
ini.	2	-2213	76399	121694	SLV 13	1.59	Si
fin.	2	2854	-47797	121694	SLV 13	2.55	Si
ini.	2	246	58	121694	SLV 5	2083.52	Si
fin.	2	-817	44938	121694	SLV 5	2.71	Si
ini.	2	1952	-55354	121694	SLV 2	2.2	Si
fin.	2	-2810	73398	121694	SLV 2	1.66	Si
ini.	2	-2213	76399	121694	SLV 14	1.59	Si
fin.	2	2854	-47797	121694	SLV 14	2.55	Si
ini.	2	-1999	68429	121694	SLV 15	1.78	Si
fin.	2	2845	-59762	121694	SLV 15	2.04	Si
ini.	2	-1999	68429	121694	SLV 16	1.78	Si
fin.	2	2845	-59762	121694	SLV 16	2.04	Si
ini.	2	2165	-63325	121694	SLV 3	1.92	Si
fin.	2	-2818	61433	121694	SLV 3	1.98	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	68429	-4090			1456	548	SLV 16	0.13	No
fin.	2	0	-59762	-2934			1456	548	SLV 16	0.19	No
ini.	2	0	68429	-4090			1456	548	SLV 15	0.13	No
fin.	2	0	-59762	-2934			1456	548	SLV 15	0.19	No
ini.	2	0	76399	-4012			1456	548	SLV 14	0.14	No
fin.	2	0	-47797	-3378			1456	548	SLV 14	0.16	No
ini.	2	0	-55354	2403			1456	548	SLV 2	0.23	No
fin.	2	0	73398	5105			1456	548	SLV 2	0.11	No
ini.	2	0	76399	-4012			1456	548	SLV 13	0.14	No
fin.	2	0	-47797	-3378			1456	548	SLV 13	0.16	No
ini.	2	0	-26510	-12			1456	548	SLV 8	43.94	Si
fin.	2	0	5057	3099			1456	548	SLV 8	0.18	No
ini.	2	0	-63325	2324			1456	548	SLV 3	0.24	No
fin.	2	0	61433	5550			1456	548	SLV 3	0.1	No
ini.	2	0	-55354	2403			1456	548	SLV 1	0.23	No
fin.	2	0	73398	5105			1456	548	SLV 1	0.11	No
ini.	2	0	-26510	-12			1456	548	SLV 7	43.94	Si
fin.	2	0	5057	3099			1456	548	SLV 7	0.18	No
ini.	2	0	-63325	2324			1456	548	SLV 4	0.24	No
fin.	2	0	61433	5550			1456	548	SLV 4	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.593	SLV 13	Si
V_SLV	0.099	SLV 3	No
PF_SLU	9.211	SLU 60	Si
V_SLU	0.209	SLU 78	No

Trave di accoppiamento 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	1168	1250	82	-1681.8	666.1	1168	1250	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	515	-9018	89792	SLU 70	9.96	Si
fin.	3	957	7659	89792	SLU 70	11.72	Si
ini.	3	529	-9012	89792	SLU 72	9.96	Si
fin.	3	1021	8895	89792	SLU 72	10.09	Si
ini.	3	522	-8846	89792	SLU 69	10.15	Si
fin.	3	951	7520	89792	SLU 69	11.94	Si
ini.	3	490	-9404	89792	SLU 79	9.55	Si
fin.	3	909	7601	89792	SLU 79	11.81	Si
ini.	3	471	-9582	89792	SLU 78	9.37	Si
fin.	3	851	6505	89792	SLU 78	13.8	Si
ini.	3	477	-9410	89792	SLU 77	9.54	Si
fin.	3	845	6365	89792	SLU 77	14.11	Si
ini.	3	516	-8091	89792	SLU 29	11.1	Si
fin.	3	1021	9490	89792	SLU 29	9.46	Si
ini.	3	535	-8840	89792	SLU 71	10.16	Si
fin.	3	1015	8755	89792	SLU 71	10.26	Si
ini.	3	484	-9576	89792	SLU 80	9.38	Si
fin.	3	915	7741	89792	SLU 80	11.6	Si
ini.	3	510	-8263	89792	SLU 30	10.87	Si
fin.	3	1027	9629	89792	SLU 30	9.32	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-5349	1285			806	303	SLU 60	0.24	No
fin.	3	0	-3648	-1679			806	303	SLU 60	0.18	No
ini.	3	0	-6528	1426			806	303	SLU 73	0.21	No
fin.	3	0	-1886	-1692			806	303	SLU 73	0.18	No
ini.	3	0	-9410	1663			806	303	SLU 77	0.18	No
fin.	3	0	6365	-1335			806	303	SLU 77	0.23	No
ini.	3	0	-8236	1607			806	303	SLU 84	0.19	No
fin.	3	0	2386	-1579			806	303	SLU 84	0.19	No
ini.	3	0	-9404	1634			806	303	SLU 79	0.19	No
fin.	3	0	7601	-1221			806	303	SLU 79	0.25	No
ini.	3	0	-6655	1496			806	303	SLU 82	0.2	No
fin.	3	0	-2473	-1823			806	303	SLU 82	0.17	No
ini.	3	0	-6483	1488			806	303	SLU 81	0.2	No
fin.	3	0	-2613	-1834			806	303	SLU 81	0.17	No
ini.	3	0	-9576	1642			806	303	SLU 80	0.18	No
fin.	3	0	7741	-1211			806	303	SLU 80	0.25	No
ini.	3	0	-5521	1293			806	303	SLU 61	0.23	No
fin.	3	0	-3509	-1669			806	303	SLU 61	0.18	No
ini.	3	0	-9582	1671			806	303	SLU 78	0.18	No
fin.	3	0	6505	-1324			806	303	SLU 78	0.23	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1006	-32009	107694	SLV 5	3.36	Si
fin.	2	260	7165	107694	SLV 5	15.03	Si
ini.	2	-1008	-56429	107694	SLV 4	1.91	Si
fin.	2	2608	44674	107694	SLV 4	2.41	Si
ini.	2	1243	47870	107694	SLV 13	2.25	Si
fin.	2	-2429	-47271	107694	SLV 13	2.28	Si
ini.	2	1243	47870	107694	SLV 14	2.25	Si
fin.	2	-2429	-47271	107694	SLV 14	2.28	Si
ini.	2	-1006	-32009	107694	SLV 6	3.36	Si
fin.	2	260	7165	107694	SLV 6	15.03	Si
ini.	2	-1440	-63081	107694	SLV 2	1.71	Si
fin.	2	2286	41741	107694	SLV 2	2.58	Si
ini.	2	-1440	-63081	107694	SLV 1	1.71	Si
fin.	2	2286	41741	107694	SLV 1	2.58	Si
ini.	2	-1008	-56429	107694	SLV 3	1.91	Si
fin.	2	2608	44674	107694	SLV 3	2.41	Si
ini.	2	1675	54522	107694	SLV 16	1.98	Si
fin.	2	-2108	-44339	107694	SLV 16	2.43	Si
ini.	2	1675	54522	107694	SLV 15	1.98	Si
fin.	2	-2108	-44339	107694	SLV 15	2.43	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	47870	-1751			1208	455	SLV 13	0.26	No
fin.	2	0	-47271	-4204			1208	455	SLV 13	0.11	No
ini.	2	0	54522	-2091			1208	455	SLV 16	0.22	No
fin.	2	0	-44339	-3836			1208	455	SLV 16	0.12	No
ini.	2	0	1276	660			1208	455	SLV 9	0.69	No
fin.	2	0	-19538	-2618			1208	455	SLV 9	0.17	No
ini.	2	0	47870	-1751			1208	455	SLV 14	0.26	No
fin.	2	0	-47271	-4204			1208	455	SLV 14	0.11	No
ini.	2	0	1276	660			1208	455	SLV 10	0.69	No
fin.	2	0	-19538	-2618			1208	455	SLV 10	0.17	No
ini.	2	0	-63081	4005			1208	455	SLV 1	0.11	No
fin.	2	0	41741	1554			1208	455	SLV 1	0.29	No
ini.	2	0	-63081	4005			1208	455	SLV 2	0.11	No
fin.	2	0	41741	1554			1208	455	SLV 2	0.29	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-56429	3665			1208	455	SLV 3	0.12	No
fin.	2	0	44674	1923			1208	455	SLV 3	0.24	No
ini.	2	0	54522	-2091			1208	455	SLV 15	0.22	No
fin.	2	0	-44339	-3836			1208	455	SLV 15	0.12	No
ini.	2	0	-56429	3665			1208	455	SLV 4	0.12	No
fin.	2	0	44674	1923			1208	455	SLV 4	0.24	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.707	SLV 1	Si
V_SLV	0.108	SLV 13	No
PF_SLU	9.325	SLU 30	Si
V_SLU	0.165	SLU 81	No

Trave di accoppiamento 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	898	988	90	-1193.8	666.1	898	988	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-98	11295	103792	SLU 78	9.19	Si
fin.	3	-9	8113	103792	SLU 78	12.79	Si
ini.	3	-408	12071	103792	SLU 81	8.6	Si
fin.	3	-394	11422	103792	SLU 81	9.09	Si
ini.	3	-261	11618	103792	SLU 74	8.93	Si
fin.	3	-212	9806	103792	SLU 74	10.58	Si
ini.	3	-261	11628	103792	SLU 75	8.93	Si
fin.	3	-211	9797	103792	SLU 75	10.59	Si
ini.	3	-98	11285	103792	SLU 77	9.2	Si
fin.	3	-9	8122	103792	SLU 77	12.78	Si
ini.	3	-245	11738	103792	SLU 83	8.84	Si
fin.	3	-192	9738	103792	SLU 83	10.66	Si
ini.	3	-245	11748	103792	SLU 84	8.83	Si
fin.	3	-191	9729	103792	SLU 84	10.67	Si
ini.	3	-379	11588	103792	SLU 73	8.96	Si
fin.	3	-360	10844	103792	SLU 73	9.57	Si
ini.	3	-409	12081	103792	SLU 82	8.59	Si
fin.	3	-393	11413	103792	SLU 82	9.09	Si
ini.	3	-215	11255	103792	SLU 76	9.22	Si
fin.	3	-158	9160	103792	SLU 76	11.33	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	11738	-1873			970	365	SLU 83	0.2	No
fin.	3	0	9738	1707			970	365	SLU 83	0.21	No
ini.	3	0	10120	-1853			970	365	SLU 69	0.2	No
fin.	3	0	6808	1618			970	365	SLU 69	0.23	No
ini.	3	0	10916	-1918			970	365	SLU 80	0.19	No
fin.	3	0	7482	1677			970	365	SLU 80	0.22	No
ini.	3	0	10130	-1850			970	365	SLU 70	0.2	No
fin.	3	0	6799	1615			970	365	SLU 70	0.23	No
ini.	3	0	10906	-1920			970	365	SLU 79	0.19	No
fin.	3	0	7491	1680			970	365	SLU 79	0.22	No
ini.	3	0	11285	-1959			970	365	SLU 77	0.19	No
fin.	3	0	8122	1730			970	365	SLU 77	0.21	No
ini.	3	0	11295	-1957			970	365	SLU 78	0.19	No
fin.	3	0	8113	1727			970	365	SLU 78	0.21	No
ini.	3	0	11748	-1870			970	365	SLU 84	0.2	No
fin.	3	0	9729	1704			970	365	SLU 84	0.21	No
ini.	3	0	11618	-1866			970	365	SLU 74	0.2	No
fin.	3	0	9806	1710			970	365	SLU 74	0.21	No
ini.	3	0	11628	-1864			970	365	SLU 75	0.2	No
fin.	3	0	9797	1706			970	365	SLU 75	0.21	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	394	1996	121694	SLV 5	60.98	Si
fin.	2	-1609	49777	121694	SLV 5	2.44	Si
ini.	2	3261	-75367	121694	SLV 3	1.61	Si
fin.	2	-3504	81774	121694	SLV 3	1.49	Si
ini.	2	3039	-64941	121694	SLV 2	1.87	Si
fin.	2	-3716	92715	121694	SLV 2	1.31	Si
ini.	2	394	1996	121694	SLV 6	60.98	Si
fin.	2	-1609	49777	121694	SLV 6	2.44	Si
ini.	2	3261	-75367	121694	SLV 4	1.61	Si



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-3504	81774	121694	SLV 4	1.49	Si
ini.	2	-3777	91550	121694	SLV 14	1.33	Si
fin.	2	3010	-66435	121694	SLV 14	1.83	Si
ini.	2	-3554	81123	121694	SLV 15	1.5	Si
fin.	2	3222	-77376	121694	SLV 15	1.57	Si
ini.	2	3039	-64941	121694	SLV 1	1.87	Si
fin.	2	-3716	92715	121694	SLV 1	1.31	Si
ini.	2	-3777	91550	121694	SLV 13	1.33	Si
fin.	2	3010	-66435	121694	SLV 13	1.83	Si
ini.	2	-3554	81123	121694	SLV 16	1.5	Si
fin.	2	3222	-77376	121694	SLV 16	1.57	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	81123	-6366			1456	548	SLV 15	0.09	No
fin.	2	0	-77376	-3649			1456	548	SLV 15	0.15	No
ini.	2	0	-64941	3874			1456	548	SLV 2	0.14	No
fin.	2	0	92715	6012			1456	548	SLV 2	0.09	No
ini.	2	0	-75367	3613			1456	548	SLV 4	0.15	No
fin.	2	0	81774	6297			1456	548	SLV 4	0.09	No
ini.	2	0	91550	-6106			1456	548	SLV 13	0.09	No
fin.	2	0	-66435	-3934			1456	548	SLV 13	0.14	No
ini.	2	0	39311	-3431			1456	548	SLD 16	0.16	No
fin.	2	0	-28586	-881			1456	548	SLD 16	0.62	No
ini.	2	0	81123	-6366			1456	548	SLV 16	0.09	No
fin.	2	0	-77376	-3649			1456	548	SLV 16	0.15	No
ini.	2	0	39311	-3431			1456	548	SLD 15	0.16	No
fin.	2	0	-28586	-881			1456	548	SLD 15	0.62	No
ini.	2	0	-75367	3613			1456	548	SLV 3	0.15	No
fin.	2	0	81774	6297			1456	548	SLV 3	0.09	No
ini.	2	0	-64941	3874			1456	548	SLV 1	0.14	No
fin.	2	0	92715	6012			1456	548	SLV 1	0.09	No
ini.	2	0	91550	-6106			1456	548	SLV 14	0.09	No
fin.	2	0	-66435	-3934			1456	548	SLV 14	0.14	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 1	Si
V_SLV	0.086	SLV 15	No
PF_SLU	8.591	SLU 82	Si
V_SLU	0.186	SLU 77	No

Trave di accoppiamento 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	1168	1250	82	-1193.8	666.1	1168	1250	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	34	-5115	89792	SLU 81	17.56	Si
fin.	3	-51	-7130	89792	SLU 81	12.59	Si
ini.	3	201	-3474	89792	SLU 75	25.85	Si
fin.	3	38	-6947	89792	SLU 75	12.93	Si
ini.	3	204	-3490	89792	SLU 74	25.73	Si
fin.	3	41	-6941	89792	SLU 74	12.94	Si
ini.	3	46	-4691	89792	SLU 73	19.14	Si
fin.	3	-43	-6761	89792	SLU 73	13.28	Si
ini.	3	220	-3205	89792	SLU 84	28.02	Si
fin.	3	43	-6930	89792	SLU 84	12.96	Si
ini.	3	393	-1596	89792	SLU 77	56.25	Si
fin.	3	138	-6735	89792	SLU 77	13.33	Si
ini.	3	223	-3221	89792	SLU 83	27.88	Si
fin.	3	47	-6924	89792	SLU 83	12.97	Si
ini.	3	391	-1580	89792	SLU 78	56.82	Si
fin.	3	135	-6741	89792	SLU 78	13.32	Si
ini.	3	31	-5098	89792	SLU 82	17.61	Si
fin.	3	-54	-7135	89792	SLU 82	12.58	Si
ini.	3	235	-2798	89792	SLU 76	32.09	Si
fin.	3	55	-6555	89792	SLU 76	13.7	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-1596	1590			806	303	SLU 77	0.19	No
fin.	3	0	-6735	-1878			806	303	SLU 77	0.16	No
ini.	3	0	-931	1546			806	303	SLU 79	0.2	No
fin.	3	0	-6340	-1855			806	303	SLU 79	0.16	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-915	1545			806	303	SLU 80	0.2	No
fin.	3	0	-6346	-1855			806	303	SLU 80	0.16	No
ini.	3	0	-656	1421			806	303	SLU 70	0.21	No
fin.	3	0	-5858	-1720			806	303	SLU 70	0.18	No
ini.	3	0	-1580	1589			806	303	SLU 78	0.19	No
fin.	3	0	-6741	-1879			806	303	SLU 78	0.16	No
ini.	3	0	-3205	1597			806	303	SLU 84	0.19	No
fin.	3	0	-6930	-1788			806	303	SLU 84	0.17	No
ini.	3	0	-2798	1525			806	303	SLU 76	0.2	No
fin.	3	0	-6555	-1721			806	303	SLU 76	0.18	No
ini.	3	0	-3490	1570			806	303	SLU 74	0.19	No
fin.	3	0	-6941	-1743			806	303	SLU 74	0.17	No
ini.	3	0	-3474	1569			806	303	SLU 75	0.19	No
fin.	3	0	-6947	-1744			806	303	SLU 75	0.17	No
ini.	3	0	-3221	1598			806	303	SLU 83	0.19	No
fin.	3	0	-6924	-1788			806	303	SLU 83	0.17	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2335	-64517	107694	SLV 3	1.67	Si
fin.	2	2757	61443	107694	SLV 3	1.75	Si
ini.	2	-2671	-67886	107694	SLV 2	1.59	Si
fin.	2	2399	57877	107694	SLV 2	1.86	Si
ini.	2	2753	61435	107694	SLV 15	1.75	Si
fin.	2	-2430	-67007	107694	SLV 15	1.61	Si
ini.	2	1057	22963	107694	SLD 14	4.69	Si
fin.	2	-1199	-32739	107694	SLD 14	3.29	Si
ini.	2	1057	22963	107694	SLD 13	4.69	Si
fin.	2	-1199	-32739	107694	SLD 13	3.29	Si
ini.	2	2753	61435	107694	SLV 16	1.75	Si
fin.	2	-2430	-67007	107694	SLV 16	1.61	Si
ini.	2	-2671	-67886	107694	SLV 1	1.59	Si
fin.	2	2399	57877	107694	SLV 1	1.86	Si
ini.	2	2416	58067	107694	SLV 13	1.85	Si
fin.	2	-2788	-70573	107694	SLV 13	1.53	Si
ini.	2	2416	58067	107694	SLV 14	1.85	Si
fin.	2	-2788	-70573	107694	SLV 14	1.53	Si
ini.	2	-2335	-64517	107694	SLV 4	1.67	Si
fin.	2	2757	61443	107694	SLV 4	1.75	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	22963	-571			1208	455	SLD 13	0.8	No
fin.	2	0	-32739	-2839			1208	455	SLD 13	0.16	No
ini.	2	0	58067	-2737			1208	455	SLV 14	0.17	No
fin.	2	0	-70573	-5183			1208	455	SLV 14	0.09	No
ini.	2	0	61435	-2994			1208	455	SLV 16	0.15	No
fin.	2	0	-67007	-4869			1208	455	SLV 16	0.09	No
ini.	2	0	58067	-2737			1208	455	SLV 13	0.17	No
fin.	2	0	-70573	-5183			1208	455	SLV 13	0.09	No
ini.	2	0	-64517	4825			1208	455	SLV 4	0.09	No
fin.	2	0	61443	2994			1208	455	SLV 4	0.15	No
ini.	2	0	-67886	5083			1208	455	SLV 2	0.09	No
fin.	2	0	57877	2680			1208	455	SLV 2	0.17	No
ini.	2	0	-67886	5083			1208	455	SLV 1	0.09	No
fin.	2	0	57877	2680			1208	455	SLV 1	0.17	No
ini.	2	0	22963	-571			1208	455	SLD 14	0.8	No
fin.	2	0	-32739	-2839			1208	455	SLD 14	0.16	No
ini.	2	0	61435	-2994			1208	455	SLV 15	0.15	No
fin.	2	0	-67007	-4869			1208	455	SLV 15	0.09	No
ini.	2	0	-64517	4825			1208	455	SLV 3	0.09	No
fin.	2	0	61443	2994			1208	455	SLV 3	0.15	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.526	SLV 13	Si
V_SLV	0.088	SLV 13	No
PF_SLU	12.584	SLU 82	Si
V_SLU	0.161	SLU 78	No

Trave di accoppiamento 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	898	988	90	-705.8	666.1	898	988	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-21	13108	103792	SLU 72	7.92	Si
fin.	3	319	1091	103792	SLU 72	95.13	Si
ini.	3	21	10300	103792	SLU 73	10.08	Si
fin.	3	-120	12936	103792	SLU 73	8.02	Si
ini.	3	46	10431	103792	SLU 81	9.95	Si
fin.	3	-148	14303	103792	SLU 81	7.26	Si
ini.	3	12	13931	103792	SLU 79	7.45	Si
fin.	3	263	3850	103792	SLU 79	26.96	Si
ini.	3	18	9021	103792	SLU 60	11.51	Si
fin.	3	-179	13781	103792	SLU 60	7.53	Si
ini.	3	9	9200	103792	SLU 61	11.28	Si
fin.	3	-177	13633	103792	SLU 61	7.61	Si
ini.	3	4	13896	103792	SLU 78	7.47	Si
fin.	3	222	5007	103792	SLU 78	20.73	Si
ini.	3	3	14111	103792	SLU 80	7.36	Si
fin.	3	265	3701	103792	SLU 80	28.04	Si
ini.	3	37	10610	103792	SLU 82	9.78	Si
fin.	3	-145	14154	103792	SLU 82	7.33	Si
ini.	3	13	13717	103792	SLU 77	7.57	Si
fin.	3	219	5156	103792	SLU 77	20.13	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	12486	-1843			970	365	SLU 57	0.2	No
fin.	3	0	4486	1043			970	365	SLU 57	0.35	No
ini.	3	0	14111	-1949			970	365	SLU 80	0.19	No
fin.	3	0	3701	1025			970	365	SLU 80	0.36	No
ini.	3	0	13931	-1942			970	365	SLU 79	0.19	No
fin.	3	0	3850	1036			970	365	SLU 79	0.35	No
ini.	3	0	12894	-1948			970	365	SLU 70	0.19	No
fin.	3	0	2397	993			970	365	SLU 70	0.37	No
ini.	3	0	12715	-1941			970	365	SLU 69	0.19	No
fin.	3	0	2546	1004			970	365	SLU 69	0.36	No
ini.	3	0	13896	-1962			970	365	SLU 78	0.19	No
fin.	3	0	5007	1111			970	365	SLU 78	0.33	No
ini.	3	0	12929	-1928			970	365	SLU 71	0.19	No
fin.	3	0	1240	918			970	365	SLU 71	0.4	No
ini.	3	0	13108	-1935			970	365	SLU 72	0.19	No
fin.	3	0	1091	907			970	365	SLU 72	0.4	No
ini.	3	0	12307	-1836			970	365	SLU 56	0.2	No
fin.	3	0	4634	1054			970	365	SLU 56	0.35	No
ini.	3	0	13717	-1956			970	365	SLU 77	0.19	No
fin.	3	0	5156	1123			970	365	SLU 77	0.33	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2831	-48540	121694	SLV 2	2.51	Si
fin.	2	-2237	75388	121694	SLV 2	1.61	Si
ini.	2	-2997	75227	121694	SLV 14	1.62	Si
fin.	2	2191	-60490	121694	SLV 14	2.01	Si
ini.	2	-2997	75227	121694	SLV 13	1.62	Si
fin.	2	2191	-60490	121694	SLV 13	2.01	Si
ini.	2	-2810	62338	121694	SLV 15	1.95	Si
fin.	2	2084	-57857	121694	SLV 15	2.1	Si
ini.	2	-2810	62338	121694	SLV 16	1.95	Si
fin.	2	2084	-57857	121694	SLV 16	2.1	Si
ini.	2	3018	-61429	121694	SLV 3	1.98	Si
fin.	2	-2344	78020	121694	SLV 3	1.56	Si
ini.	2	2831	-48540	121694	SLV 1	2.51	Si
fin.	2	-2237	75388	121694	SLV 1	1.61	Si
ini.	2	-1176	46946	121694	SLV 10	2.59	Si
fin.	2	766	-16004	121694	SLV 10	7.6	Si
ini.	2	3018	-61429	121694	SLV 4	1.98	Si
fin.	2	-2344	78020	121694	SLV 4	1.56	Si
ini.	2	-1176	46946	121694	SLV 9	2.59	Si
fin.	2	766	-16004	121694	SLV 9	7.6	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-61429	3165			1456	548	SLV 3	0.17	No
fin.	2	0	78020	4331			1456	548	SLV 3	0.13	No
ini.	2	0	30639	-3052			1456	548	SLD 15	0.18	No
fin.	2	0	-19689	-419			1456	548	SLD 15	1.31	Si
ini.	2	0	75227	-5364			1456	548	SLV 13	0.1	No
fin.	2	0	-60490	-2420			1456	548	SLV 13	0.23	No
ini.	2	0	-48540	3473			1456	548	SLV 1	0.16	No
fin.	2	0	75388	4173			1456	548	SLV 1	0.13	No
ini.	2	0	62338	-5672			1456	548	SLV 15	0.1	No
fin.	2	0	-57857	-2261			1456	548	SLV 15	0.24	No
ini.	2	0	75227	-5364			1456	548	SLV 14	0.1	No
fin.	2	0	-60490	-2420			1456	548	SLV 14	0.23	No
ini.	2	0	30639	-3052			1456	548	SLD 16	0.18	No
fin.	2	0	-19689	-419			1456	548	SLD 16	1.31	Si
ini.	2	0	62338	-5672			1456	548	SLV 16	0.1	No
fin.	2	0	-57857	-2261			1456	548	SLV 16	0.24	No
ini.	2	0	-48540	3473			1456	548	SLV 2	0.16	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	75388	4173			1456	548	SLV 2	0.13	No
ini.	2	0	-61429	3165			1456	548	SLV 4	0.17	No
fin.	2	0	78020	4331			1456	548	SLV 4	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.56	SLV 3	Si
V_SLV	0.097	SLV 15	No
PF_SLU	7.257	SLU 81	Si
V_SLU	0.186	SLU 78	No

Trave di accoppiamento 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	1168	1250	82	-705.8	666.1	1168	1250	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	568	4288	89792	SLU 38	20.94	Si
fin.	3	128	-11617	89792	SLU 38	7.73	Si
ini.	3	675	4820	89792	SLU 72	18.63	Si
fin.	3	196	-11730	89792	SLU 72	7.66	Si
ini.	3	516	3236	89792	SLU 36	27.75	Si
fin.	3	134	-11415	89792	SLU 36	7.87	Si
ini.	3	554	3525	89792	SLU 80	25.47	Si
fin.	3	148	-12300	89792	SLU 80	7.3	Si
ini.	3	623	3768	89792	SLU 70	23.83	Si
fin.	3	202	-11527	89792	SLU 70	7.79	Si
ini.	3	497	2344	89792	SLU 77	38.31	Si
fin.	3	162	-11906	89792	SLU 77	7.54	Si
ini.	3	563	4159	89792	SLU 37	21.59	Si
fin.	3	136	-11425	89792	SLU 37	7.86	Si
ini.	3	549	3396	89792	SLU 79	26.44	Si
fin.	3	156	-12108	89792	SLU 79	7.42	Si
ini.	3	670	4690	89792	SLU 71	19.14	Si
fin.	3	204	-11538	89792	SLU 71	7.78	Si
ini.	3	502	2473	89792	SLU 78	36.31	Si
fin.	3	154	-12097	89792	SLU 78	7.42	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-898	1800			806	303	SLU 83	0.17	No
fin.	3	0	-9577	-1665			806	303	SLU 83	0.18	No
ini.	3	0	2344	1583			806	303	SLU 77	0.19	No
fin.	3	0	-11906	-1790			806	303	SLU 77	0.17	No
ini.	3	0	-769	1789			806	303	SLU 84	0.17	No
fin.	3	0	-9769	-1673			806	303	SLU 84	0.18	No
ini.	3	0	-3867	1846			806	303	SLU 73	0.16	No
fin.	3	0	-6877	-1423			806	303	SLU 73	0.21	No
ini.	3	0	-4637	1995			806	303	SLU 81	0.15	No
fin.	3	0	-6801	-1483			806	303	SLU 81	0.2	No
ini.	3	0	2473	1572			806	303	SLU 78	0.19	No
fin.	3	0	-12097	-1798			806	303	SLU 78	0.17	No
ini.	3	0	-4508	1984			806	303	SLU 82	0.15	No
fin.	3	0	-6993	-1491			806	303	SLU 82	0.2	No
ini.	3	0	-4879	1798			806	303	SLU 60	0.17	No
fin.	3	0	-5388	-1268			806	303	SLU 60	0.24	No
ini.	3	0	-4749	1787			806	303	SLU 61	0.17	No
fin.	3	0	-5580	-1276			806	303	SLU 61	0.24	No
ini.	3	0	3525	1463			806	303	SLU 80	0.21	No
fin.	3	0	-12300	-1781			806	303	SLU 80	0.17	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2252	41929	107694	SLV 13	2.57	Si
fin.	2	-1461	-64306	107694	SLV 13	1.67	Si
ini.	2	-2307	-47064	107694	SLV 4	2.29	Si
fin.	2	1573	55391	107694	SLV 4	1.94	Si
ini.	2	-2557	-49354	107694	SLV 1	2.18	Si
fin.	2	1282	50744	107694	SLV 1	2.12	Si
ini.	2	-2307	-47064	107694	SLV 3	2.29	Si
fin.	2	1573	55391	107694	SLV 3	1.94	Si
ini.	2	2501	44219	107694	SLV 15	2.44	Si
fin.	2	-1169	-59659	107694	SLV 15	1.81	Si
ini.	2	-2557	-49354	107694	SLV 2	2.18	Si
fin.	2	1282	50744	107694	SLV 2	2.12	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	947	16447	107694	SLD 13	6.55	Si
fin.	2	-591	-30006	107694	SLD 13	3.59	Si
ini.	2	2252	41929	107694	SLV 14	2.57	Si
fin.	2	-1461	-64306	107694	SLV 14	1.67	Si
ini.	2	2501	44219	107694	SLV 16	2.44	Si
fin.	2	-1169	-59659	107694	SLV 16	1.81	Si
ini.	2	947	16447	107694	SLD 14	6.55	Si
fin.	2	-591	-30006	107694	SLD 14	3.59	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-49354	4313			1208	455	SLV 1	0.11	No
fin.	2	0	50744	1921			1208	455	SLV 1	0.24	No
ini.	2	0	41929	-1552			1208	455	SLV 14	0.29	No
fin.	2	0	-64306	-4062			1208	455	SLV 14	0.11	No
ini.	2	0	44219	-1826			1208	455	SLV 15	0.25	No
fin.	2	0	-59659	-3828			1208	455	SLV 15	0.12	No
ini.	2	0	-20076	2581			1208	455	SLV 6	0.18	No
fin.	2	0	5054	-447			1208	455	SLV 6	1.02	Si
ini.	2	0	-20076	2581			1208	455	SLV 5	0.18	No
fin.	2	0	5054	-447			1208	455	SLV 5	1.02	Si
ini.	2	0	41929	-1552			1208	455	SLV 13	0.29	No
fin.	2	0	-64306	-4062			1208	455	SLV 13	0.11	No
ini.	2	0	-47064	4038			1208	455	SLV 4	0.11	No
fin.	2	0	55391	2155			1208	455	SLV 4	0.21	No
ini.	2	0	44219	-1826			1208	455	SLV 16	0.25	No
fin.	2	0	-59659	-3828			1208	455	SLV 16	0.12	No
ini.	2	0	-47064	4038			1208	455	SLV 3	0.11	No
fin.	2	0	55391	2155			1208	455	SLV 3	0.21	No
ini.	2	0	-49354	4313			1208	455	SLV 2	0.11	No
fin.	2	0	50744	1921			1208	455	SLV 2	0.24	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		1.675	SLV 13	Si
V_SLV		0.105	SLV 1	No
PF_SLU		7.3	SLU 80	Si
V_SLU		0.152	SLU 81	No

Trave di accoppiamento 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1986.8	104.6	1108	1250	142	-2066.8	104.6	1108	1250	142	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-396	53506	194792	SLU 29	3.64	Si
fin.	3	-396	-27868	194792	SLU 29	6.99	Si
ini.	3	-267	53061	194792	SLU 72	3.67	Si
fin.	3	-267	-29567	194792	SLU 72	6.59	Si
ini.	3	-295	56744	194792	SLU 71	3.43	Si
fin.	3	-295	-30981	194792	SLU 71	6.29	Si
ini.	3	-802	55961	194792	SLU 37	3.48	Si
fin.	3	-802	-18078	194792	SLU 37	10.77	Si
ini.	3	-726	54133	194792	SLU 78	3.6	Si
fin.	3	-726	-15940	194792	SLU 78	12.22	Si
ini.	3	-754	57815	194792	SLU 77	3.37	Si
fin.	3	-754	-17354	194792	SLU 77	11.22	Si
ini.	3	-673	55516	194792	SLU 80	3.51	Si
fin.	3	-673	-19778	194792	SLU 80	9.85	Si
ini.	3	-701	59199	194792	SLU 79	3.29	Si
fin.	3	-701	-21192	194792	SLU 79	9.19	Si
ini.	3	-348	55360	194792	SLU 69	3.52	Si
fin.	3	-348	-27143	194792	SLU 69	7.18	Si
ini.	3	-855	54578	194792	SLU 35	3.57	Si
fin.	3	-855	-14240	194792	SLU 35	13.68	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	51678	-229			1531	576	SLU 70	2.52	Si
fin.	3	0	-25729	-1768			1531	576	SLU 70	0.33	No
ini.	3	0	50405	-154			1531	576	SLU 58	3.73	Si
fin.	3	0	-23549	-1757			1531	576	SLU 58	0.33	No
ini.	3	0	54133	59			1531	576	SLU 78	9.84	Si
fin.	3	0	-15940	-1872			1531	576	SLU 78	0.31	No
ini.	3	0	55961	-80			1531	576	SLU 37	7.18	Si



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-18078	-1817			1531	576	SLU 37	0.32	No
ini.	3	0	59199	-70			1531	576	SLU 79	8.19	Si
fin.	3	0	-21192	-2001			1531	576	SLU 79	0.29	No
ini.	3	0	53061	-294			1531	576	SLU 72	1.96	Si
fin.	3	0	-29567	-1833			1531	576	SLU 72	0.31	No
ini.	3	0	56744	-358			1531	576	SLU 71	1.61	Si
fin.	3	0	-30981	-1897			1531	576	SLU 71	0.3	No
ini.	3	0	55360	-292			1531	576	SLU 69	1.97	Si
fin.	3	0	-27143	-1832			1531	576	SLU 69	0.31	No
ini.	3	0	57815	-5			1531	576	SLU 77	112.39	Si
fin.	3	0	-17354	-1936			1531	576	SLU 77	0.3	No
ini.	3	0	55516	-7			1531	576	SLU 80	86.15	Si
fin.	3	0	-19778	-1937			1531	576	SLU 80	0.3	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-418	-303880	212694	SLV 15	0.7	No
fin.	2	-56	321948	212694	SLV 15	0.66	No
ini.	2	-224	164119	212694	SLD 2	1.3	Si
fin.	2	-383	-143508	212694	SLD 2	1.48	Si
ini.	2	395	346829	212694	SLV 4	0.61	No
fin.	2	-234	-310709	212694	SLV 4	0.68	No
ini.	2	395	346829	212694	SLV 3	0.61	No
fin.	2	-234	-310709	212694	SLV 3	0.68	No
ini.	2	-968	-298716	212694	SLV 13	0.71	No
fin.	2	-339	302279	212694	SLV 13	0.7	No
ini.	2	-968	-298716	212694	SLV 14	0.71	No
fin.	2	-339	302279	212694	SLV 14	0.7	No
ini.	2	-155	351993	212694	SLV 1	0.6	No
fin.	2	-517	-330378	212694	SLV 1	0.64	No
ini.	2	-155	351993	212694	SLV 2	0.6	No
fin.	2	-517	-330378	212694	SLV 2	0.64	No
ini.	2	-418	-303880	212694	SLV 16	0.7	No
fin.	2	-56	321948	212694	SLV 16	0.66	No
ini.	2	-224	164119	212694	SLD 1	1.3	Si
fin.	2	-383	-143508	212694	SLD 1	1.48	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-298716	8248			2297	864	SLV 13	0.1	No
fin.	2	0	302279	7046			2297	864	SLV 13	0.12	No
ini.	2	0	346829	-7778			2297	864	SLV 3	0.11	No
fin.	2	0	-310709	-9024			2297	864	SLV 3	0.1	No
ini.	2	0	351993	-8328			2297	864	SLV 2	0.1	No
fin.	2	0	-330378	-9521			2297	864	SLV 2	0.09	No
ini.	2	0	351993	-8328			2297	864	SLV 1	0.1	No
fin.	2	0	-330378	-9521			2297	864	SLV 1	0.09	No
ini.	2	0	-298716	8248			2297	864	SLV 14	0.1	No
fin.	2	0	302279	7046			2297	864	SLV 14	0.12	No
ini.	2	0	164119	-3419			2297	864	SLD 1	0.25	No
fin.	2	0	-143508	-4630			2297	864	SLD 1	0.19	No
ini.	2	0	346829	-7778			2297	864	SLV 4	0.11	No
fin.	2	0	-310709	-9024			2297	864	SLV 4	0.1	No
ini.	2	0	-303880	8798			2297	864	SLV 16	0.1	No
fin.	2	0	321948	7543			2297	864	SLV 16	0.11	No
ini.	2	0	164119	-3419			2297	864	SLD 2	0.25	No
fin.	2	0	-143508	-4630			2297	864	SLD 2	0.19	No
ini.	2	0	-303880	8798			2297	864	SLV 15	0.1	No
fin.	2	0	321948	7543			2297	864	SLV 15	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.604	SLV 1	No
V_SLV	0.091	SLV 1	No
PF_SLU	3.29	SLU 79	Si
V_SLU	0.288	SLU 79	No

Trave di accoppiamento 130

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1116.3	104.6	1148	1250	102	-1228.3	104.6	1148	1250	102	112	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _w	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1527	-83643	124792	SLU 79	1.49	Si
fin.	3	-1527	5732	124792	SLU 79	21.77	Si



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1214	-80315	124792	SLU 71	1.55	Si
fin.	3	-1214	18888	124792	SLU 71	6.61	Si
ini.	3	-1552	-82263	124792	SLU 80	1.52	Si
fin.	3	-1552	5484	124792	SLU 80	22.76	Si
ini.	3	-1557	-82528	124792	SLU 77	1.51	Si
fin.	3	-1557	4722	124792	SLU 77	26.43	Si
ini.	3	-1239	-78935	124792	SLU 72	1.58	Si
fin.	3	-1239	18640	124792	SLU 72	6.69	Si
ini.	3	-1582	-81148	124792	SLU 78	1.54	Si
fin.	3	-1582	4474	124792	SLU 78	27.89	Si
ini.	3	-1512	-78257	124792	SLU 35	1.59	Si
fin.	3	-1512	3257	124792	SLU 35	38.32	Si
ini.	3	-1482	-79372	124792	SLU 37	1.57	Si
fin.	3	-1482	4266	124792	SLU 37	29.25	Si
ini.	3	-1244	-79200	124792	SLU 69	1.58	Si
fin.	3	-1244	17878	124792	SLU 69	6.98	Si
ini.	3	-1507	-77992	124792	SLU 38	1.6	Si
fin.	3	-1507	4018	124792	SLU 38	31.06	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-79372	1542			1002	377	SLU 37	0.24	No
fin.	3	0	4266	-48			1002	377	SLU 37	7.91	Si
ini.	3	0	-78935	1554			1002	377	SLU 72	0.24	No
fin.	3	0	18640	169			1002	377	SLU 72	2.23	Si
ini.	3	0	-82528	1677			1002	377	SLU 77	0.22	No
fin.	3	0	4722	-125			1002	377	SLU 77	3.02	Si
ini.	3	0	-82263	1681			1002	377	SLU 80	0.22	No
fin.	3	0	5484	-120			1002	377	SLU 80	3.13	Si
ini.	3	0	-80315	1568			1002	377	SLU 71	0.24	No
fin.	3	0	18888	184			1002	377	SLU 71	2.05	Si
ini.	3	0	-77820	1535			1002	377	SLU 70	0.25	No
fin.	3	0	17630	150			1002	377	SLU 70	2.51	Si
ini.	3	0	-81148	1662			1002	377	SLU 78	0.23	No
fin.	3	0	4474	-139			1002	377	SLU 78	2.71	Si
ini.	3	0	-83643	1696			1002	377	SLU 79	0.22	No
fin.	3	0	5732	-106			1002	377	SLU 79	3.56	Si
ini.	3	0	-79200	1549			1002	377	SLU 69	0.24	No
fin.	3	0	17878	165			1002	377	SLU 69	2.29	Si
ini.	3	0	-77992	1527			1002	377	SLU 38	0.25	No
fin.	3	0	4018	-62			1002	377	SLU 38	6.06	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2017	162065	142694	SLV 8	0.88	No
fin.	2	-2229	-265009	142694	SLV 8	0.54	No
ini.	2	2560	-274291	142694	SLV 14	0.52	No
fin.	2	3104	471184	142694	SLV 14	0.3	No
ini.	2	-2017	162065	142694	SLV 7	0.88	No
fin.	2	-2229	-265009	142694	SLV 7	0.54	No
ini.	2	2560	-274291	142694	SLV 13	0.52	No
fin.	2	3104	471184	142694	SLV 13	0.3	No
ini.	2	2331	-190290	142694	SLV 15	0.75	No
fin.	2	2843	395029	142694	SLV 15	0.36	No
ini.	2	-3948	201023	142694	SLV 3	0.71	No
fin.	2	-4492	-483723	142694	SLV 3	0.29	No
ini.	2	-3719	117022	142694	SLV 1	1.22	Si
fin.	2	-4231	-407568	142694	SLV 1	0.35	No
ini.	2	2331	-190290	142694	SLV 16	0.75	No
fin.	2	2843	395029	142694	SLV 16	0.36	No
ini.	2	-3719	117022	142694	SLV 2	1.22	Si
fin.	2	-4231	-407568	142694	SLV 2	0.35	No
ini.	2	-3948	201023	142694	SLV 4	0.71	No
fin.	2	-4492	-483723	142694	SLV 4	0.29	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	201023	-5630			1503	565	SLV 3	0.1	No
fin.	2	0	-483723	-6729			1503	565	SLV 3	0.08	No
ini.	2	0	-190290	5868			1503	565	SLV 15	0.1	No
fin.	2	0	395029	4732			1503	565	SLV 15	0.12	No
ini.	2	0	-274291	7296			1503	565	SLV 13	0.08	No
fin.	2	0	471184	6123			1503	565	SLV 13	0.09	No
ini.	2	0	-274291	7296			1503	565	SLV 14	0.08	No
fin.	2	0	471184	6123			1503	565	SLV 14	0.09	No
ini.	2	0	117022	-4202			1503	565	SLV 1	0.13	No
fin.	2	0	-407568	-5338			1503	565	SLV 1	0.11	No
ini.	2	0	201023	-5630			1503	565	SLV 4	0.1	No
fin.	2	0	-483723	-6729			1503	565	SLV 4	0.08	No
ini.	2	0	-235333	4938			1503	565	SLV 9	0.11	No
fin.	2	0	252470	3736			1503	565	SLV 9	0.15	No
ini.	2	0	117022	-4202			1503	565	SLV 2	0.13	No
fin.	2	0	-407568	-5338			1503	565	SLV 2	0.11	No
ini.	2	0	-190290	5868			1503	565	SLV 16	0.1	No
fin.	2	0	395029	4732			1503	565	SLV 16	0.12	No
ini.	2	0	-235333	4938			1503	565	SLV 10	0.11	No
fin.	2	0	252470	3736			1503	565	SLV 10	0.15	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.295	SLV 3	No
V_SLV	0.077	SLV 13	No
PF_SLU	1.492	SLU 79	Si
V_SLU	0.222	SLU 79	No

Trave di accoppiamento 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-938.6	104.6	1148	1250	102	-1046.6	104.6	1148	1250	102	108	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1402	100887	124792	SLU 37	1.24	Si
fin.	3	-1402	-94014	124792	SLU 37	1.33	Si
ini.	3	-1443	97646	124792	SLU 36	1.28	Si
fin.	3	-1443	-90742	124792	SLU 36	1.38	Si
ini.	3	-1443	97477	124792	SLU 80	1.28	Si
fin.	3	-1443	-94404	124792	SLU 80	1.32	Si
ini.	3	-1465	97679	124792	SLU 78	1.28	Si
fin.	3	-1465	-93798	124792	SLU 78	1.33	Si
ini.	3	-1422	97445	124792	SLU 38	1.28	Si
fin.	3	-1422	-91348	124792	SLU 38	1.37	Si
ini.	3	-1432	90677	124792	SLU 83	1.38	Si
fin.	3	-1432	-84777	124792	SLU 83	1.47	Si
ini.	3	-1423	100919	124792	SLU 79	1.24	Si
fin.	3	-1423	-97070	124792	SLU 79	1.29	Si
ini.	3	-1411	90645	124792	SLU 41	1.38	Si
fin.	3	-1411	-81720	124792	SLU 41	1.53	Si
ini.	3	-1423	101088	124792	SLU 35	1.23	Si
fin.	3	-1423	-93408	124792	SLU 35	1.34	Si
ini.	3	-1445	101121	124792	SLU 77	1.23	Si
fin.	3	-1445	-96464	124792	SLU 77	1.29	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	87235	-157			1039	391	SLU 84	2.49	Si
fin.	3	0	-82111	-2897			1039	391	SLU 84	0.13	No
ini.	3	0	97477	-490			1039	391	SLU 80	0.8	No
fin.	3	0	-94404	-2989			1039	391	SLU 80	0.13	No
ini.	3	0	97445	-574			1039	391	SLU 38	0.68	No
fin.	3	0	-91348	-2853			1039	391	SLU 38	0.14	No
ini.	3	0	97679	-487			1039	391	SLU 78	0.8	No
fin.	3	0	-93798	-2985			1039	391	SLU 78	0.13	No
ini.	3	0	100919	-547			1039	391	SLU 79	0.71	No
fin.	3	0	-97070	-3045			1039	391	SLU 79	0.13	No
ini.	3	0	100887	-631			1039	391	SLU 37	0.62	No
fin.	3	0	-94014	-2909			1039	391	SLU 37	0.13	No
ini.	3	0	101121	-543			1039	391	SLU 77	0.72	No
fin.	3	0	-96464	-3042			1039	391	SLU 77	0.13	No
ini.	3	0	90677	-214			1039	391	SLU 83	1.83	Si
fin.	3	0	-84777	-2953			1039	391	SLU 83	0.13	No
ini.	3	0	101088	-627			1039	391	SLU 35	0.62	No
fin.	3	0	-93408	-2906			1039	391	SLU 35	0.13	No
ini.	3	0	97646	-571			1039	391	SLU 36	0.68	No
fin.	3	0	-90742	-2849			1039	391	SLU 36	0.14	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2379	449054	142694	SLV 1	0.32	No
fin.	2	-2955	-203019	142694	SLV 1	0.7	No
ini.	2	-819	243880	142694	SLV 5	0.59	No
fin.	2	-1145	-204147	142694	SLV 5	0.7	No
ini.	2	1093	-363049	142694	SLV 16	0.39	No
fin.	2	1669	116844	142694	SLV 16	1.22	Si
ini.	2	-2606	396926	142694	SLV 4	0.36	No
fin.	2	-3081	-128461	142694	SLV 4	1.11	Si
ini.	2	-2606	396926	142694	SLV 3	0.36	No
fin.	2	-3081	-128461	142694	SLV 3	1.11	Si
ini.	2	1320	-310921	142694	SLV 13	0.46	No
fin.	2	1795	42286	142694	SLV 13	3.37	Si
ini.	2	-819	243880	142694	SLV 6	0.59	No
fin.	2	-1145	-204147	142694	SLV 6	0.7	No
ini.	2	1093	-363049	142694	SLV 15	0.39	No
fin.	2	1669	116844	142694	SLV 15	1.22	Si
ini.	2	-2379	449054	142694	SLV 2	0.32	No

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Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-2955	-203019	142694	SLV 2	0.7	No
ini.	2	1320	-310921	142694	SLV 14	0.46	No
fin.	2	1795	42286	142694	SLV 14	3.37	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	243880	-3353			1558	586	SLV 6	0.17	No
fin.	2	0	-204147	-4917			1558	586	SLV 6	0.12	No
ini.	2	0	-363049	5378			1558	586	SLV 15	0.11	No
fin.	2	0	116844	3792			1558	586	SLV 15	0.15	No
ini.	2	0	449054	-5378			1558	586	SLV 1	0.11	No
fin.	2	0	-203019	-6891			1558	586	SLV 1	0.09	No
ini.	2	0	-310921	4231			1558	586	SLV 14	0.14	No
fin.	2	0	42286	2628			1558	586	SLV 14	0.22	No
ini.	2	0	243880	-3353			1558	586	SLV 5	0.17	No
fin.	2	0	-204147	-4917			1558	586	SLV 5	0.12	No
ini.	2	0	396926	-4231			1558	586	SLV 4	0.14	No
fin.	2	0	-128461	-5727			1558	586	SLV 4	0.1	No
ini.	2	0	-363049	5378			1558	586	SLV 16	0.11	No
fin.	2	0	116844	3792			1558	586	SLV 16	0.15	No
ini.	2	0	-310921	4231			1558	586	SLV 13	0.14	No
fin.	2	0	42286	2628			1558	586	SLV 13	0.22	No
ini.	2	0	396926	-4231			1558	586	SLV 3	0.14	No
fin.	2	0	-128461	-5727			1558	586	SLV 3	0.1	No
ini.	2	0	449054	-5378			1558	586	SLV 2	0.11	No
fin.	2	0	-203019	-6891			1558	586	SLV 2	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.318	SLV 1	No
V_SLV	0.085	SLV 1	No
PF_SLU	1.234	SLU 77	Si
V_SLU	0.128	SLU 79	No

Trave di accoppiamento 132

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-647.8	104.6	1108	1250	142	-727.8	104.6	1108	1250	142	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-680	-51853	194792	SLU 73	3.76	Si
fin.	3	-680	69505	194792	SLU 73	2.8	Si
ini.	3	-878	-53746	194792	SLU 81	3.62	Si
fin.	3	-878	75230	194792	SLU 81	2.59	Si
ini.	3	-695	-35000	194792	SLU 78	5.57	Si
fin.	3	-695	69609	194792	SLU 78	2.8	Si
ini.	3	-758	-41638	194792	SLU 74	4.68	Si
fin.	3	-758	69678	194792	SLU 74	2.8	Si
ini.	3	-815	-47108	194792	SLU 84	4.14	Si
fin.	3	-815	75161	194792	SLU 84	2.59	Si
ini.	3	-837	-56247	194792	SLU 82	3.46	Si
fin.	3	-837	76525	194792	SLU 82	2.55	Si
ini.	3	-717	-44140	194792	SLU 75	4.41	Si
fin.	3	-717	70973	194792	SLU 75	2.74	Si
ini.	3	-620	-55836	194792	SLU 61	3.49	Si
fin.	3	-620	69162	194792	SLU 61	2.82	Si
ini.	3	-856	-44606	194792	SLU 83	4.37	Si
fin.	3	-856	73866	194792	SLU 83	2.64	Si
ini.	3	-841	-48711	194792	SLU 40	4	Si
fin.	3	-841	68870	194792	SLU 40	2.83	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-51853	2500			1531	576	SLU 73	0.23	No
fin.	3	0	69505	462			1531	576	SLU 73	1.25	Si
ini.	3	0	-46209	2404			1531	576	SLU 39	0.24	No
fin.	3	0	67575	386			1531	576	SLU 39	1.49	Si
ini.	3	0	-56247	2733			1531	576	SLU 82	0.21	No
fin.	3	0	76525	514			1531	576	SLU 82	1.12	Si
ini.	3	0	-44606	2554			1531	576	SLU 83	0.23	No
fin.	3	0	73866	335			1531	576	SLU 83	1.72	Si
ini.	3	0	-44140	2422			1531	576	SLU 75	0.24	No
fin.	3	0	70973	384			1531	576	SLU 39	1.5	Si
ini.	3	0	-47108	2602			1531	576	SLU 84	0.22	No
fin.	3	0	75161	383			1531	576	SLU 84	1.51	Si



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-48711	2452			1531	576	SLU 40	0.24	No
fin.	3	0	68870	434			1531	576	SLU 40	1.33	Si
ini.	3	0	-53334	2412			1531	576	SLU 60	0.24	No
fin.	3	0	67867	542			1531	576	SLU 60	1.06	Si
ini.	3	0	-53746	2686			1531	576	SLU 81	0.21	No
fin.	3	0	75230	467			1531	576	SLU 81	1.23	Si
ini.	3	0	-55836	2460			1531	576	SLU 61	0.23	No
fin.	3	0	69162	589			1531	576	SLU 61	0.98	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1054	-287717	212694	SLV 14	0.74	No
fin.	2	-439	372263	212694	SLV 14	0.57	No
ini.	2	-1054	-287717	212694	SLV 13	0.74	No
fin.	2	-439	372263	212694	SLV 13	0.57	No
ini.	2	297	262863	212694	SLV 1	0.81	No
fin.	2	-181	-327753	212694	SLV 1	0.65	No
ini.	2	297	262863	212694	SLV 2	0.81	No
fin.	2	-181	-327753	212694	SLV 2	0.65	No
ini.	2	-596	-170078	212694	SLV 12	1.25	Si
fin.	2	-661	209748	212694	SLV 12	1.01	Si
ini.	2	-1061	-322362	212694	SLV 15	0.66	No
fin.	2	-583	410336	212694	SLV 15	0.52	No
ini.	2	-1061	-322362	212694	SLV 16	0.66	No
fin.	2	-583	410336	212694	SLV 16	0.52	No
ini.	2	290	228218	212694	SLV 4	0.93	No
fin.	2	-325	-289680	212694	SLV 4	0.73	No
ini.	2	-596	-170078	212694	SLV 11	1.25	Si
fin.	2	-661	209748	212694	SLV 11	1.01	Si
ini.	2	290	228218	212694	SLV 3	0.93	No
fin.	2	-325	-289680	212694	SLV 3	0.73	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-287717	9187			2297	864	SLV 13	0.09	No
fin.	2	0	372263	7909			2297	864	SLV 13	0.11	No
ini.	2	0	-287717	9187			2297	864	SLV 14	0.09	No
fin.	2	0	372263	7909			2297	864	SLV 14	0.11	No
ini.	2	0	-170078	5397			2297	864	SLV 12	0.16	No
fin.	2	0	209748	4051			2297	864	SLV 12	0.21	No
ini.	2	0	-322362	10062			2297	864	SLV 15	0.09	No
fin.	2	0	410336	8749			2297	864	SLV 15	0.1	No
ini.	2	0	228218	-6180			2297	864	SLV 3	0.14	No
fin.	2	0	-289680	-7477			2297	864	SLV 3	0.12	No
ini.	2	0	-170078	5397			2297	864	SLV 11	0.16	No
fin.	2	0	209748	4051			2297	864	SLV 11	0.21	No
ini.	2	0	262863	-7054			2297	864	SLV 1	0.12	No
fin.	2	0	-327753	-8318			2297	864	SLV 1	0.1	No
ini.	2	0	-322362	10062			2297	864	SLV 16	0.09	No
fin.	2	0	410336	8749			2297	864	SLV 16	0.1	No
ini.	2	0	228218	-6180			2297	864	SLV 4	0.14	No
fin.	2	0	-289680	-7477			2297	864	SLV 4	0.12	No
ini.	2	0	262863	-7054			2297	864	SLV 2	0.12	No
fin.	2	0	-327753	-8318			2297	864	SLV 2	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.518	SLV 15	No
V_SLV	0.086	SLV 15	No
PF_SLU	2.545	SLU 82	Si
V_SLU	0.211	SLU 82	No

Trave di accoppiamento 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-416.8	104.6	1108	1250	142	-496.8	104.6	1108	1250	142	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-340	-51966	194792	SLU 69	3.75	Si
fin.	3	-340	34148	194792	SLU 69	5.7	Si
ini.	3	-342	-53565	194792	SLU 72	3.64	Si
fin.	3	-342	31599	194792	SLU 72	6.16	Si
ini.	3	-168	-54157	194792	SLU 50	3.6	Si
fin.	3	-168	33106	194792	SLU 50	5.88	Si
ini.	3	-327	-49704	194792	SLU 29	3.92	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-327	33144	194792	SLU 29	5.88	Si
ini.	3	-422	-49662	194792	SLU 58	3.92	Si
fin.	3	-422	30608	194792	SLU 58	6.36	Si
ini.	3	-336	-55016	194792	SLU 71	3.54	Si
fin.	3	-336	35409	194792	SLU 71	5.5	Si
ini.	3	-590	-50520	194792	SLU 79	3.86	Si
fin.	3	-590	32911	194792	SLU 79	5.92	Si
ini.	3	-175	-52707	194792	SLU 51	3.7	Si
fin.	3	-175	29296	194792	SLU 51	6.65	Si
ini.	3	-346	-50516	194792	SLU 70	3.86	Si
fin.	3	-346	30338	194792	SLU 70	6.42	Si
ini.	3	-172	-51108	194792	SLU 48	3.81	Si
fin.	3	-172	31845	194792	SLU 48	6.12	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-47471	1992			1531	576	SLU 77	0.29	No
fin.	3	0	31650	57			1531	576	SLU 77	10.1	Si
ini.	3	0	-45208	1844			1531	576	SLU 37	0.31	No
fin.	3	0	30646	105			1531	576	SLU 37	5.49	Si
ini.	3	0	-55016	1938			1531	576	SLU 71	0.3	No
fin.	3	0	35409	394			1531	576	SLU 71	1.46	Si
ini.	3	0	-50520	2046			1531	576	SLU 79	0.28	No
fin.	3	0	32911	111			1531	576	SLU 79	5.19	Si
ini.	3	0	-50516	1818			1531	576	SLU 70	0.32	No
fin.	3	0	30338	274			1531	576	SLU 70	2.1	Si
ini.	3	0	-53565	1872			1531	576	SLU 72	0.31	No
fin.	3	0	31599	328			1531	576	SLU 72	1.76	Si
ini.	3	0	-51966	1884			1531	576	SLU 69	0.31	No
fin.	3	0	34148	340			1531	576	SLU 69	1.69	Si
ini.	3	0	-46020	1926			1531	576	SLU 78	0.3	No
fin.	3	0	27840	-9			1531	576	SLU 78	66.38	Si
ini.	3	0	-49662	1846			1531	576	SLU 58	0.31	No
fin.	3	0	30608	236			1531	576	SLU 58	2.45	Si
ini.	3	0	-49070	1980			1531	576	SLU 80	0.29	No
fin.	3	0	29102	45			1531	576	SLU 80	12.75	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1436	-390261	212694	SLV 16	0.55	No
fin.	2	-983	259538	212694	SLV 16	0.82	No
ini.	2	855	332427	212694	SLV 3	0.64	No
fin.	2	283	-221145	212694	SLV 3	0.96	No
ini.	2	-1436	-390261	212694	SLV 15	0.55	No
fin.	2	-983	259538	212694	SLV 15	0.82	No
ini.	2	752	354964	212694	SLV 2	0.6	No
fin.	2	299	-239283	212694	SLV 2	0.89	No
ini.	2	-1540	-367724	212694	SLV 13	0.58	No
fin.	2	-967	241400	212694	SLV 13	0.88	No
ini.	2	-812	-176784	212694	SLD 16	1.2	Si
fin.	2	-618	116526	212694	SLD 16	1.83	Si
ini.	2	-1540	-367724	212694	SLV 14	0.58	No
fin.	2	-967	241400	212694	SLV 14	0.88	No
ini.	2	752	354964	212694	SLV 1	0.6	No
fin.	2	299	-239283	212694	SLV 1	0.89	No
ini.	2	-812	-176784	212694	SLD 15	1.2	Si
fin.	2	-618	116526	212694	SLD 15	1.83	Si
ini.	2	855	332427	212694	SLV 4	0.64	No
fin.	2	283	-221145	212694	SLV 4	0.96	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	354964	-7027			2297	864	SLV 2	0.12	No
fin.	2	0	-239283	-8255			2297	864	SLV 2	0.1	No
ini.	2	0	-367724	8576			2297	864	SLV 13	0.1	No
fin.	2	0	241400	7350			2297	864	SLV 13	0.12	No
ini.	2	0	-176784	4411			2297	864	SLD 16	0.2	No
fin.	2	0	116526	3183			2297	864	SLD 16	0.27	No
ini.	2	0	-367724	8576			2297	864	SLV 14	0.1	No
fin.	2	0	241400	7350			2297	864	SLV 14	0.12	No
ini.	2	0	332427	-6598			2297	864	SLV 3	0.13	No
fin.	2	0	-221145	-7828			2297	864	SLV 3	0.11	No
ini.	2	0	-390261	9005			2297	864	SLV 15	0.1	No
fin.	2	0	259538	7777			2297	864	SLV 15	0.11	No
ini.	2	0	354964	-7027			2297	864	SLV 1	0.12	No
fin.	2	0	-239283	-8255			2297	864	SLV 1	0.1	No
ini.	2	0	332427	-6598			2297	864	SLV 4	0.13	No
fin.	2	0	-221145	-7828			2297	864	SLV 4	0.11	No
ini.	2	0	-390261	9005			2297	864	SLV 16	0.1	No
fin.	2	0	259538	7777			2297	864	SLV 16	0.11	No
ini.	2	0	-176784	4411			2297	864	SLD 15	0.2	No
fin.	2	0	116526	3183			2297	864	SLD 15	0.27	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.545	SLV 15	No
V_SLV	0.096	SLV 15	No



Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	3.541	SLU 71	Si
V SLU	0.282	SLU 79	No

Trave di accoppiamento 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-867.8	-485.9	1224	1250	26	-1051.8	-485.9	1224	1250	26	184	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-78	4021	10289	SLU 44	2.56	Si
fin.	3	294	-2539	10289	SLU 44	4.05	Si
ini.	3	311	-2937	10289	SLU 79	3.5	Si
fin.	3	94	876	10289	SLU 79	11.75	Si
ini.	3	-11	2767	10289	SLU 52	3.72	Si
fin.	3	226	-1720	10289	SLU 52	5.98	Si
ini.	3	325	-3752	10289	SLU 37	2.74	Si
fin.	3	13	1564	10289	SLU 37	6.58	Si
ini.	3	260	-2692	10289	SLU 41	3.82	Si
fin.	3	32	1060	10289	SLU 41	9.71	Si
ini.	3	271	-2811	10289	SLU 16	3.66	Si
fin.	3	56	944	10289	SLU 16	10.9	Si
ini.	3	-64	3207	10289	SLU 2	3.21	Si
fin.	3	213	-1851	10289	SLU 2	5.56	Si
ini.	3	-23	3080	10289	SLU 65	3.34	Si
fin.	3	251	-1919	10289	SLU 65	5.36	Si
ini.	3	307	-3430	10289	SLU 35	3	Si
fin.	3	22	1399	10289	SLU 35	7.36	Si
ini.	3	276	-2812	10289	SLU 38	3.66	Si
fin.	3	8	1406	10289	SLU 38	7.32	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	1169	-282			200	75	SLU 55	0.27	No
fin.	3	0	-864	84			200	75	SLU 55	0.9	No
ini.	3	0	4021	-287			200	75	SLU 44	0.26	No
fin.	3	0	-2539	73			200	75	SLU 44	1.04	Si
ini.	3	0	1825	-297			200	75	SLU 73	0.25	No
fin.	3	0	-1100	84			200	75	SLU 73	0.9	No
ini.	3	0	661	-271			200	75	SLU 82	0.28	No
fin.	3	0	-643	80			200	75	SLU 82	0.95	No
ini.	3	0	1482	-281			200	75	SLU 68	0.27	No
fin.	3	0	-1063	88			200	75	SLU 68	0.86	No
ini.	3	0	2767	-293			200	75	SLU 52	0.26	No
fin.	3	0	-1720	76			200	75	SLU 52	0.99	No
ini.	3	0	228	-286			200	75	SLU 76	0.26	No
fin.	3	0	-244	91			200	75	SLU 76	0.82	No
ini.	3	0	1602	-267			200	75	SLU 61	0.28	No
fin.	3	0	-1264	72			200	75	SLU 61	1.05	Si
ini.	3	0	2424	-276			200	75	SLU 47	0.27	No
fin.	3	0	-1684	80			200	75	SLU 47	0.94	No
ini.	3	0	3080	-292			200	75	SLU 65	0.26	No
fin.	3	0	-1919	80			200	75	SLU 65	0.94	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2247	-32027	15434	SLV 13	0.48	No
fin.	2	1165	-8739	15434	SLV 13	1.77	Si
ini.	2	-1554	27386	15434	SLV 1	0.56	No
fin.	2	-987	12542	15434	SLV 1	1.23	Si
ini.	2	-1502	21034	15434	SLV 8	0.73	No
fin.	2	199	-8241	15434	SLV 8	1.87	Si
ini.	2	1657	-25362	15434	SLV 15	0.61	No
fin.	2	1365	-14893	15434	SLV 15	1.04	Si
ini.	2	-2144	34051	15434	SLV 3	0.45	No
fin.	2	-787	6387	15434	SLV 3	2.42	Si
ini.	2	-2144	34051	15434	SLV 4	0.45	No
fin.	2	-787	6387	15434	SLV 4	2.42	Si
ini.	2	2247	-32027	15434	SLV 14	0.48	No
fin.	2	1165	-8739	15434	SLV 14	1.77	Si
ini.	2	-1502	21034	15434	SLV 7	0.73	No
fin.	2	199	-8241	15434	SLV 7	1.87	Si
ini.	2	-1554	27386	15434	SLV 2	0.56	No
fin.	2	-987	12542	15434	SLV 2	1.23	Si
ini.	2	1657	-25362	15434	SLV 16	0.61	No
fin.	2	1365	-14893	15434	SLV 16	1.04	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	27386	-424			300	113	SLV 2	0.27	No
fin.	2	0	12542	330			300	113	SLV 2	0.34	No
ini.	2	0	-19010	-665			300	113	SLV 10	0.17	No
fin.	2	0	5890	-239			300	113	SLV 10	0.47	No
ini.	2	0	34051	-109			300	113	SLV 3	1.03	Si
fin.	2	0	6387	443			300	113	SLV 3	0.26	No
ini.	2	0	-19010	-665			300	113	SLV 9	0.17	No
fin.	2	0	5890	-239			300	113	SLV 9	0.47	No
ini.	2	0	34051	-109			300	113	SLV 4	1.03	Si
fin.	2	0	6387	443			300	113	SLV 4	0.26	No
ini.	2	0	135	-392			300	113	SLD 5	0.29	No
fin.	2	0	4426	15			300	113	SLD 5	7.45	Si
ini.	2	0	135	-392			300	113	SLD 6	0.29	No
fin.	2	0	4426	15			300	113	SLD 6	7.45	Si
ini.	2	0	-1186	-724			300	113	SLV 5	0.16	No
fin.	2	0	12274	-37			300	113	SLV 5	3.08	Si
ini.	2	0	27386	-424			300	113	SLV 1	0.27	No
fin.	2	0	12542	330			300	113	SLV 1	0.34	No
ini.	2	0	-1186	-724			300	113	SLV 6	0.16	No
fin.	2	0	12274	-37			300	113	SLV 6	3.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 3	No
V_SLV	0.156	SLV 5	No
PF_SLU	2.559	SLU 44	Si
V_SLU	0.253	SLU 73	No

Trave di accoppiamento 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-854.8	-335.9	1108	1250	142	-944.8	-335.9	1108	1250	142	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC	
12			17.25	0.9		2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-317	76073	194792	SLU 65	2.56	Si
fin.	3	-317	-66498	194792	SLU 65	2.93	Si
ini.	3	-324	75891	194792	SLU 31	2.57	Si
fin.	3	-324	-64168	194792	SLU 31	3.04	Si
ini.	3	-177	76334	194792	SLU 76	2.55	Si
fin.	3	-177	-66805	194792	SLU 76	2.92	Si
ini.	3	-397	75264	194792	SLU 61	2.59	Si
fin.	3	-397	-70467	194792	SLU 61	2.76	Si
ini.	3	-197	78288	194792	SLU 84	2.49	Si
fin.	3	-197	-70358	194792	SLU 84	2.77	Si
ini.	3	-407	87865	194792	SLU 82	2.22	Si
fin.	3	-407	-78819	194792	SLU 82	2.47	Si
ini.	3	-167	78337	194792	SLU 75	2.49	Si
fin.	3	-167	-71685	194792	SLU 75	2.72	Si
ini.	3	-392	84473	194792	SLU 81	2.31	Si
fin.	3	-392	-78512	194792	SLU 81	2.48	Si
ini.	3	-387	85910	194792	SLU 73	2.27	Si
fin.	3	-387	-75266	194792	SLU 73	2.59	Si
ini.	3	-344	77846	194792	SLU 40	2.5	Si
fin.	3	-344	-67721	194792	SLU 40	2.88	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	87865	-1009			1531	576	SLU 82	0.57	No
fin.	3	0	-78819	-2636			1531	576	SLU 82	0.22	No
ini.	3	0	76334	-794			1531	576	SLU 76	0.73	No
fin.	3	0	-66805	-2326			1531	576	SLU 76	0.25	No
ini.	3	0	74945	-830			1531	576	SLU 74	0.69	No
fin.	3	0	-71378	-2362			1531	576	SLU 74	0.24	No
ini.	3	0	78337	-871			1531	576	SLU 75	0.66	No
fin.	3	0	-71685	-2403			1531	576	SLU 75	0.24	No
ini.	3	0	74896	-767			1531	576	SLU 83	0.75	No
fin.	3	0	-70051	-2394			1531	576	SLU 83	0.24	No
ini.	3	0	84473	-968			1531	576	SLU 81	0.6	No
fin.	3	0	-78512	-2594			1531	576	SLU 81	0.22	No
ini.	3	0	85910	-995			1531	576	SLU 73	0.58	No
fin.	3	0	-75266	-2527			1531	576	SLU 73	0.23	No
ini.	3	0	75264	-867			1531	576	SLU 61	0.66	No
fin.	3	0	-70467	-2308			1531	576	SLU 61	0.25	No
ini.	3	0	78288	-808			1531	576	SLU 84	0.71	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-70358	-2435			1531	576	SLU 84	0.24	No
ini.	3	0	77846	-887			1531	576	SLU 40	0.65	No
fin.	3	0	-67721	-2303			1531	576	SLU 40	0.25	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	113	320173	212694	SLV 4	0.66	No
fin.	2	14	-341074	212694	SLV 4	0.62	No
ini.	2	1539	308166	212694	SLV 2	0.69	No
fin.	2	830	-287310	212694	SLV 2	0.74	No
ini.	2	-600	-211753	212694	SLV 14	1	Si
fin.	2	-501	238218	212694	SLV 14	0.89	No
ini.	2	1539	308166	212694	SLV 1	0.69	No
fin.	2	830	-287310	212694	SLV 1	0.74	No
ini.	2	-2298	152209	212694	SLV 7	1.4	Si
fin.	2	-1404	-219863	212694	SLV 7	0.97	No
ini.	2	-2298	152209	212694	SLV 8	1.4	Si
fin.	2	-1404	-219863	212694	SLV 8	0.97	No
ini.	2	-600	-211753	212694	SLV 13	1	Si
fin.	2	-501	238218	212694	SLV 13	0.89	No
ini.	2	113	320173	212694	SLV 3	0.66	No
fin.	2	14	-341074	212694	SLV 3	0.62	No
ini.	2	-2026	-199747	212694	SLV 15	1.06	Si
fin.	2	-1317	184454	212694	SLV 15	1.15	Si
ini.	2	-2026	-199747	212694	SLV 16	1.06	Si
fin.	2	-1317	184454	212694	SLV 16	1.15	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-199747	5635			2297	864	SLV 16	0.15	No
fin.	2	0	184454	4562			2297	864	SLV 16	0.19	No
ini.	2	0	320173	-6403			2297	864	SLV 3	0.13	No
fin.	2	0	-341074	-7586			2297	864	SLV 3	0.11	No
ini.	2	0	320173	-6403			2297	864	SLV 4	0.13	No
fin.	2	0	-341074	-7586			2297	864	SLV 4	0.11	No
ini.	2	0	308166	-6905			2297	864	SLV 1	0.13	No
fin.	2	0	-287310	-7893			2297	864	SLV 1	0.11	No
ini.	2	0	162733	-3296			2297	864	SLD 1	0.26	No
fin.	2	0	-152654	-4320			2297	864	SLD 1	0.2	No
ini.	2	0	162733	-3296			2297	864	SLD 2	0.26	No
fin.	2	0	-152654	-4320			2297	864	SLD 2	0.2	No
ini.	2	0	-211753	5133			2297	864	SLV 14	0.17	No
fin.	2	0	238218	4255			2297	864	SLV 14	0.2	No
ini.	2	0	-199747	5635			2297	864	SLV 15	0.15	No
fin.	2	0	184454	4562			2297	864	SLV 15	0.19	No
ini.	2	0	308166	-6905			2297	864	SLV 2	0.13	No
fin.	2	0	-287310	-7893			2297	864	SLV 2	0.11	No
ini.	2	0	-211753	5133			2297	864	SLV 13	0.17	No
fin.	2	0	238218	4255			2297	864	SLV 13	0.2	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.624	SLV 3	No
V_SLV	0.11	SLV 1	No
PF_SLU	2.217	SLU 82	Si
V_SLU	0.219	SLU 82	No

Trave di accoppiamento 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-772.3	-486.1	1224	1250	26	-772.3	-377.1	1224	1250	26	109	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	4	-686	10289	SLU 34	15	Si
fin.	3	4	19258	10289	SLU 34	0.53	No
ini.	3	4	-594	10289	SLU 73	17.33	Si
fin.	3	4	20848	10289	SLU 73	0.49	No
ini.	3	4	-379	10289	SLU 52	27.14	Si
fin.	3	4	18956	10289	SLU 52	0.54	No
ini.	3	3	-463	10289	SLU 82	22.22	Si
fin.	3	3	17626	10289	SLU 82	0.58	No
ini.	3	4	-568	10289	SLU 10	18.11	Si
fin.	3	4	18303	10289	SLU 10	0.56	No
ini.	3	4	-783	10289	SLU 31	13.14	Si
fin.	3	4	20195	10289	SLU 31	0.51	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	4	-292	10289	SLU 65	35.29	Si
fin.	3	4	17995	10289	SLU 65	0.57	No
ini.	3	5	-282	10289	SLU 55	36.47	Si
fin.	3	5	18019	10289	SLU 55	0.57	No
ini.	3	4	-471	10289	SLU 13	21.84	Si
fin.	3	4	17366	10289	SLU 13	0.59	No
ini.	3	4	-497	10289	SLU 76	20.71	Si
fin.	3	4	19910	10289	SLU 76	0.52	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt_lim	Comb.	c.s.	Verifica
ini.	3	0	-366	230			200	75	SLU 84	0.33	No
fin.	3	0	16688	83			200	75	SLU 84	0.91	No
ini.	3	0	-686	240			200	75	SLU 34	0.31	No
fin.	3	0	19258	126			200	75	SLU 34	0.6	No
ini.	3	0	-292	241			200	75	SLU 65	0.31	No
fin.	3	0	17995	94			200	75	SLU 65	0.8	No
ini.	3	0	-594	270			200	75	SLU 73	0.28	No
fin.	3	0	20848	123			200	75	SLU 73	0.61	No
ini.	3	0	-379	251			200	75	SLU 52	0.3	No
fin.	3	0	18956	104			200	75	SLU 52	0.73	No
ini.	3	0	-497	261			200	75	SLU 76	0.29	No
fin.	3	0	19910	114			200	75	SLU 76	0.66	No
ini.	3	0	-783	249			200	75	SLU 31	0.3	No
fin.	3	0	20195	136			200	75	SLU 31	0.55	No
ini.	3	0	-195	232			200	75	SLU 68	0.32	No
fin.	3	0	17057	85			200	75	SLU 68	0.89	No
ini.	3	0	-463	240			200	75	SLU 82	0.31	No
fin.	3	0	17626	92			200	75	SLU 82	0.82	No
ini.	3	0	-282	242			200	75	SLU 55	0.31	No
fin.	3	0	18019	94			200	75	SLU 55	0.8	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	239	2929	15434	SLV 13	5.27	Si
fin.	2	-20	39252	15434	SLV 13	0.39	No
ini.	2	-970	-22047	15434	SLV 12	0.7	No
fin.	2	107	-53984	15434	SLV 12	0.29	No
ini.	2	971	22521	15434	SLV 6	0.69	No
fin.	2	-106	65371	15434	SLV 6	0.24	No
ini.	2	942	20323	15434	SLV 10	0.76	No
fin.	2	-99	73988	15434	SLV 10	0.21	No
ini.	2	-941	-19849	15434	SLV 8	0.78	No
fin.	2	101	-62601	15434	SLV 8	0.25	No
ini.	2	-941	-19849	15434	SLV 7	0.78	No
fin.	2	101	-62601	15434	SLV 7	0.25	No
ini.	2	239	2929	15434	SLV 14	5.27	Si
fin.	2	-20	39252	15434	SLV 14	0.39	No
ini.	2	971	22521	15434	SLV 5	0.69	No
fin.	2	-106	65371	15434	SLV 5	0.24	No
ini.	2	-970	-22047	15434	SLV 11	0.7	No
fin.	2	107	-53984	15434	SLV 11	0.29	No
ini.	2	942	20323	15434	SLV 9	0.76	No
fin.	2	-99	73988	15434	SLV 9	0.21	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt_lim	Comb.	c.s.	Verifica
ini.	2	0	-22047	-897			300	113	SLV 12	0.13	No
fin.	2	0	-53984	199			300	113	SLV 12	0.57	No
ini.	2	0	20323	1186			300	113	SLV 9	0.1	No
fin.	2	0	73988	-230			300	113	SLV 9	0.49	No
ini.	2	0	22521	1111			300	113	SLV 5	0.1	No
fin.	2	0	65371	-212			300	113	SLV 5	0.53	No
ini.	2	0	22521	1111			300	113	SLV 6	0.1	No
fin.	2	0	65371	-212			300	113	SLV 6	0.53	No
ini.	2	0	-19849	-972			300	113	SLV 8	0.12	No
fin.	2	0	-62601	217			300	113	SLV 8	0.52	No
ini.	2	0	-19849	-972			300	113	SLV 7	0.12	No
fin.	2	0	-62601	217			300	113	SLV 7	0.52	No
ini.	2	0	2929	544			300	113	SLV 14	0.21	No
fin.	2	0	39252	-102			300	113	SLV 14	1.11	Si
ini.	2	0	20323	1186			300	113	SLV 10	0.1	No
fin.	2	0	73988	-230			300	113	SLV 10	0.49	No
ini.	2	0	-22047	-897			300	113	SLV 11	0.13	No
fin.	2	0	-53984	199			300	113	SLV 11	0.57	No
ini.	2	0	2929	544			300	113	SLV 13	0.21	No
fin.	2	0	39252	-102			300	113	SLV 13	1.11	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.209	SLV 9	No
V_SLV	0.095	SLV 9	No
PF_SLU	0.494	SLU 73	No
V_SLU	0.279	SLU 73	No



Trave di accoppiamento 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	898	1098	200	-515.8	650.6	898	1098	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	88	88350	296292	SLU 37	3.35	Si
fin.	3	-12	525	296292	SLU 37	564.57	Si
ini.	3	196	90496	296292	SLU 78	3.27	Si
fin.	3	103	11617	296292	SLU 78	25.5	Si
ini.	3	64	88427	296292	SLU 70	3.35	Si
fin.	3	-41	-2262	296292	SLU 70	130.97	Si
ini.	3	103	87543	296292	SLU 38	3.38	Si
fin.	3	3	1993	296292	SLU 38	148.65	Si
ini.	3	139	94429	296292	SLU 79	3.14	Si
fin.	3	36	5274	296292	SLU 79	56.18	Si
ini.	3	7	92360	296292	SLU 71	3.21	Si
fin.	3	-108	-8606	296292	SLU 71	34.43	Si
ini.	3	22	91554	296292	SLU 72	3.24	Si
fin.	3	-93	-7137	296292	SLU 72	41.51	Si
ini.	3	49	89234	296292	SLU 69	3.32	Si
fin.	3	-57	-3731	296292	SLU 69	79.42	Si
ini.	3	181	91303	296292	SLU 77	3.25	Si
fin.	3	88	10149	296292	SLU 77	29.19	Si
ini.	3	154	93622	296292	SLU 80	3.16	Si
fin.	3	52	6742	296292	SLU 80	43.94	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	92360	-3227			2157	812	SLU 71	0.25	No
fin.	3	0	-8606	-654			2157	812	SLU 71	1.24	Si
ini.	3	0	88427	-2937			2157	812	SLU 70	0.28	No
fin.	3	0	-2262	-562			2157	812	SLU 70	1.45	Si
ini.	3	0	88350	-2916			2157	812	SLU 37	0.28	No
fin.	3	0	525	-493			2157	812	SLU 37	1.65	Si
ini.	3	0	94429	-2967			2157	812	SLU 79	0.27	No
fin.	3	0	5274	-501			2157	812	SLU 79	1.62	Si
ini.	3	0	89234	-3005			2157	812	SLU 69	0.27	No
fin.	3	0	-3731	-585			2157	812	SLU 69	1.39	Si
ini.	3	0	86281	-3177			2157	812	SLU 29	0.26	No
fin.	3	0	-13355	-645			2157	812	SLU 29	1.26	Si
ini.	3	0	85474	-3109			2157	812	SLU 30	0.26	No
fin.	3	0	-11886	-622			2157	812	SLU 30	1.31	Si
ini.	3	0	93622	-2899			2157	812	SLU 80	0.28	No
fin.	3	0	6742	-478			2157	812	SLU 80	1.7	Si
ini.	3	0	91554	-3160			2157	812	SLU 72	0.26	No
fin.	3	0	-7137	-630			2157	812	SLU 72	1.29	Si
ini.	3	0	83155	-2954			2157	812	SLU 27	0.27	No
fin.	3	0	-8480	-576			2157	812	SLU 27	1.41	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2406	163896	314194	SLV 16	1.92	Si
fin.	2	1852	173564	314194	SLV 16	1.81	Si
ini.	2	2590	145740	314194	SLV 14	2.16	Si
fin.	2	2261	216218	314194	SLV 14	1.45	Si
ini.	2	1233	42138	314194	SLV 9	7.46	Si
fin.	2	1463	145740	314194	SLV 9	2.16	Si
ini.	2	1233	42138	314194	SLV 10	7.46	Si
fin.	2	1463	145740	314194	SLV 10	2.16	Si
ini.	2	-2087	-71590	314194	SLV 4	4.39	Si
fin.	2	-1791	-169981	314194	SLV 4	1.85	Si
ini.	2	2590	145740	314194	SLV 13	2.16	Si
fin.	2	2261	216218	314194	SLV 13	1.45	Si
ini.	2	2406	163896	314194	SLV 15	1.92	Si
fin.	2	1852	173564	314194	SLV 15	1.81	Si
ini.	2	-1902	-89746	314194	SLV 1	3.5	Si
fin.	2	-1382	-127327	314194	SLV 1	2.47	Si
ini.	2	-2087	-71590	314194	SLV 3	4.39	Si
fin.	2	-1791	-169981	314194	SLV 3	1.85	Si
ini.	2	-1902	-89746	314194	SLV 2	3.5	Si
fin.	2	-1382	-127327	314194	SLV 2	2.47	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-71590	-2200			3235	1217	SLV 4	0.55	No
fin.	2	0	-169981	-2231			3235	1217	SLV 4	0.55	No
ini.	2	0	145740	1026			3235	1217	SLV 13	1.19	Si

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Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	216218	2195			3235	1217	SLV 13	0.55	No
ini.	2	0	102659	-2743			3235	1217	SLV 11	0.44	No
fin.	2	0	3560	-407			3235	1217	SLV 11	2.99	Si
ini.	2	0	102659	-2743			3235	1217	SLV 12	0.44	No
fin.	2	0	3560	-407			3235	1217	SLV 12	2.99	Si
ini.	2	0	32013	-3275			3235	1217	SLV 7	0.37	No
fin.	2	0	-99503	-1561			3235	1217	SLV 7	0.78	No
ini.	2	0	42138	2101			3235	1217	SLV 9	0.58	No
fin.	2	0	145740	1525			3235	1217	SLV 9	0.8	No
ini.	2	0	42138	2101			3235	1217	SLV 10	0.58	No
fin.	2	0	145740	1525			3235	1217	SLV 10	0.8	No
ini.	2	0	32013	-3275			3235	1217	SLV 8	0.37	No
fin.	2	0	-99503	-1561			3235	1217	SLV 8	0.78	No
ini.	2	0	145740	1026			3235	1217	SLV 14	1.19	Si
fin.	2	0	216218	2195			3235	1217	SLV 14	0.55	No
ini.	2	0	-71590	-2200			3235	1217	SLV 3	0.55	No
fin.	2	0	-169981	-2231			3235	1217	SLV 3	0.55	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		1.453	SLV 13
V_SLV		0.372	SLV 7
PF_SLU		3.138	SLU 79
V_SLU		0.251	SLU 71

Trave di accoppiamento 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	1178	1250	72	-515.8	650.6	1178	1250	72	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{tk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-708	-28728	72292	SLU 29	2.52	Si
fin.	3	-165	6940	72292	SLU 29	10.42	Si
ini.	3	-769	-30553	72292	SLU 79	2.37	Si
fin.	3	-174	7213	72292	SLU 79	10.02	Si
ini.	3	-744	-29301	72292	SLU 77	2.47	Si
fin.	3	-166	6872	72292	SLU 77	10.52	Si
ini.	3	-750	-30192	72292	SLU 71	2.39	Si
fin.	3	-172	7208	72292	SLU 71	10.03	Si
ini.	3	-724	-28850	72292	SLU 38	2.51	Si
fin.	3	-165	6923	72292	SLU 38	10.44	Si
ini.	3	-725	-28940	72292	SLU 69	2.5	Si
fin.	3	-165	6867	72292	SLU 69	10.53	Si
ini.	3	-741	-29062	72292	SLU 78	2.49	Si
fin.	3	-165	6851	72292	SLU 78	10.55	Si
ini.	3	-766	-30314	72292	SLU 80	2.38	Si
fin.	3	-173	7191	72292	SLU 80	10.05	Si
ini.	3	-727	-29088	72292	SLU 37	2.49	Si
fin.	3	-166	6945	72292	SLU 37	10.41	Si
ini.	3	-747	-29954	72292	SLU 72	2.41	Si
fin.	3	-172	7186	72292	SLU 72	10.06	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-30314	4003			776	292	SLU 80	0.07	No
fin.	3	0	7191	-70			776	292	SLU 80	4.16	Si
ini.	3	0	-28940	3831			776	292	SLU 69	0.08	No
fin.	3	0	6867	-80			776	292	SLU 69	3.66	Si
ini.	3	0	-28702	3803			776	292	SLU 70	0.08	No
fin.	3	0	6846	-77			776	292	SLU 70	3.77	Si
ini.	3	0	-28850	3804			776	292	SLU 38	0.08	No
fin.	3	0	6923	-57			776	292	SLU 38	5.15	Si
ini.	3	0	-29062	3842			776	292	SLU 78	0.08	No
fin.	3	0	6851	-66			776	292	SLU 78	4.45	Si
ini.	3	0	-30192	3991			776	292	SLU 71	0.07	No
fin.	3	0	7208	-84			776	292	SLU 71	3.46	Si
ini.	3	0	-29088	3832			776	292	SLU 37	0.08	No
fin.	3	0	6945	-59			776	292	SLU 37	4.94	Si
ini.	3	0	-29954	3963			776	292	SLU 72	0.07	No
fin.	3	0	7186	-82			776	292	SLU 72	3.56	Si
ini.	3	0	-29301	3870			776	292	SLU 77	0.08	No
fin.	3	0	6872	-68			776	292	SLU 77	4.29	Si
ini.	3	0	-30553	4031			776	292	SLU 79	0.07	No
fin.	3	0	7213	-73			776	292	SLU 79	4.02	Si



Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-114	-17214	90194	SLV 8	5.24	Si
fin.	2	-348	7902	90194	SLV 8	11.41	Si
ini.	2	-226	-15122	90194	SLV 15	5.96	Si
fin.	2	-195	6608	90194	SLV 15	13.65	Si
ini.	2	-114	-17214	90194	SLV 7	5.24	Si
fin.	2	-348	7902	90194	SLV 7	11.41	Si
ini.	2	-214	-13129	90194	SLD 7	6.87	Si
fin.	2	-173	4444	90194	SLD 7	20.29	Si
ini.	2	-111	-18680	90194	SLV 11	4.83	Si
fin.	2	-376	9390	90194	SLV 11	9.61	Si
ini.	2	-226	-15122	90194	SLV 16	5.96	Si
fin.	2	-195	6608	90194	SLV 16	13.65	Si
ini.	2	-214	-13129	90194	SLD 8	6.87	Si
fin.	2	-173	4444	90194	SLD 8	20.29	Si
ini.	2	-111	-18680	90194	SLV 12	4.83	Si
fin.	2	-376	9390	90194	SLV 12	9.61	Si
ini.	2	-213	-13719	90194	SLD 12	6.57	Si
fin.	2	-185	5050	90194	SLD 12	17.86	Si
ini.	2	-213	-13719	90194	SLD 11	6.57	Si
fin.	2	-185	5050	90194	SLD 11	17.86	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-13719	1549			1165	438	SLD 11	0.28	No
fin.	2	0	5050	-73			1165	438	SLD 11	6.03	Si
ini.	2	0	-17214	1718			1165	438	SLV 7	0.26	No
fin.	2	0	7902	-113			1165	438	SLV 7	3.88	Si
ini.	2	0	-17214	1718			1165	438	SLV 8	0.26	No
fin.	2	0	7902	-113			1165	438	SLV 8	3.88	Si
ini.	2	0	-15122	1652			1165	438	SLV 16	0.27	No
fin.	2	0	6608	-65			1165	438	SLV 16	6.74	Si
ini.	2	0	-18680	1811			1165	438	SLV 11	0.24	No
fin.	2	0	9390	-115			1165	438	SLV 11	3.83	Si
ini.	2	0	-13129	1512			1165	438	SLD 8	0.29	No
fin.	2	0	4444	-72			1165	438	SLD 8	6.09	Si
ini.	2	0	-13129	1512			1165	438	SLD 7	0.29	No
fin.	2	0	4444	-72			1165	438	SLD 7	6.09	Si
ini.	2	0	-15122	1652			1165	438	SLV 15	0.27	No
fin.	2	0	6608	-65			1165	438	SLV 15	6.74	Si
ini.	2	0	-13719	1549			1165	438	SLD 12	0.28	No
fin.	2	0	5050	-73			1165	438	SLD 12	6.03	Si
ini.	2	0	-18680	1811			1165	438	SLV 12	0.24	No
fin.	2	0	9390	-115			1165	438	SLV 12	3.83	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 11	Si
V_SLV	0.242	SLV 11	No
PF_SLU	2.366	SLU 79	Si
V_SLU	0.072	SLU 79	No

Trave di accoppiamento 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	898	988	90	-741.3	-335.9	898	988	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-527	27742	103792	SLU 55	3.74	Si
fin.	3	-218	-7094	103792	SLU 55	14.63	Si
ini.	3	-539	29388	103792	SLU 61	3.53	Si
fin.	3	-189	-9392	103792	SLU 61	11.05	Si
ini.	3	-654	29267	103792	SLU 44	3.55	Si
fin.	3	-182	-10945	103792	SLU 44	9.48	Si
ini.	3	-503	29270	103792	SLU 76	3.55	Si
fin.	3	-218	-7649	103792	SLU 76	13.57	Si
ini.	3	-515	30916	103792	SLU 82	3.36	Si
fin.	3	-188	-9947	103792	SLU 82	10.43	Si
ini.	3	-630	30795	103792	SLU 65	3.37	Si
fin.	3	-181	-11500	103792	SLU 65	9.03	Si
ini.	3	-645	31093	103792	SLU 52	3.34	Si
fin.	3	-181	-11993	103792	SLU 52	8.65	Si
ini.	3	-621	32621	103792	SLU 73	3.18	Si
fin.	3	-180	-12548	103792	SLU 73	8.27	Si
ini.	3	-523	27705	103792	SLU 31	3.75	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-133	-11928	103792	SLU 31	8.7	Si
ini.	3	-416	27954	103792	SLU 75	3.71	Si
fin.	3	-202	-5991	103792	SLU 75	17.32	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	29388	-1446			970	365	SLU 61	0.25	No
fin.	3	0	-9392	-40			970	365	SLU 61	9.2	Si
ini.	3	0	26426	-1380			970	365	SLU 54	0.26	No
fin.	3	0	-5436	154			970	365	SLU 54	2.37	Si
ini.	3	0	32621	-1533			970	365	SLU 73	0.24	No
fin.	3	0	-12548	-185			970	365	SLU 73	1.97	Si
ini.	3	0	31093	-1490			970	365	SLU 52	0.25	No
fin.	3	0	-11993	-196			970	365	SLU 52	1.86	Si
ini.	3	0	30916	-1489			970	365	SLU 82	0.25	No
fin.	3	0	-9947	-29			970	365	SLU 82	12.52	Si
ini.	3	0	30795	-1488			970	365	SLU 65	0.25	No
fin.	3	0	-11500	-167			970	365	SLU 65	2.19	Si
ini.	3	0	27184	-1394			970	365	SLU 81	0.26	No
fin.	3	0	-5371	217			970	365	SLU 81	1.68	Si
ini.	3	0	29267	-1445			970	365	SLU 44	0.25	No
fin.	3	0	-10945	-177			970	365	SLU 44	2.06	Si
ini.	3	0	27954	-1422			970	365	SLU 75	0.26	No
fin.	3	0	-5991	165			970	365	SLU 75	2.22	Si
ini.	3	0	29270	-1418			970	365	SLU 76	0.26	No
fin.	3	0	-7649	35			970	365	SLU 76	10.32	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2220	121172	121694	SLV 1	1	Si
fin.	2	2561	-150125	121694	SLV 1	0.81	No
ini.	2	-1891	100604	121694	SLV 3	1.21	Si
fin.	2	1964	-137174	121694	SLV 3	0.89	No
ini.	2	1311	-62423	121694	SLV 13	1.95	Si
fin.	2	-2277	130858	121694	SLV 13	0.93	No
ini.	2	1640	-82991	121694	SLV 16	1.47	Si
fin.	2	-2874	143809	121694	SLV 16	0.85	No
ini.	2	1311	-62423	121694	SLV 14	1.95	Si
fin.	2	-2277	130858	121694	SLV 14	0.93	No
ini.	2	-1891	100604	121694	SLV 4	1.21	Si
fin.	2	1964	-137174	121694	SLV 4	0.89	No
ini.	2	-1368	80910	121694	SLV 6	1.5	Si
fin.	2	1564	-66890	121694	SLV 6	1.82	Si
ini.	2	1640	-82991	121694	SLV 15	1.47	Si
fin.	2	-2874	143809	121694	SLV 15	0.85	No
ini.	2	-2220	121172	121694	SLV 2	1	Si
fin.	2	2561	-150125	121694	SLV 2	0.81	No
ini.	2	-1368	80910	121694	SLV 5	1.5	Si
fin.	2	1564	-66890	121694	SLV 5	1.82	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-62423	2601			1456	548	SLV 14	0.21	No
fin.	2	0	130858	4790			1456	548	SLV 14	0.11	No
ini.	2	0	-82991	3773			1456	548	SLV 16	0.15	No
fin.	2	0	143809	6117			1456	548	SLV 16	0.09	No
ini.	2	0	100604	-4654			1456	548	SLV 3	0.12	No
fin.	2	0	-137174	-4430			1456	548	SLV 3	0.12	No
ini.	2	0	80910	-4244			1456	548	SLV 6	0.13	No
fin.	2	0	-66890	-3614			1456	548	SLV 6	0.15	No
ini.	2	0	121172	-5826			1456	548	SLV 2	0.09	No
fin.	2	0	-150125	-5757			1456	548	SLV 2	0.1	No
ini.	2	0	-82991	3773			1456	548	SLV 15	0.15	No
fin.	2	0	143809	6117			1456	548	SLV 15	0.09	No
ini.	2	0	121172	-5826			1456	548	SLV 1	0.09	No
fin.	2	0	-150125	-5757			1456	548	SLV 1	0.1	No
ini.	2	0	-62423	2601			1456	548	SLV 13	0.21	No
fin.	2	0	130858	4790			1456	548	SLV 13	0.11	No
ini.	2	0	80910	-4244			1456	548	SLV 5	0.13	No
fin.	2	0	-66890	-3614			1456	548	SLV 5	0.15	No
ini.	2	0	100604	-4654			1456	548	SLV 4	0.12	No
fin.	2	0	-137174	-4430			1456	548	SLV 4	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.811	SLV 1	No
V_SLV	0.09	SLV 15	No
PF_SLU	3.182	SLU 73	Si
V_SLU	0.238	SLU 73	No

Trave di accoppiamento 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	1168	1250	82	-741.3	-335.9	1168	1250	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

f _b	f _{hk}	f _{vk0}	f _{mmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ _M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-336	-12358	89792	SLU 69	7.27	Si
fin.	3	313	1745	89792	SLU 69	51.44	Si
ini.	3	-353	-12718	89792	SLU 71	7.06	Si
fin.	3	322	2206	89792	SLU 71	40.7	Si
ini.	3	-382	-12809	89792	SLU 35	7.01	Si
fin.	3	286	1980	89792	SLU 35	45.35	Si
ini.	3	-398	-13169	89792	SLU 37	6.82	Si
fin.	3	295	2441	89792	SLU 37	36.79	Si
ini.	3	-418	-13767	89792	SLU 79	6.52	Si
fin.	3	276	1226	89792	SLU 79	73.27	Si
ini.	3	-350	-12243	89792	SLU 58	7.33	Si
fin.	3	267	891	89792	SLU 58	100.79	Si
ini.	3	-333	-12121	89792	SLU 29	7.41	Si
fin.	3	340	3421	89792	SLU 29	26.24	Si
ini.	3	-316	-11761	89792	SLU 27	7.63	Si
fin.	3	331	2961	89792	SLU 27	30.33	Si
ini.	3	-402	-13407	89792	SLU 77	6.7	Si
fin.	3	267	765	89792	SLU 77	117.41	Si
ini.	3	-333	-11883	89792	SLU 56	7.56	Si
fin.	3	258	430	89792	SLU 56	208.78	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ _M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-10451	1761			806	303	SLU 78	0.17	No
fin.	3	0	-2568	-1039			806	303	SLU 78	0.29	No
ini.	3	0	-13767	1935			806	303	SLU 79	0.16	No
fin.	3	0	1226	-884			806	303	SLU 79	0.34	No
ini.	3	0	-12358	1768			806	303	SLU 69	0.17	No
fin.	3	0	1745	-805			806	303	SLU 69	0.38	No
ini.	3	0	-13407	1948			806	303	SLU 77	0.16	No
fin.	3	0	765	-932			806	303	SLU 77	0.33	No
ini.	3	0	-10811	1748			806	303	SLU 80	0.17	No
fin.	3	0	-2107	-991			806	303	SLU 80	0.31	No
ini.	3	0	-13169	1744			806	303	SLU 37	0.17	No
fin.	3	0	2441	-682			806	303	SLU 37	0.44	No
ini.	3	0	-12809	1757			806	303	SLU 35	0.17	No
fin.	3	0	1980	-730			806	303	SLU 35	0.42	No
ini.	3	0	-11883	1728			806	303	SLU 56	0.18	No
fin.	3	0	430	-850			806	303	SLU 56	0.36	No
ini.	3	0	-12718	1755			806	303	SLU 71	0.17	No
fin.	3	0	2206	-756			806	303	SLU 71	0.4	No
ini.	3	0	-10784	1786			806	303	SLU 83	0.17	No
fin.	3	0	-2572	-1085			806	303	SLU 83	0.28	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ _M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1691	-36392	107694	SLV 11	2.96	Si
fin.	2	598	67582	107694	SLV 11	1.59	Si
ini.	2	-1691	-36392	107694	SLV 12	2.96	Si
fin.	2	598	67582	107694	SLV 12	1.59	Si
ini.	2	-3030	-76780	107694	SLV 15	1.4	Si
fin.	2	700	60641	107694	SLV 15	1.78	Si
ini.	2	-2599	-70034	107694	SLV 14	1.54	Si
fin.	2	415	26299	107694	SLV 14	4.1	Si
ini.	2	-3030	-76780	107694	SLV 16	1.4	Si
fin.	2	700	60641	107694	SLV 16	1.78	Si
ini.	2	1323	27457	107694	SLV 5	3.92	Si
fin.	2	-722	-75286	107694	SLV 5	1.43	Si
ini.	2	1323	27457	107694	SLV 6	3.92	Si
fin.	2	-722	-75286	107694	SLV 6	1.43	Si
ini.	2	2662	67845	107694	SLV 2	1.59	Si
fin.	2	-824	-68346	107694	SLV 2	1.58	Si
ini.	2	-2599	-70034	107694	SLV 13	1.54	Si
fin.	2	415	26299	107694	SLV 13	4.1	Si
ini.	2	2662	67845	107694	SLV 1	1.59	Si
fin.	2	-824	-68346	107694	SLV 1	1.58	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ _M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	61099	-1510			1208	455	SLV 4	0.3	No
fin.	2	0	-34003	-3114			1208	455	SLV 4	0.15	No
ini.	2	0	-76780	4176			1208	455	SLV 15	0.11	No
fin.	2	0	60641	1883			1208	455	SLV 15	0.24	No
ini.	2	0	61099	-1510			1208	455	SLV 3	0.3	No
fin.	2	0	-34003	-3114			1208	455	SLV 3	0.15	No
ini.	2	0	-36392	2952			1208	455	SLV 11	0.15	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	67582	624			1208	455	SLV 11	0.73	No
ini.	2	0	67845	-2167			1208	455	SLV 2	0.21	No
fin.	2	0	-68346	-3534			1208	455	SLV 2	0.13	No
ini.	2	0	-76780	4176			1208	455	SLV 16	0.11	No
fin.	2	0	60641	1883			1208	455	SLV 16	0.24	No
ini.	2	0	-36392	2952			1208	455	SLV 12	0.15	No
fin.	2	0	67582	624			1208	455	SLV 12	0.73	No
ini.	2	0	67845	-2167			1208	455	SLV 1	0.21	No
fin.	2	0	-68346	-3534			1208	455	SLV 1	0.13	No
ini.	2	0	-70034	3519			1208	455	SLV 13	0.13	No
fin.	2	0	26299	1463			1208	455	SLV 13	0.31	No
ini.	2	0	-70034	3519			1208	455	SLV 14	0.13	No
fin.	2	0	26299	1463			1208	455	SLV 14	0.31	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		1.403	SLV 15	Si
V_SLV		0.109	SLV 15	No
PF_SLU		6.522	SLU 79	Si
V_SLU		0.156	SLU 77	No

Trave di accoppiamento 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	898	1098	200	-600.8	-335.9	898	1098	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-673	63315	296292	SLU 41	4.68	Si
fin.	3	-398	45535	296292	SLU 41	6.51	Si
ini.	3	-1052	64344	296292	SLU 82	4.6	Si
fin.	3	-777	37596	296292	SLU 82	7.88	Si
ini.	3	-768	70036	296292	SLU 77	4.23	Si
fin.	3	-466	54918	296292	SLU 77	5.4	Si
ini.	3	-748	68985	296292	SLU 79	4.29	Si
fin.	3	-445	54758	296292	SLU 79	5.41	Si
ini.	3	-847	67489	296292	SLU 74	4.39	Si
fin.	3	-562	48694	296292	SLU 74	6.08	Si
ini.	3	-851	71121	296292	SLU 83	4.17	Si
fin.	3	-543	50802	296292	SLU 83	5.83	Si
ini.	3	-869	64756	296292	SLU 80	4.58	Si
fin.	3	-583	47777	296292	SLU 80	6.2	Si
ini.	3	-973	66891	296292	SLU 84	4.43	Si
fin.	3	-681	43821	296292	SLU 84	6.76	Si
ini.	3	-889	65806	296292	SLU 78	4.5	Si
fin.	3	-603	47936	296292	SLU 78	6.18	Si
ini.	3	-930	68573	296292	SLU 81	4.32	Si
fin.	3	-639	44578	296292	SLU 81	6.65	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	70036	-1123			2157	812	SLU 77	0.72	No
fin.	3	0	54918	200			2157	812	SLU 77	4.05	Si
ini.	3	0	65806	-1117			2157	812	SLU 78	0.73	No
fin.	3	0	47936	111			2157	812	SLU 78	7.32	Si
ini.	3	0	64344	-1238			2157	812	SLU 82	0.66	No
fin.	3	0	37596	-128			2157	812	SLU 82	6.34	Si
ini.	3	0	56841	-1130			2157	812	SLU 73	0.72	No
fin.	3	0	30674	-120			2157	812	SLU 73	6.79	Si
ini.	3	0	71121	-1222			2157	812	SLU 83	0.66	No
fin.	3	0	50802	43			2157	812	SLU 83	18.79	Si
ini.	3	0	63259	-1139			2157	812	SLU 75	0.71	No
fin.	3	0	41712	29			2157	812	SLU 75	27.73	Si
ini.	3	0	60767	-1110			2157	812	SLU 39	0.73	No
fin.	3	0	39311	-107			2157	812	SLU 39	7.57	Si
ini.	3	0	66891	-1216			2157	812	SLU 84	0.67	No
fin.	3	0	43821	-46			2157	812	SLU 84	17.49	Si
ini.	3	0	68573	-1243			2157	812	SLU 81	0.65	No
fin.	3	0	44578	-38			2157	812	SLU 81	21.13	Si
ini.	3	0	67489	-1145			2157	812	SLU 74	0.71	No
fin.	3	0	48694	119			2157	812	SLU 74	6.83	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	883	-113687	314194	SLV 14	2.76	Si
fin.	2	194	101682	314194	SLV 14	3.09	Si



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-848	136951	314194	SLV 7	2.29	Si
fin.	2	299	38966	314194	SLV 7	8.06	Si
ini.	2	-848	136951	314194	SLV 8	2.29	Si
fin.	2	299	38966	314194	SLV 8	8.06	Si
ini.	2	-2205	197488	314194	SLV 4	1.59	Si
fin.	2	-1169	-44620	314194	SLV 4	7.04	Si
ini.	2	1065	-81792	314194	SLV 15	3.84	Si
fin.	2	847	123032	314194	SLV 15	2.55	Si
ini.	2	-2387	165593	314194	SLV 2	1.9	Si
fin.	2	-1822	-65969	314194	SLV 2	4.76	Si
ini.	2	-2205	197488	314194	SLV 3	1.59	Si
fin.	2	-1169	-44620	314194	SLV 3	7.04	Si
ini.	2	-2387	165593	314194	SLV 1	1.9	Si
fin.	2	-1822	-65969	314194	SLV 1	4.76	Si
ini.	2	1065	-81792	314194	SLV 16	3.84	Si
fin.	2	847	123032	314194	SLV 16	2.55	Si
ini.	2	883	-113687	314194	SLV 13	2.76	Si
fin.	2	194	101682	314194	SLV 13	3.09	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-81792	4061			3235	1217	SLV 15	0.3	No
fin.	2	0	123032	5716			3235	1217	SLV 15	0.21	No
ini.	2	0	165593	-5515			3235	1217	SLV 1	0.22	No
fin.	2	0	-65969	-5494			3235	1217	SLV 1	0.22	No
ini.	2	0	165593	-5515			3235	1217	SLV 2	0.22	No
fin.	2	0	-65969	-5494			3235	1217	SLV 2	0.22	No
ini.	2	0	-113687	5714			3235	1217	SLV 14	0.21	No
fin.	2	0	101682	7050			3235	1217	SLV 14	0.17	No
ini.	2	0	136951	-5165			3235	1217	SLV 7	0.24	No
fin.	2	0	38966	-3994			3235	1217	SLV 7	0.3	No
ini.	2	0	197488	-7167			3235	1217	SLV 4	0.17	No
fin.	2	0	-44620	-6828			3235	1217	SLV 4	0.18	No
ini.	2	0	136951	-5165			3235	1217	SLV 8	0.24	No
fin.	2	0	38966	-3994			3235	1217	SLV 8	0.3	No
ini.	2	0	-81792	4061			3235	1217	SLV 16	0.3	No
fin.	2	0	123032	5716			3235	1217	SLV 16	0.21	No
ini.	2	0	197488	-7167			3235	1217	SLV 3	0.17	No
fin.	2	0	-44620	-6828			3235	1217	SLV 3	0.18	No
ini.	2	0	-113687	5714			3235	1217	SLV 13	0.21	No
fin.	2	0	101682	7050			3235	1217	SLV 13	0.17	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.591	SLV 3	Si
V_SLV	0.17	SLV 3	No
PF_SLU	4.166	SLU 83	Si
V_SLU	0.653	SLU 81	No

Trave di accoppiamento 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-50.8	-335.9	1178	1250	72	-600.8	-335.9	1178	1250	72	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	$\tau 0$	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-191	3507	72292	SLU 77	20.61	Si
fin.	3	-356	-11067	72292	SLU 77	6.53	Si
ini.	3	-159	2683	72292	SLU 58	26.94	Si
fin.	3	-301	-9758	72292	SLU 58	7.41	Si
ini.	3	-203	4299	72292	SLU 83	16.82	Si
fin.	3	-354	-10004	72292	SLU 83	7.23	Si
ini.	3	-215	2600	72292	SLU 37	27.8	Si
fin.	3	-369	-10420	72292	SLU 37	6.94	Si
ini.	3	-137	3060	72292	SLU 56	23.63	Si
fin.	3	-282	-9691	72292	SLU 56	7.46	Si
ini.	3	-183	3535	72292	SLU 80	20.45	Si
fin.	3	-334	-9432	72292	SLU 80	7.66	Si
ini.	3	-213	3130	72292	SLU 79	23.09	Si
fin.	3	-375	-11134	72292	SLU 79	6.49	Si
ini.	3	-165	1940	72292	SLU 71	37.27	Si
fin.	3	-298	-9609	72292	SLU 71	7.52	Si
ini.	3	-193	2977	72292	SLU 35	24.29	Si
fin.	3	-350	-10353	72292	SLU 35	6.98	Si
ini.	3	-143	2316	72292	SLU 69	31.21	Si
fin.	3	-279	-9541	72292	SLU 69	7.58	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	4299	135			776	292	SLU 83	2.16	Si
fin.	3	0	-10004	-1415			776	292	SLU 83	0.21	No
ini.	3	0	3130	119			776	292	SLU 79	2.45	Si
fin.	3	0	-11134	-1403			776	292	SLU 79	0.21	No
ini.	3	0	3535	133			776	292	SLU 80	2.2	Si
fin.	3	0	-9432	-1320			776	292	SLU 80	0.22	No
ini.	3	0	4569	166			776	292	SLU 75	1.76	Si
fin.	3	0	-7581	-1292			776	292	SLU 75	0.23	No
ini.	3	0	4703	148			776	292	SLU 84	1.97	Si
fin.	3	0	-8302	-1332			776	292	SLU 84	0.22	No
ini.	3	0	4957	163			776	292	SLU 81	1.79	Si
fin.	3	0	-8221	-1347			776	292	SLU 81	0.22	No
ini.	3	0	3911	138			776	292	SLU 78	2.11	Si
fin.	3	0	-9364	-1360			776	292	SLU 78	0.21	No
ini.	3	0	4165	153			776	292	SLU 74	1.91	Si
fin.	3	0	-9283	-1375			776	292	SLU 74	0.21	No
ini.	3	0	3507	125			776	292	SLU 77	2.34	Si
fin.	3	0	-11067	-1444			776	292	SLU 77	0.2	No
ini.	3	0	3060	129			776	292	SLU 56	2.27	Si
fin.	3	0	-9691	-1280			776	292	SLU 56	0.23	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1041	25886	90194	SLD 2	3.48	Si
fin.	2	795	1247	90194	SLD 2	72.32	Si
ini.	2	-2349	-50834	90194	SLV 14	1.77	Si
fin.	2	-1992	-9912	90194	SLV 14	9.1	Si
ini.	2	-2716	-51423	90194	SLV 15	1.75	Si
fin.	2	-2372	-18954	90194	SLV 15	4.76	Si
ini.	2	1041	25886	90194	SLD 1	3.48	Si
fin.	2	795	1247	90194	SLD 1	72.32	Si
ini.	2	-2349	-50834	90194	SLV 13	1.77	Si
fin.	2	-1992	-9912	90194	SLV 13	9.1	Si
ini.	2	2552	56916	90194	SLV 1	1.58	Si
fin.	2	2071	9392	90194	SLV 1	9.6	Si
ini.	2	2185	56327	90194	SLV 4	1.6	Si
fin.	2	1691	350	90194	SLV 4	257.5	Si
ini.	2	2185	56327	90194	SLV 3	1.6	Si
fin.	2	1691	350	90194	SLV 3	257.5	Si
ini.	2	2552	56916	90194	SLV 2	1.58	Si
fin.	2	2071	9392	90194	SLV 2	9.6	Si
ini.	2	-2716	-51423	90194	SLV 16	1.75	Si
fin.	2	-2372	-18954	90194	SLV 16	4.76	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-50834	1652			1165	438	SLV 13	0.27	No
fin.	2	0	-9912	280			1165	438	SLV 13	1.56	Si
ini.	2	0	-14397	-538			1165	438	SLV 12	0.81	No
fin.	2	0	-22746	-1594			1165	438	SLV 12	0.27	No
ini.	2	0	17928	-1252			1165	438	SLV 8	0.35	No
fin.	2	0	-16955	-2092			1165	438	SLV 8	0.21	No
ini.	2	0	-12435	1550			1165	438	SLV 10	0.28	No
fin.	2	0	7393	396			1165	438	SLV 10	1.11	Si
ini.	2	0	-14397	-538			1165	438	SLV 11	0.81	No
fin.	2	0	-22746	-1594			1165	438	SLV 11	0.27	No
ini.	2	0	-50834	1652			1165	438	SLV 14	0.27	No
fin.	2	0	-9912	280			1165	438	SLV 14	1.56	Si
ini.	2	0	56327	-1353			1165	438	SLV 4	0.32	No
fin.	2	0	350	-1977			1165	438	SLV 4	0.22	No
ini.	2	0	17928	-1252			1165	438	SLV 7	0.35	No
fin.	2	0	-16955	-2092			1165	438	SLV 7	0.21	No
ini.	2	0	56327	-1353			1165	438	SLV 3	0.32	No
fin.	2	0	350	-1977			1165	438	SLV 3	0.22	No
ini.	2	0	-12435	1550			1165	438	SLV 9	0.28	No
fin.	2	0	7393	396			1165	438	SLV 9	1.11	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.585	SLV 1	Si
V_SLV	0.209	SLV 7	No
PF_SLU	6.493	SLU 79	Si
V_SLU	0.202	SLU 77	No

Trave di accoppiamento 143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	898	988	90	-318.3	-335.9	898	988	90	90	28	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	24	-32194	103792	SLU 84	3.22	Si
fin.	3	-1419	44373	103792	SLU 84	2.34	Si
ini.	3	28	-28435	103792	SLU 81	3.65	Si
fin.	3	-1262	41358	103792	SLU 81	2.51	Si
ini.	3	26	-31072	103792	SLU 78	3.34	Si
fin.	3	-1371	43449	103792	SLU 78	2.39	Si
ini.	3	32	-32625	103792	SLU 82	3.18	Si
fin.	3	-1425	44415	103792	SLU 82	2.34	Si
ini.	3	35	-31504	103792	SLU 75	3.29	Si
fin.	3	-1378	43491	103792	SLU 75	2.39	Si
ini.	3	20	-28004	103792	SLU 83	3.71	Si
fin.	3	-1255	41316	103792	SLU 83	2.51	Si
ini.	3	17	-33744	103792	SLU 73	3.08	Si
fin.	3	-1489	44652	103792	SLU 73	2.32	Si
ini.	3	-25	-29837	103792	SLU 65	3.48	Si
fin.	3	-1381	40451	103792	SLU 65	2.57	Si
ini.	3	9	-33312	103792	SLU 76	3.12	Si
fin.	3	-1482	44610	103792	SLU 76	2.33	Si
ini.	3	-2	-30088	103792	SLU 80	3.45	Si
fin.	3	-1366	42530	103792	SLU 80	2.44	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-32194	970			970	365	SLU 84	0.38	No
fin.	3	0	44373	2431			970	365	SLU 84	0.15	No
ini.	3	0	-30088	856			970	365	SLU 80	0.43	No
fin.	3	0	42530	2387			970	365	SLU 80	0.15	No
ini.	3	0	-27314	752			970	365	SLU 74	0.49	No
fin.	3	0	40435	2279			970	365	SLU 74	0.16	No
ini.	3	0	-28004	798			970	365	SLU 83	0.46	No
fin.	3	0	41316	2292			970	365	SLU 83	0.16	No
ini.	3	0	-31072	875			970	365	SLU 78	0.42	No
fin.	3	0	43449	2449			970	365	SLU 78	0.15	No
ini.	3	0	-26883	704			970	365	SLU 77	0.52	No
fin.	3	0	40393	2310			970	365	SLU 77	0.16	No
ini.	3	0	-32625	1018			970	365	SLU 82	0.36	No
fin.	3	0	44415	2399			970	365	SLU 82	0.15	No
ini.	3	0	-31504	924			970	365	SLU 75	0.4	No
fin.	3	0	43491	2418			970	365	SLU 75	0.15	No
ini.	3	0	-33744	1067			970	365	SLU 73	0.34	No
fin.	3	0	44652	2417			970	365	SLU 73	0.15	No
ini.	3	0	-33312	1019			970	365	SLU 76	0.36	No
fin.	3	0	44610	2449			970	365	SLU 76	0.15	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	714	-69599	121694	SLV 9	1.75	Si
fin.	2	-2427	67024	121694	SLV 9	1.82	Si
ini.	2	-1575	77588	121694	SLV 1	1.57	Si
fin.	2	1410	-42200	121694	SLV 1	2.88	Si
ini.	2	-1726	90428	121694	SLV 3	1.35	Si
fin.	2	1899	-52579	121694	SLV 3	2.31	Si
ini.	2	1676	-125807	121694	SLV 13	0.97	No
fin.	2	-3614	107208	121694	SLV 13	1.14	Si
ini.	2	1525	-112967	121694	SLV 16	1.08	Si
fin.	2	-3124	96830	121694	SLV 16	1.26	Si
ini.	2	-1575	77588	121694	SLV 2	1.57	Si
fin.	2	1410	-42200	121694	SLV 2	2.88	Si
ini.	2	1676	-125807	121694	SLV 14	0.97	No
fin.	2	-3614	107208	121694	SLV 14	1.14	Si
ini.	2	-1726	90428	121694	SLV 4	1.35	Si
fin.	2	1899	-52579	121694	SLV 4	2.31	Si
ini.	2	714	-69599	121694	SLV 10	1.75	Si
fin.	2	-2427	67024	121694	SLV 10	1.82	Si
ini.	2	1525	-112967	121694	SLV 15	1.08	Si
fin.	2	-3124	96830	121694	SLV 15	1.26	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-112967	4461			1456	548	SLV 15	0.12	No
fin.	2	0	96830	5287			1456	548	SLV 15	0.1	No
ini.	2	0	-125807	4335			1456	548	SLV 13	0.13	No
fin.	2	0	107208	5775			1456	548	SLV 13	0.09	No
ini.	2	0	90428	-3351			1456	548	SLV 4	0.16	No
fin.	2	0	-52579	-2684			1456	548	SLV 4	0.2	No
ini.	2	0	77588	-3478			1456	548	SLV 2	0.16	No
fin.	2	0	-42200	-2197			1456	548	SLV 2	0.25	No
ini.	2	0	-69599	1452			1456	548	SLV 9	0.38	No
fin.	2	0	67024	3553			1456	548	SLV 9	0.15	No
ini.	2	0	77588	-3478			1456	548	SLV 1	0.16	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-42200	-2197			1456	548	SLV 1	0.25	No
ini.	2	0	-69599	1452			1456	548	SLV 10	0.38	No
fin.	2	0	67024	3553			1456	548	SLV 10	0.15	No
ini.	2	0	90428	-3351			1456	548	SLV 3	0.16	No
fin.	2	0	-52579	-2684			1456	548	SLV 3	0.2	No
ini.	2	0	-112967	4461			1456	548	SLV 16	0.12	No
fin.	2	0	96830	5287			1456	548	SLV 16	0.1	No
ini.	2	0	-125807	4335			1456	548	SLV 14	0.13	No
fin.	2	0	107208	5775			1456	548	SLV 14	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.967	SLV 13	No
V_SLV	0.095	SLV 13	No
PF_SLU	2.324	SLU 73	Si
V_SLU	0.149	SLU 78	No

Trave di accoppiamento 144

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	1168	1250	82	-318.3	-335.9	1168	1250	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1060	-38172	89792	SLU 75	2.35	Si
fin.	3	116	10921	89792	SLU 75	8.22	Si
ini.	3	-1012	-37369	89792	SLU 80	2.4	Si
fin.	3	162	9961	89792	SLU 80	9.01	Si
ini.	3	-1122	-39145	89792	SLU 84	2.29	Si
fin.	3	79	10997	89792	SLU 84	8.16	Si
ini.	3	-1020	-38301	89792	SLU 78	2.34	Si
fin.	3	183	10409	89792	SLU 78	8.63	Si
ini.	3	-936	-35255	89792	SLU 77	2.55	Si
fin.	3	136	7913	89792	SLU 77	11.35	Si
ini.	3	-1148	-39140	89792	SLU 73	2.29	Si
fin.	3	59	12649	89792	SLU 73	7.1	Si
ini.	3	-1162	-39015	89792	SLU 82	2.3	Si
fin.	3	11	11509	89792	SLU 82	7.8	Si
ini.	3	-1108	-39270	89792	SLU 76	2.29	Si
fin.	3	126	12137	89792	SLU 76	7.4	Si
ini.	3	-1078	-35969	89792	SLU 81	2.5	Si
fin.	3	-35	9014	89792	SLU 81	9.96	Si
ini.	3	-1038	-36099	89792	SLU 83	2.49	Si
fin.	3	32	8502	89792	SLU 83	10.56	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-35969	2193			806	303	SLU 81	0.14	No
fin.	3	0	9014	-393			806	303	SLU 81	0.77	No
ini.	3	0	-39015	2307			806	303	SLU 82	0.13	No
fin.	3	0	11509	-257			806	303	SLU 82	1.18	Si
ini.	3	0	-36099	2218			806	303	SLU 83	0.14	No
fin.	3	0	8502	-412			806	303	SLU 83	0.74	No
ini.	3	0	-38172	2281			806	303	SLU 75	0.13	No
fin.	3	0	10921	-266			806	303	SLU 75	1.14	Si
ini.	3	0	-39140	2274			806	303	SLU 73	0.13	No
fin.	3	0	12649	-148			806	303	SLU 73	2.05	Si
ini.	3	0	-39145	2332			806	303	SLU 84	0.13	No
fin.	3	0	10997	-277			806	303	SLU 84	1.1	Si
ini.	3	0	-37369	2248			806	303	SLU 80	0.13	No
fin.	3	0	9961	-277			806	303	SLU 80	1.1	Si
ini.	3	0	-39270	2299			806	303	SLU 76	0.13	No
fin.	3	0	12137	-167			806	303	SLU 76	1.81	Si
ini.	3	0	-35255	2192			806	303	SLU 77	0.14	No
fin.	3	0	7913	-420			806	303	SLU 77	0.72	No
ini.	3	0	-38301	2305			806	303	SLU 78	0.13	No
fin.	3	0	10409	-285			806	303	SLU 78	1.06	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1144	-51535	107694	SLD 13	2.09	Si
fin.	2	638	30589	107694	SLD 13	3.52	Si
ini.	2	-1370	-58394	107694	SLV 9	1.84	Si
fin.	2	780	36768	107694	SLV 9	2.93	Si
ini.	2	-1144	-51535	107694	SLD 14	2.09	Si
fin.	2	638	30589	107694	SLD 14	3.52	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1370	-58394	107694	SLV 10	1.84	Si
fin.	2	780	36768	107694	SLV 10	2.93	Si
ini.	2	475	44302	107694	SLV 4	2.43	Si
fin.	2	-1489	-53222	107694	SLV 4	2.02	Si
ini.	2	-1800	-90159	107694	SLV 14	1.19	Si
fin.	2	1489	64317	107694	SLV 14	1.67	Si
ini.	2	-1559	-80073	107694	SLV 16	1.34	Si
fin.	2	1269	55357	107694	SLV 16	1.95	Si
ini.	2	-1559	-80073	107694	SLV 15	1.34	Si
fin.	2	1269	55357	107694	SLV 15	1.95	Si
ini.	2	-1800	-90159	107694	SLV 13	1.19	Si
fin.	2	1489	64317	107694	SLV 13	1.67	Si
ini.	2	475	44302	107694	SLV 3	2.43	Si
fin.	2	-1489	-53222	107694	SLV 3	2.02	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-58394	2781			1208	455	SLV 10	0.16	No
fin.	2	0	36768	1372			1208	455	SLV 10	0.33	No
ini.	2	0	-80073	3591			1208	455	SLV 16	0.13	No
fin.	2	0	55357	1943			1208	455	SLV 16	0.23	No
ini.	2	0	-90159	3982			1208	455	SLV 13	0.11	No
fin.	2	0	64317	2479			1208	455	SLV 13	0.18	No
ini.	2	0	44302	-1145			1208	455	SLV 3	0.4	No
fin.	2	0	-53222	-3004			1208	455	SLV 3	0.15	No
ini.	2	0	-80073	3591			1208	455	SLV 15	0.13	No
fin.	2	0	55357	1943			1208	455	SLV 15	0.23	No
ini.	2	0	-51535	2510			1208	455	SLD 14	0.18	No
fin.	2	0	30589	904			1208	455	SLD 14	0.5	No
ini.	2	0	-58394	2781			1208	455	SLV 9	0.16	No
fin.	2	0	36768	1372			1208	455	SLV 9	0.33	No
ini.	2	0	44302	-1145			1208	455	SLV 4	0.4	No
fin.	2	0	-53222	-3004			1208	455	SLV 4	0.15	No
ini.	2	0	-51535	2510			1208	455	SLD 13	0.18	No
fin.	2	0	30589	904			1208	455	SLD 13	0.5	No
ini.	2	0	-90159	3982			1208	455	SLV 14	0.11	No
fin.	2	0	64317	2479			1208	455	SLV 14	0.18	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 13	Si
V_SLV	0.114	SLV 13	No
PF_SLU	2.287	SLU 76	Si
V_SLU	0.13	SLU 84	No

Trave di accoppiamento 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	898	988	90	-296.3	595.1	898	988	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmed	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-46	-630	103792	SLU 18	164.76	Si
fin.	3	-365	9187	103792	SLU 18	11.3	Si
ini.	3	-63	-728	103792	SLU 61	142.6	Si
fin.	3	-450	11292	103792	SLU 61	9.19	Si
ini.	3	-33	-914	103792	SLU 82	113.57	Si
fin.	3	-419	11031	103792	SLU 82	9.41	Si
ini.	3	-12	-1137	103792	SLU 40	91.28	Si
fin.	3	-342	9209	103792	SLU 40	11.27	Si
ini.	3	-57	-594	103792	SLU 52	174.88	Si
fin.	3	-411	10458	103792	SLU 52	9.93	Si
ini.	3	-67	-407	103792	SLU 60	255.19	Si
fin.	3	-442	11010	103792	SLU 60	9.43	Si
ini.	3	-38	-593	103792	SLU 81	175.1	Si
fin.	3	-411	10749	103792	SLU 81	9.66	Si
ini.	3	-27	-780	103792	SLU 73	133.14	Si
fin.	3	-380	10197	103792	SLU 73	10.18	Si
ini.	3	-42	-951	103792	SLU 19	109.13	Si
fin.	3	-373	9470	103792	SLU 19	10.96	Si
ini.	3	-16	-816	103792	SLU 39	127.2	Si
fin.	3	-335	8926	103792	SLU 39	11.63	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	3041	-663			970	365	SLU 50	0.55	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-2896	229			970	365	SLU 50	1.6	Si
ini.	3	0	2855	-677			970	365	SLU 71	0.54	No
fin.	3	0	-3157	236			970	365	SLU 71	1.55	Si
ini.	3	0	2550	-667			970	365	SLU 69	0.55	No
fin.	3	0	-1828	302			970	365	SLU 69	1.21	Si
ini.	3	0	-594	-260			970	365	SLU 52	1.41	Si
fin.	3	0	10458	669			970	365	SLU 52	0.55	No
ini.	3	0	2736	-654			970	365	SLU 48	0.56	No
fin.	3	0	-1567	295			970	365	SLU 48	1.24	Si
ini.	3	0	-593	-291			970	365	SLU 81	1.25	Si
fin.	3	0	10749	715			970	365	SLU 81	0.51	No
ini.	3	0	-914	-261			970	365	SLU 82	1.4	Si
fin.	3	0	11031	714			970	365	SLU 82	0.51	No
ini.	3	0	-407	-278			970	365	SLU 60	1.31	Si
fin.	3	0	11010	707			970	365	SLU 60	0.52	No
ini.	3	0	-780	-273			970	365	SLU 73	1.34	Si
fin.	3	0	10197	677			970	365	SLU 73	0.54	No
ini.	3	0	-728	-248			970	365	SLU 61	1.47	Si
fin.	3	0	11292	707			970	365	SLU 61	0.52	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2660	-90093	121694	SLV 14	1.35	Si
fin.	2	-690	106675	121694	SLV 14	1.14	Si
ini.	2	-3369	107421	121694	SLV 1	1.13	Si
fin.	2	235	-112756	121694	SLV 1	1.08	Si
ini.	2	1956	-57440	121694	SLV 11	2.12	Si
fin.	2	-423	70713	121694	SLV 11	1.72	Si
ini.	2	-2720	90585	121694	SLV 3	1.34	Si
fin.	2	209	-93907	121694	SLV 3	1.3	Si
ini.	2	2660	-90093	121694	SLV 13	1.35	Si
fin.	2	-690	106675	121694	SLV 13	1.14	Si
ini.	2	1956	-57440	121694	SLV 12	2.12	Si
fin.	2	-423	70713	121694	SLV 12	1.72	Si
ini.	2	-3369	107421	121694	SLV 2	1.13	Si
fin.	2	235	-112756	121694	SLV 2	1.08	Si
ini.	2	3309	-106929	121694	SLV 15	1.14	Si
fin.	2	-716	125524	121694	SLV 15	0.97	No
ini.	2	-2720	90585	121694	SLV 4	1.34	Si
fin.	2	209	-93907	121694	SLV 4	1.3	Si
ini.	2	3309	-106929	121694	SLV 16	1.14	Si
fin.	2	-716	125524	121694	SLV 16	0.97	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	90585	-4376			1456	548	SLV 4	0.13	No
fin.	2	0	-93907	-3361			1456	548	SLV 4	0.16	No
ini.	2	0	90585	-4376			1456	548	SLV 3	0.13	No
fin.	2	0	-93907	-3361			1456	548	SLV 3	0.16	No
ini.	2	0	107421	-4315			1456	548	SLV 1	0.13	No
fin.	2	0	-112756	-3727			1456	548	SLV 1	0.15	No
ini.	2	0	-57440	835			1456	548	SLV 11	0.66	No
fin.	2	0	70713	2295			1456	548	SLV 11	0.24	No
ini.	2	0	107421	-4315			1456	548	SLV 2	0.13	No
fin.	2	0	-112756	-3727			1456	548	SLV 2	0.15	No
ini.	2	0	-106929	3750			1456	548	SLV 15	0.15	No
fin.	2	0	125524	4682			1456	548	SLV 15	0.12	No
ini.	2	0	-57440	835			1456	548	SLV 12	0.66	No
fin.	2	0	70713	2295			1456	548	SLV 12	0.24	No
ini.	2	0	-90093	3811			1456	548	SLV 13	0.14	No
fin.	2	0	106675	4316			1456	548	SLV 13	0.13	No
ini.	2	0	-106929	3750			1456	548	SLV 16	0.15	No
fin.	2	0	125524	4682			1456	548	SLV 16	0.12	No
ini.	2	0	-90093	3811			1456	548	SLV 14	0.14	No
fin.	2	0	106675	4316			1456	548	SLV 14	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.969	SLV 15	No
V_SLV	0.117	SLV 15	No
PF_SLU	9.191	SLU 61	Si
V_SLU	0.511	SLU 81	No

Trave di accoppiamento 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	1168	1250	82	-296.3	595.1	1168	1250	82	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-325	-13732	89792	SLU 73	6.54	Si
fin.	3	268	2967	89792	SLU 73	30.27	Si
ini.	3	-367	-14542	89792	SLU 82	6.17	Si
fin.	3	246	2997	89792	SLU 82	29.96	Si
ini.	3	-361	-13406	89792	SLU 61	6.7	Si
fin.	3	198	2708	89792	SLU 61	33.16	Si
ini.	3	-327	-12514	89792	SLU 40	7.18	Si
fin.	3	199	2591	89792	SLU 40	34.65	Si
ini.	3	-348	-13214	89792	SLU 60	6.79	Si
fin.	3	193	2547	89792	SLU 60	35.25	Si
ini.	3	-319	-12595	89792	SLU 52	7.13	Si
fin.	3	221	2678	89792	SLU 52	33.53	Si
ini.	3	-162	-12628	89792	SLU 84	7.11	Si
fin.	3	419	2888	89792	SLU 84	31.09	Si
ini.	3	-134	-12437	89792	SLU 75	7.22	Si
fin.	3	428	2727	89792	SLU 75	32.93	Si
ini.	3	-355	-14351	89792	SLU 81	6.26	Si
fin.	3	241	2836	89792	SLU 81	31.66	Si
ini.	3	-149	-12437	89792	SLU 83	7.22	Si
fin.	3	414	2728	89792	SLU 83	32.92	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-13406	1558			806	303	SLU 61	0.19	No
fin.	3	0	2708	-1079			806	303	SLU 61	0.28	No
ini.	3	0	-12245	1574			806	303	SLU 74	0.19	No
fin.	3	0	2566	-1103			806	303	SLU 74	0.27	No
ini.	3	0	-13214	1549			806	303	SLU 60	0.2	No
fin.	3	0	2547	-1093			806	303	SLU 60	0.28	No
ini.	3	0	-11818	1523			806	303	SLU 76	0.2	No
fin.	3	0	2858	-1012			806	303	SLU 76	0.3	No
ini.	3	0	-14351	1716			806	303	SLU 81	0.18	No
fin.	3	0	2836	-1212			806	303	SLU 81	0.25	No
ini.	3	0	-14542	1725			806	303	SLU 82	0.18	No
fin.	3	0	2997	-1198			806	303	SLU 82	0.25	No
ini.	3	0	-12628	1618			806	303	SLU 84	0.19	No
fin.	3	0	2888	-1099			806	303	SLU 84	0.28	No
ini.	3	0	-12437	1609			806	303	SLU 83	0.19	No
fin.	3	0	2728	-1113			806	303	SLU 83	0.27	No
ini.	3	0	-13732	1630			806	303	SLU 73	0.19	No
fin.	3	0	2967	-1111			806	303	SLU 73	0.27	No
ini.	3	0	-12437	1583			806	303	SLU 75	0.19	No
fin.	3	0	2727	-1089			806	303	SLU 75	0.28	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1310	47214	107694	SLV 3	2.28	Si
fin.	2	-1734	-50152	107694	SLV 3	2.15	Si
ini.	2	-1116	-46664	107694	SLV 11	2.31	Si
fin.	2	1636	37258	107694	SLV 11	2.89	Si
ini.	2	-1934	-76677	107694	SLV 16	1.4	Si
fin.	2	2619	64765	107694	SLV 16	1.66	Si
ini.	2	-1662	-65235	107694	SLV 13	1.65	Si
fin.	2	2156	53868	107694	SLV 13	2	Si
ini.	2	-1934	-76677	107694	SLV 15	1.4	Si
fin.	2	2619	64765	107694	SLV 15	1.66	Si
ini.	2	1310	47214	107694	SLV 4	2.28	Si
fin.	2	-1734	-50152	107694	SLV 4	2.15	Si
ini.	2	1582	58656	107694	SLV 2	1.84	Si
fin.	2	-2198	-61050	107694	SLV 2	1.76	Si
ini.	2	-1662	-65235	107694	SLV 14	1.65	Si
fin.	2	2156	53868	107694	SLV 14	2	Si
ini.	2	1582	58656	107694	SLV 1	1.84	Si
fin.	2	-2198	-61050	107694	SLV 1	1.76	Si
ini.	2	-1116	-46664	107694	SLV 12	2.31	Si
fin.	2	1636	37258	107694	SLV 12	2.89	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-76677	4467			1208	455	SLV 15	0.1	No
fin.	2	0	64765	3056			1208	455	SLV 15	0.15	No
ini.	2	0	58656	-2284			1208	455	SLV 2	0.2	No
fin.	2	0	-61050	-4571			1208	455	SLV 2	0.1	No
ini.	2	0	-46664	3072			1208	455	SLV 12	0.15	No
fin.	2	0	37258	1347			1208	455	SLV 12	0.34	No
ini.	2	0	47214	-1646			1208	455	SLV 4	0.28	No
fin.	2	0	-50152	-3937			1208	455	SLV 4	0.12	No
ini.	2	0	58656	-2284			1208	455	SLV 1	0.2	No
fin.	2	0	-61050	-4571			1208	455	SLV 1	0.1	No
ini.	2	0	-76677	4467			1208	455	SLV 16	0.1	No
fin.	2	0	64765	3056			1208	455	SLV 16	0.15	No
ini.	2	0	-65235	3829			1208	455	SLV 14	0.12	No
fin.	2	0	53868	2422			1208	455	SLV 14	0.19	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-46664	3072			1208	455	SLV 11	0.15	No
fin.	2	0	37258	1347			1208	455	SLV 11	0.34	No
ini.	2	0	-65235	3829			1208	455	SLV 13	0.12	No
fin.	2	0	53868	2422			1208	455	SLV 13	0.19	No
ini.	2	0	47214	-1646			1208	455	SLV 3	0.28	No
fin.	2	0	-50152	-3937			1208	455	SLV 3	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.405	SLV 15	Si
V_SLV	0.099	SLV 1	No
PF_SLU	6.174	SLU 82	Si
V_SLU	0.176	SLU 82	No

Trave di accoppiamento 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2467.8	126.6	1460	1566	106	-2467.8	206.6	1460	1566	106	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	4086	13334	131792	SLU 72	9.88	Si
fin.	3	4100	27243	131792	SLU 72	4.84	Si
ini.	3	3609	8292	131792	SLU 51	15.89	Si
fin.	3	3621	28869	131792	SLU 51	4.57	Si
ini.	3	3423	10556	131792	SLU 50	12.48	Si
fin.	3	3435	23988	131792	SLU 50	5.49	Si
ini.	3	3433	11573	131792	SLU 68	11.39	Si
fin.	3	3442	25604	131792	SLU 68	5.15	Si
ini.	3	4010	14127	131792	SLU 70	9.33	Si
fin.	3	4023	25544	131792	SLU 70	5.16	Si
ini.	3	3304	7302	131792	SLU 9	18.05	Si
fin.	3	3316	25163	131792	SLU 9	5.24	Si
ini.	3	2956	6531	131792	SLU 47	20.18	Si
fin.	3	2963	27229	131792	SLU 47	4.84	Si
ini.	3	3533	9085	131792	SLU 49	14.51	Si
fin.	3	3544	27169	131792	SLU 49	4.85	Si
ini.	3	3765	13942	131792	SLU 59	9.45	Si
fin.	3	3777	24535	131792	SLU 59	5.37	Si
ini.	3	3781	12344	131792	SLU 30	10.68	Si
fin.	3	3794	23537	131792	SLU 30	5.6	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	9085	440			1143	430	SLU 49	0.98	No
fin.	3	0	27169	-22			1143	430	SLU 49	19.67	Si
ini.	3	0	23167	6			1143	430	SLU 81	68.46	Si
fin.	3	0	6385	-476			1143	430	SLU 81	0.9	No
ini.	3	0	18124	86			1143	430	SLU 60	5.03	Si
fin.	3	0	8010	-394			1143	430	SLU 60	1.09	Si
ini.	3	0	13334	392			1143	430	SLU 72	1.1	Si
fin.	3	0	27243	-71			1143	430	SLU 72	6.05	Si
ini.	3	0	6279	411			1143	430	SLU 44	1.05	Si
fin.	3	0	22336	-66			1143	430	SLU 44	6.55	Si
ini.	3	0	22176	-76			1143	430	SLU 39	5.69	Si
fin.	3	0	2679	-448			1143	430	SLU 39	0.96	No
ini.	3	0	11573	391			1143	430	SLU 68	1.1	Si
fin.	3	0	25604	-80			1143	430	SLU 68	5.41	Si
ini.	3	0	23418	66			1143	430	SLU 83	6.54	Si
fin.	3	0	11278	-408			1143	430	SLU 83	1.06	Si
ini.	3	0	8292	471			1143	430	SLU 51	0.91	No
fin.	3	0	28869	11			1143	430	SLU 51	39.01	Si
ini.	3	0	6531	470			1143	430	SLU 47	0.91	No
fin.	3	0	27229	3			1143	430	SLU 47	167.78	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1610	59942	149694	SLV 11	2.5	Si
fin.	2	1553	-42850	149694	SLV 11	3.49	Si
ini.	2	1189	-48694	149694	SLV 10	3.07	Si
fin.	2	1251	64413	149694	SLV 10	2.32	Si
ini.	2	2300	72930	149694	SLV 8	2.05	Si
fin.	2	2244	-46828	149694	SLV 8	3.2	Si
ini.	2	1878	-35707	149694	SLV 6	4.19	Si
fin.	2	1942	60435	149694	SLV 6	2.48	Si
ini.	2	1189	-48694	149694	SLV 9	3.07	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	1251	64413	149694	SLV 9	2.32	Si
ini.	2	2300	72930	149694	SLV 7	2.05	Si
fin.	2	2244	-46828	149694	SLV 7	3.2	Si
ini.	2	2957	50060	149694	SLV 4	2.99	Si
fin.	2	2944	-13926	149694	SLV 4	10.75	Si
ini.	2	1878	-35707	149694	SLV 5	4.19	Si
fin.	2	1942	60435	149694	SLV 5	2.48	Si
ini.	2	2957	50060	149694	SLV 3	2.99	Si
fin.	2	2944	-13926	149694	SLV 3	10.75	Si
ini.	2	1610	59942	149694	SLV 12	2.5	Si
fin.	2	1553	-42850	149694	SLV 12	3.49	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	72930	-1381			1715	645	SLV 8	0.47	No
fin.	2	0	-46828	-1724			1715	645	SLV 8	0.37	No
ini.	2	0	-48694	1628			1715	645	SLV 9	0.4	No
fin.	2	0	64413	1231			1715	645	SLV 9	0.52	No
ini.	2	0	50060	-674			1715	645	SLV 4	0.96	No
fin.	2	0	-13926	-1064			1715	645	SLV 4	0.61	No
ini.	2	0	-35707	1400			1715	645	SLV 6	0.46	No
fin.	2	0	60435	984			1715	645	SLV 6	0.66	No
ini.	2	0	50060	-674			1715	645	SLV 3	0.96	No
fin.	2	0	-13926	-1064			1715	645	SLV 3	0.61	No
ini.	2	0	-35707	1400			1715	645	SLV 5	0.46	No
fin.	2	0	60435	984			1715	645	SLV 5	0.66	No
ini.	2	0	-48694	1628			1715	645	SLV 10	0.4	No
fin.	2	0	64413	1231			1715	645	SLV 10	0.52	No
ini.	2	0	59942	-1152			1715	645	SLV 11	0.56	No
fin.	2	0	-42850	-1477			1715	645	SLV 11	0.44	No
ini.	2	0	59942	-1152			1715	645	SLV 12	0.56	No
fin.	2	0	-42850	-1477			1715	645	SLV 12	0.44	No
ini.	2	0	72930	-1381			1715	645	SLV 7	0.47	No
fin.	2	0	-46828	-1724			1715	645	SLV 7	0.37	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.053	SLV 7	Si
V_SLV	0.374	SLV 7	No
PF_SLU	4.565	SLU 51	Si
V_SLU	0.904	SLU 81	No

Trave di accoppiamento 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	1250	1340	90	-2271.3	595.1	1250	1340	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	732	11437	103792	SLU 38	9.07	Si
fin.	3	1388	-31061	103792	SLU 38	3.34	Si
ini.	3	727	12562	103792	SLU 79	8.26	Si
fin.	3	1415	-31410	103792	SLU 79	3.3	Si
ini.	3	793	9219	103792	SLU 30	11.26	Si
fin.	3	1397	-30201	103792	SLU 30	3.44	Si
ini.	3	768	10826	103792	SLU 72	9.59	Si
fin.	3	1416	-30614	103792	SLU 72	3.39	Si
ini.	3	788	10344	103792	SLU 71	10.03	Si
fin.	3	1424	-30550	103792	SLU 71	3.4	Si
ini.	3	813	8737	103792	SLU 29	11.88	Si
fin.	3	1405	-30137	103792	SLU 29	3.44	Si
ini.	3	689	12676	103792	SLU 77	8.19	Si
fin.	3	1364	-29800	103792	SLU 77	3.48	Si
ini.	3	752	10955	103792	SLU 37	9.47	Si
fin.	3	1396	-30997	103792	SLU 37	3.35	Si
ini.	3	669	13159	103792	SLU 78	7.89	Si
fin.	3	1355	-29865	103792	SLU 78	3.48	Si
ini.	3	707	13044	103792	SLU 80	7.96	Si
fin.	3	1407	-31474	103792	SLU 80	3.3	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	12562	-601			970	365	SLU 79	0.61	No
fin.	3	0	-31410	-1057			970	365	SLU 79	0.35	No
ini.	3	0	13044	-614			970	365	SLU 80	0.59	No
fin.	3	0	-31474	-1071			970	365	SLU 80	0.34	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	10826	-630			970	365	SLU 72	0.58	No
fin.	3	0	-30614	-934			970	365	SLU 72	0.39	No
ini.	3	0	11069	-528			970	365	SLU 35	0.69	No
fin.	3	0	-29387	-987			970	365	SLU 35	0.37	No
ini.	3	0	12676	-660			970	365	SLU 77	0.55	No
fin.	3	0	-29800	-974			970	365	SLU 77	0.38	No
ini.	3	0	11437	-482			970	365	SLU 38	0.76	No
fin.	3	0	-31061	-1084			970	365	SLU 38	0.34	No
ini.	3	0	10955	-469			970	365	SLU 37	0.78	No
fin.	3	0	-30997	-1070			970	365	SLU 37	0.34	No
ini.	3	0	9219	-498			970	365	SLU 30	0.73	No
fin.	3	0	-30201	-947			970	365	SLU 30	0.39	No
ini.	3	0	11551	-541			970	365	SLU 36	0.67	No
fin.	3	0	-29451	-1000			970	365	SLU 36	0.37	No
ini.	3	0	13159	-674			970	365	SLU 78	0.54	No
fin.	3	0	-29865	-987			970	365	SLU 78	0.37	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1469	37191	121694	SLV 2	3.27	Si
fin.	2	1407	-37828	121694	SLV 2	3.22	Si
ini.	2	-1264	37325	121694	SLV 7	3.26	Si
fin.	2	1164	-35372	121694	SLV 7	3.44	Si
ini.	2	-807	25504	121694	SLD 4	4.77	Si
fin.	2	915	-25282	121694	SLD 4	4.81	Si
ini.	2	2003	-30880	121694	SLV 14	3.94	Si
fin.	2	-999	30862	121694	SLV 14	3.94	Si
ini.	2	-1469	37191	121694	SLV 1	3.27	Si
fin.	2	1407	-37828	121694	SLV 1	3.22	Si
ini.	2	-1935	48248	121694	SLV 4	2.52	Si
fin.	2	1684	-47790	121694	SLV 4	2.55	Si
ini.	2	-1264	37325	121694	SLV 8	3.26	Si
fin.	2	1164	-35372	121694	SLV 8	3.44	Si
ini.	2	-807	25504	121694	SLD 3	4.77	Si
fin.	2	915	-25282	121694	SLD 3	4.81	Si
ini.	2	-1935	48248	121694	SLV 3	2.52	Si
fin.	2	1684	-47790	121694	SLV 3	2.55	Si
ini.	2	2003	-30880	121694	SLV 13	3.94	Si
fin.	2	-999	30862	121694	SLV 13	3.94	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-19822	1227			1456	548	SLV 15	0.45	No
fin.	2	0	20899	1728			1456	548	SLV 15	0.32	No
ini.	2	0	-30880	1894			1456	548	SLV 13	0.29	No
fin.	2	0	30862	2280			1456	548	SLV 13	0.24	No
ini.	2	0	37191	-2143			1456	548	SLV 1	0.26	No
fin.	2	0	-37828	-2343			1456	548	SLV 1	0.23	No
ini.	2	0	37191	-2143			1456	548	SLV 2	0.26	No
fin.	2	0	-37828	-2343			1456	548	SLV 2	0.23	No
ini.	2	0	-30880	1894			1456	548	SLV 14	0.29	No
fin.	2	0	30862	2280			1456	548	SLV 14	0.24	No
ini.	2	0	-19822	1227			1456	548	SLV 16	0.45	No
fin.	2	0	20899	1728			1456	548	SLV 16	0.32	No
ini.	2	0	48248	-2809			1456	548	SLV 3	0.2	No
fin.	2	0	-47790	-2895			1456	548	SLV 3	0.19	No
ini.	2	0	48248	-2809			1456	548	SLV 4	0.2	No
fin.	2	0	-47790	-2895			1456	548	SLV 4	0.19	No
ini.	2	0	37325	-2174			1456	548	SLV 8	0.25	No
fin.	2	0	-35372	-1921			1456	548	SLV 8	0.29	No
ini.	2	0	37325	-2174			1456	548	SLV 7	0.25	No
fin.	2	0	-35372	-1921			1456	548	SLV 7	0.29	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.522	SLV 3	Si
V_SLV	0.189	SLV 3	No
PF_SLU	3.298	SLU 80	Si
V_SLU	0.337	SLU 38	No

Trave di accoppiamento 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	1520	1566	46	-2271.3	595.1	1520	1566	46	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-326	25997	30060	SLU 78	1.16	Si
fin.	3	-338	-28392	30060	SLU 78	1.06	Si
ini.	3	-192	26693	30060	SLU 72	1.13	Si
fin.	3	-205	-27564	30060	SLU 72	1.09	Si
ini.	3	-194	27611	30060	SLU 79	1.09	Si
fin.	3	-207	-28599	30060	SLU 79	1.05	Si
ini.	3	-258	27695	30060	SLU 80	1.09	Si
fin.	3	-270	-28926	30060	SLU 80	1.04	Si
ini.	3	-262	25913	30060	SLU 77	1.16	Si
fin.	3	-274	-28065	30060	SLU 77	1.07	Si
ini.	3	-224	26945	30060	SLU 38	1.12	Si
fin.	3	-236	-27601	30060	SLU 38	1.09	Si
ini.	3	-261	24995	30060	SLU 70	1.2	Si
fin.	3	-273	-27031	30060	SLU 70	1.11	Si
ini.	3	-292	25247	30060	SLU 36	1.19	Si
fin.	3	-303	-27068	30060	SLU 36	1.11	Si
ini.	3	-129	26609	30060	SLU 71	1.13	Si
fin.	3	-142	-27237	30060	SLU 71	1.1	Si
ini.	3	-161	26861	30060	SLU 37	1.12	Si
fin.	3	-173	-27274	30060	SLU 37	1.1	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	25247	-67			331	124	SLU 36	1.85	Si
fin.	3	0	-27068	-915			331	124	SLU 36	0.14	No
ini.	3	0	24911	4			331	124	SLU 69	32.41	Si
fin.	3	0	-26704	-959			331	124	SLU 69	0.13	No
ini.	3	0	24995	0			331	124	SLU 70	281.35	Si
fin.	3	0	-27031	-964			331	124	SLU 70	0.13	No
ini.	3	0	27611	-156			331	124	SLU 79	0.8	No
fin.	3	0	-28599	-947			331	124	SLU 79	0.13	No
ini.	3	0	25997	-25			331	124	SLU 78	4.89	Si
fin.	3	0	-28392	-990			331	124	SLU 78	0.13	No
ini.	3	0	26609	-130			331	124	SLU 71	0.96	No
fin.	3	0	-27237	-921			331	124	SLU 71	0.14	No
ini.	3	0	27695	-160			331	124	SLU 80	0.78	No
fin.	3	0	-28926	-951			331	124	SLU 80	0.13	No
ini.	3	0	26693	-134			331	124	SLU 72	0.93	No
fin.	3	0	-27564	-925			331	124	SLU 72	0.13	No
ini.	3	0	25913	-22			331	124	SLU 77	5.65	Si
fin.	3	0	-28065	-985			331	124	SLU 77	0.13	No
ini.	3	0	25163	-64			331	124	SLU 35	1.95	Si
fin.	3	0	-26740	-911			331	124	SLU 35	0.14	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	274	30009	44694	SLV 3	1.49	Si
fin.	2	59	-32216	44694	SLV 3	1.39	Si
ini.	2	-226	15863	44694	SLD 2	2.82	Si
fin.	2	-318	-19132	44694	SLD 2	2.34	Si
ini.	2	821	20793	44694	SLV 7	2.15	Si
fin.	2	747	-18910	44694	SLV 7	2.36	Si
ini.	2	-299	26162	44694	SLV 1	1.71	Si
fin.	2	-509	-31011	44694	SLV 1	1.44	Si
ini.	2	-299	26162	44694	SLV 2	1.71	Si
fin.	2	-509	-31011	44694	SLV 2	1.44	Si
ini.	2	11	17535	44694	SLD 4	2.55	Si
fin.	2	-83	-19736	44694	SLD 4	2.26	Si
ini.	2	821	20793	44694	SLV 8	2.15	Si
fin.	2	747	-18910	44694	SLV 8	2.36	Si
ini.	2	274	30009	44694	SLV 4	1.49	Si
fin.	2	59	-32216	44694	SLV 4	1.39	Si
ini.	2	11	17535	44694	SLD 3	2.55	Si
fin.	2	-83	-19736	44694	SLD 3	2.26	Si
ini.	2	-226	15863	44694	SLD 1	2.82	Si
fin.	2	-318	-19132	44694	SLD 1	2.34	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	30009	-487			496	187	SLV 4	0.38	No
fin.	2	0	-32216	-705			496	187	SLV 4	0.26	No
ini.	2	0	-12994	616			496	187	SLV 14	0.3	No
fin.	2	0	11020	-129			496	187	SLV 14	1.45	Si
ini.	2	0	20793	-343			496	187	SLV 7	0.54	No
fin.	2	0	-18910	-603			496	187	SLV 7	0.31	No
ini.	2	0	30009	-487			496	187	SLV 3	0.38	No
fin.	2	0	-32216	-705			496	187	SLV 3	0.26	No
ini.	2	0	26162	-328			496	187	SLV 1	0.57	No
fin.	2	0	-31011	-639			496	187	SLV 1	0.29	No
ini.	2	0	17535	-170			496	187	SLD 4	1.1	Si
fin.	2	0	-19736	-539			496	187	SLD 4	0.35	No
ini.	2	0	26162	-328			496	187	SLV 2	0.57	No
fin.	2	0	-31011	-639			496	187	SLV 2	0.29	No
ini.	2	0	20793	-343			496	187	SLV 8	0.54	No
fin.	2	0	-18910	-603			496	187	SLV 8	0.31	No
ini.	2	0	17535	-170			496	187	SLD 3	1.1	Si



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-19736	-539			496	187	SLD 3	0.35	No
ini.	2	0	-12994	616			496	187	SLV 13	0.3	No
fin.	2	0	11020	-129			496	187	SLV 13	1.45	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.387	SLV 3	Si
V_SLV	0.265	SLV 3	No
PF_SLU	1.039	SLU 80	Si
V_SLU	0.126	SLU 78	No

Trave di accoppiamento 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	1250	1340	90	-2249.3	-335.9	1250	1340	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1172	48148	103792	SLU 83	2.16	Si
fin.	3	382	-22071	103792	SLU 83	4.7	Si
ini.	3	-1251	52061	103792	SLU 84	1.99	Si
fin.	3	429	-24474	103792	SLU 84	4.24	Si
ini.	3	-1424	50258	103792	SLU 82	2.07	Si
fin.	3	134	-17516	103792	SLU 82	5.93	Si
ini.	3	-916	47511	103792	SLU 79	2.18	Si
fin.	3	686	-28278	103792	SLU 79	3.67	Si
ini.	3	-1039	52258	103792	SLU 78	1.99	Si
fin.	3	700	-29541	103792	SLU 78	3.51	Si
ini.	3	-995	51425	103792	SLU 80	2.02	Si
fin.	3	733	-30682	103792	SLU 80	3.38	Si
ini.	3	-960	48344	103792	SLU 77	2.15	Si
fin.	3	653	-27138	103792	SLU 77	3.82	Si
ini.	3	-1395	50426	103792	SLU 73	2.06	Si
fin.	3	174	-18368	103792	SLU 73	5.65	Si
ini.	3	-1212	50454	103792	SLU 75	2.06	Si
fin.	3	405	-22583	103792	SLU 75	4.6	Si
ini.	3	-1221	52230	103792	SLU 76	1.99	Si
fin.	3	469	-25326	103792	SLU 76	4.1	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	47511	-1610			970	365	SLU 79	0.23	No
fin.	3	0	-28278	-1519			970	365	SLU 79	0.24	No
ini.	3	0	52258	-1764			970	365	SLU 78	0.21	No
fin.	3	0	-29541	-1619			970	365	SLU 78	0.23	No
ini.	3	0	51425	-1734			970	365	SLU 80	0.21	No
fin.	3	0	-30682	-1664			970	365	SLU 80	0.22	No
ini.	3	0	48344	-1640			970	365	SLU 77	0.22	No
fin.	3	0	-27138	-1473			970	365	SLU 77	0.25	No
ini.	3	0	46205	-1573			970	365	SLU 38	0.23	No
fin.	3	0	-30123	-1603			970	365	SLU 38	0.23	No
ini.	3	0	50454	-1617			970	365	SLU 75	0.23	No
fin.	3	0	-22583	-1432			970	365	SLU 75	0.26	No
ini.	3	0	45731	-1605			970	365	SLU 72	0.23	No
fin.	3	0	-28931	-1434			970	365	SLU 72	0.25	No
ini.	3	0	52061	-1643			970	365	SLU 84	0.22	No
fin.	3	0	-24474	-1577			970	365	SLU 84	0.23	No
ini.	3	0	52230	-1670			970	365	SLU 76	0.22	No
fin.	3	0	-25326	-1575			970	365	SLU 76	0.23	No
ini.	3	0	46564	-1635			970	365	SLU 70	0.22	No
fin.	3	0	-27791	-1388			970	365	SLU 70	0.26	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1329	82096	121694	SLV 2	1.48	Si
fin.	2	1734	-50607	121694	SLV 2	2.4	Si
ini.	2	-1049	51755	121694	SLD 2	2.35	Si
fin.	2	774	-26778	121694	SLD 2	4.54	Si
ini.	2	-1297	78460	121694	SLV 5	1.55	Si
fin.	2	1363	-48094	121694	SLV 5	2.53	Si
ini.	2	-1128	60181	121694	SLV 4	2.02	Si
fin.	2	1206	-33133	121694	SLV 4	3.67	Si
ini.	2	-1297	78460	121694	SLV 6	1.55	Si
fin.	2	1363	-48094	121694	SLV 6	2.53	Si
ini.	2	-1069	53429	121694	SLV 9	2.28	Si
fin.	2	517	-28466	121694	SLV 9	4.28	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1128	60181	121694	SLV 3	2.02	Si
fin.	2	1206	-33133	121694	SLV 3	3.67	Si
ini.	2	-1069	53429	121694	SLV 10	2.28	Si
fin.	2	517	-28466	121694	SLV 10	4.28	Si
ini.	2	-1329	82096	121694	SLV 1	1.48	Si
fin.	2	1734	-50607	121694	SLV 1	2.4	Si
ini.	2	-1049	51755	121694	SLD 1	2.35	Si
fin.	2	774	-26778	121694	SLD 1	4.54	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	53429	-1691			1456	548	SLV 10	0.32	No
fin.	2	0	-28466	-1395			1456	548	SLV 10	0.39	No
ini.	2	0	60181	-2223			1456	548	SLV 3	0.25	No
fin.	2	0	-33133	-2028			1456	548	SLV 3	0.27	No
ini.	2	0	82096	-3007			1456	548	SLV 1	0.18	No
fin.	2	0	-50607	-2746			1456	548	SLV 1	0.2	No
ini.	2	0	82096	-3007			1456	548	SLV 2	0.18	No
fin.	2	0	-50607	-2746			1456	548	SLV 2	0.2	No
ini.	2	0	53429	-1691			1456	548	SLV 9	0.32	No
fin.	2	0	-28466	-1395			1456	548	SLV 9	0.39	No
ini.	2	0	78460	-2720			1456	548	SLV 6	0.2	No
fin.	2	0	-48094	-2405			1456	548	SLV 6	0.23	No
ini.	2	0	60181	-2223			1456	548	SLV 4	0.25	No
fin.	2	0	-33133	-2028			1456	548	SLV 4	0.27	No
ini.	2	0	51755	-1795			1456	548	SLD 1	0.31	No
fin.	2	0	-26778	-1573			1456	548	SLD 1	0.35	No
ini.	2	0	78460	-2720			1456	548	SLD 5	0.2	No
fin.	2	0	-48094	-2405			1456	548	SLV 5	0.23	No
ini.	2	0	51755	-1795			1456	548	SLD 2	0.31	No
fin.	2	0	-26778	-1573			1456	548	SLD 2	0.35	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 1	Si
V_SLV	0.182	SLV 1	No
PF_SLU	1.986	SLU 78	Si
V_SLU	0.207	SLU 78	No

Trave di accoppiamento 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	1520	1566	46	-2249.3	-335.9	1520	1566	46	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _w	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	226	18134	30060	SLU 77	1.66	Si
fin.	3	232	-21082	30060	SLU 77	1.43	Si
ini.	3	270	19826	30060	SLU 78	1.52	Si
fin.	3	277	-22494	30060	SLU 78	1.34	Si
ini.	3	429	21018	30060	SLU 80	1.43	Si
fin.	3	436	-22148	30060	SLU 80	1.36	Si
ini.	3	410	19073	30060	SLU 36	1.58	Si
fin.	3	416	-20634	30060	SLU 36	1.46	Si
ini.	3	569	20266	30060	SLU 38	1.48	Si
fin.	3	575	-20287	30060	SLU 38	1.48	Si
ini.	3	-146	17449	30060	SLU 84	1.72	Si
fin.	3	-141	-21170	30060	SLU 84	1.42	Si
ini.	3	414	18480	30060	SLU 70	1.63	Si
fin.	3	421	-20343	30060	SLU 70	1.48	Si
ini.	3	385	19326	30060	SLU 79	1.56	Si
fin.	3	391	-20735	30060	SLU 79	1.45	Si
ini.	3	-243	15679	30060	SLU 75	1.92	Si
fin.	3	-238	-20594	30060	SLU 75	1.46	Si
ini.	3	-55	18000	30060	SLU 76	1.67	Si
fin.	3	-50	-21189	30060	SLU 76	1.42	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	21018	-128			331	124	SLU 80	0.97	No
fin.	3	0	-22148	-699			331	124	SLU 80	0.18	No
ini.	3	0	19326	-66			331	124	SLU 79	1.89	Si
fin.	3	0	-20735	-675			331	124	SLU 79	0.18	No
ini.	3	0	19826	-57			331	124	SLU 78	2.17	Si
fin.	3	0	-22494	-742			331	124	SLU 78	0.17	No
ini.	3	0	18480	-18			331	124	SLU 70	6.81	Si



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-20343	-703			331	124	SLU 70	0.18	No
ini.	3	0	15679	-15			331	124	SLU 75	8.18	Si
fin.	3	0	-20594	-670			331	124	SLU 75	0.19	No
ini.	3	0	19073	-93			331	124	SLU 36	1.34	Si
fin.	3	0	-20634	-668			331	124	SLU 36	0.19	No
ini.	3	0	19672	-89			331	124	SLU 72	1.4	Si
fin.	3	0	-19997	-660			331	124	SLU 72	0.19	No
ini.	3	0	18134	5			331	124	SLU 77	25.14	Si
fin.	3	0	-21082	-717			331	124	SLU 77	0.17	No
ini.	3	0	16828	-12			331	124	SLU 57	10.11	Si
fin.	3	0	-19357	-661			331	124	SLU 57	0.19	No
ini.	3	0	16788	44			331	124	SLU 69	2.83	Si
fin.	3	0	-18930	-678			331	124	SLU 69	0.18	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	24	22141	44694	SLV 9	2.02	Si
fin.	2	-27	-25280	44694	SLV 9	1.77	Si
ini.	2	194	19358	44694	SLV 4	2.31	Si
fin.	2	42	-19871	44694	SLV 4	2.25	Si
ini.	2	529	33133	44694	SLV 6	1.35	Si
fin.	2	367	-33700	44694	SLV 6	1.33	Si
ini.	2	621	31635	44694	SLV 2	1.41	Si
fin.	2	404	-30787	44694	SLV 2	1.45	Si
ini.	2	194	19358	44694	SLV 3	2.31	Si
fin.	2	42	-19871	44694	SLV 3	2.25	Si
ini.	2	529	33133	44694	SLV 5	1.35	Si
fin.	2	367	-33700	44694	SLV 5	1.33	Si
ini.	2	-23	18070	44694	SLD 5	2.47	Si
fin.	2	-88	-20652	44694	SLD 5	2.16	Si
ini.	2	24	22141	44694	SLV 10	2.02	Si
fin.	2	-27	-25280	44694	SLV 10	1.77	Si
ini.	2	-23	18070	44694	SLD 6	2.47	Si
fin.	2	-88	-20652	44694	SLD 6	2.16	Si
ini.	2	621	31635	44694	SLV 1	1.41	Si
fin.	2	404	-30787	44694	SLV 1	1.45	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	18070	-165			496	187	SLD 6	1.13	Si
fin.	2	0	-20652	-570			496	187	SLD 6	0.33	No
ini.	2	0	31635	-423			496	187	SLV 2	0.44	No
fin.	2	0	-30787	-827			496	187	SLV 2	0.23	No
ini.	2	0	18070	-165			496	187	SLD 5	1.13	Si
fin.	2	0	-20652	-570			496	187	SLD 5	0.33	No
ini.	2	0	22141	-237			496	187	SLV 10	0.79	No
fin.	2	0	-25280	-636			496	187	SLV 10	0.29	No
ini.	2	0	31635	-423			496	187	SLV 1	0.44	No
fin.	2	0	-30787	-827			496	187	SLV 1	0.23	No
ini.	2	0	22141	-237			496	187	SLV 9	0.79	No
fin.	2	0	-25280	-636			496	187	SLV 9	0.29	No
ini.	2	0	19358	-192			496	187	SLV 3	0.97	No
fin.	2	0	-19871	-606			496	187	SLV 3	0.31	No
ini.	2	0	33133	-447			496	187	SLV 6	0.42	No
fin.	2	0	-33700	-843			496	187	SLV 6	0.22	No
ini.	2	0	19358	-192			496	187	SLV 4	0.97	No
fin.	2	0	-19871	-606			496	187	SLV 4	0.31	No
ini.	2	0	33133	-447			496	187	SLV 5	0.42	No
fin.	2	0	-33700	-843			496	187	SLV 5	0.22	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.326	SLV 5	Si
V_SLV	0.221	SLV 5	No
PF_SLU	1.336	SLU 78	Si
V_SLU	0.168	SLU 78	No

Trave di accoppiamento 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	1250	1450	200	-1936.8	-335.9	1250	1450	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{mmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1119	14081	296292	SLU 75	21.04	Si
fin.	3	-1146	29759	296292	SLU 75	9.96	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1478	4130	296292	SLU 52	71.75	Si
fin.	3	-1474	29289	296292	SLU 52	10.12	Si
ini.	3	-1310	9695	296292	SLU 60	30.56	Si
fin.	3	-1336	31133	296292	SLU 60	9.52	Si
ini.	3	-1501	9852	296292	SLU 82	30.07	Si
fin.	3	-1521	33540	296292	SLU 82	8.83	Si
ini.	3	-1450	6736	296292	SLU 61	43.98	Si
fin.	3	-1463	31337	296292	SLU 61	9.46	Si
ini.	3	-1361	12810	296292	SLU 81	23.13	Si
fin.	3	-1394	33336	296292	SLU 81	8.89	Si
ini.	3	-979	17039	296292	SLU 74	17.39	Si
fin.	3	-1019	29555	296292	SLU 74	10.03	Si
ini.	3	-1262	8925	296292	SLU 40	33.2	Si
fin.	3	-1285	28616	296292	SLU 40	10.35	Si
ini.	3	-1528	7246	296292	SLU 73	40.89	Si
fin.	3	-1532	31493	296292	SLU 73	9.41	Si
ini.	3	-1122	11883	296292	SLU 39	24.93	Si
fin.	3	-1158	28412	296292	SLU 39	10.43	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt_lim	Comb.	c.s.	Verifica
ini.	3	0	5809	631			2157	812	SLU 19	1.29	Si
fin.	3	0	26413	442			2157	812	SLU 19	1.84	Si
ini.	3	0	7246	737			2157	812	SLU 73	1.1	Si
fin.	3	0	31493	491			2157	812	SLU 73	1.65	Si
ini.	3	0	9695	690			2157	812	SLU 60	1.18	Si
fin.	3	0	31133	561			2157	812	SLU 60	1.45	Si
ini.	3	0	3202	614			2157	812	SLU 10	1.32	Si
fin.	3	0	24365	405			2157	812	SLU 10	2	Si
ini.	3	0	9852	754			2157	812	SLU 82	1.08	Si
fin.	3	0	33540	528			2157	812	SLU 82	1.54	Si
ini.	3	0	6318	621			2157	812	SLU 31	1.31	Si
fin.	3	0	26569	380			2157	812	SLU 31	2.14	Si
ini.	3	0	12810	698			2157	812	SLU 81	1.16	Si
fin.	3	0	33336	535			2157	812	SLU 81	1.52	Si
ini.	3	0	8925	638			2157	812	SLU 40	1.27	Si
fin.	3	0	28616	417			2157	812	SLU 40	1.95	Si
ini.	3	0	4130	729			2157	812	SLU 52	1.11	Si
fin.	3	0	29289	517			2157	812	SLU 52	1.57	Si
ini.	3	0	6736	746			2157	812	SLU 61	1.09	Si
fin.	3	0	31337	553			2157	812	SLU 61	1.47	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-234	-78373	314194	SLV 7	4.01	Si
fin.	2	-865	11267	314194	SLV 7	27.89	Si
ini.	2	405	78936	314194	SLV 1	3.98	Si
fin.	2	135	-23045	314194	SLV 1	13.63	Si
ini.	2	-234	-78373	314194	SLV 8	4.01	Si
fin.	2	-865	11267	314194	SLV 8	27.89	Si
ini.	2	-1071	-103182	314194	SLV 12	3.05	Si
fin.	2	-1454	37131	314194	SLV 12	8.46	Si
ini.	2	-752	119112	314194	SLV 5	2.64	Si
fin.	2	-384	4902	314194	SLV 5	64.1	Si
ini.	2	-752	119112	314194	SLV 6	2.64	Si
fin.	2	-384	4902	314194	SLV 6	64.1	Si
ini.	2	-1589	94303	314194	SLV 9	3.33	Si
fin.	2	-973	30766	314194	SLV 9	10.21	Si
ini.	2	-1071	-103182	314194	SLV 11	3.05	Si
fin.	2	-1454	37131	314194	SLV 11	8.46	Si
ini.	2	405	78936	314194	SLV 2	3.98	Si
fin.	2	135	-23045	314194	SLV 2	13.63	Si
ini.	2	-1589	94303	314194	SLV 10	3.33	Si
fin.	2	-973	30766	314194	SLV 10	10.21	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt_lim	Comb.	c.s.	Verifica
ini.	2	0	-103182	4236			3235	1217	SLV 11	0.29	No
fin.	2	0	37131	3910			3235	1217	SLV 11	0.31	No
ini.	2	0	-78373	3020			3235	1217	SLV 7	0.4	No
fin.	2	0	11267	2943			3235	1217	SLV 7	0.41	No
ini.	2	0	78936	-2552			3235	1217	SLV 1	0.48	No
fin.	2	0	-23045	-2177			3235	1217	SLV 1	0.56	No
ini.	2	0	-63006	3417			3235	1217	SLV 16	0.36	No
fin.	2	0	65077	2890			3235	1217	SLV 16	0.42	No
ini.	2	0	119112	-3371			3235	1217	SLV 5	0.36	No
fin.	2	0	4902	-3197			3235	1217	SLV 5	0.38	No
ini.	2	0	78936	-2552			3235	1217	SLV 2	0.48	No
fin.	2	0	-23045	-2177			3235	1217	SLV 2	0.56	No
ini.	2	0	-63006	3417			3235	1217	SLV 15	0.36	No
fin.	2	0	65077	2890			3235	1217	SLV 15	0.42	No
ini.	2	0	119112	-3371			3235	1217	SLV 6	0.36	No
fin.	2	0	4902	-3197			3235	1217	SLV 6	0.38	No
ini.	2	0	-103182	4236			3235	1217	SLV 12	0.29	No
fin.	2	0	37131	3910			3235	1217	SLV 12	0.31	No
ini.	2	0	-78373	3020			3235	1217	SLV 8	0.4	No
fin.	2	0	11267	2943			3235	1217	SLV 8	0.41	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.638	SLV 5	Si
V_SLV	0.287	SLV 11	No
PF_SLU	8.834	SLU 82	Si
V_SLU	1.077	SLU 82	Si

Trave di accoppiamento 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	1530	1566	36	-1936.8	-335.9	1530	1566	36	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-452	-1884	18411	SLU 35	9.77	Si
fin.	3	-451	455	18411	SLU 35	40.44	Si
ini.	3	-500	-1859	18411	SLU 57	9.9	Si
fin.	3	-500	590	18411	SLU 57	31.19	Si
ini.	3	-477	-1924	18411	SLU 56	9.57	Si
fin.	3	-476	301	18411	SLU 56	61.22	Si
ini.	3	-350	-1768	18411	SLU 14	10.41	Si
fin.	3	-350	596	18411	SLU 14	30.88	Si
ini.	3	-873	-1119	18411	SLU 60	16.45	Si
fin.	3	-872	-1895	18411	SLU 60	9.72	Si
ini.	3	-602	-1975	18411	SLU 78	9.32	Si
fin.	3	-601	449	18411	SLU 78	40.98	Si
ini.	3	-974	-1235	18411	SLU 81	14.91	Si
fin.	3	-973	-2036	18411	SLU 81	9.04	Si
ini.	3	-433	-1819	18411	SLU 69	10.12	Si
fin.	3	-432	477	18411	SLU 69	38.59	Si
ini.	3	-578	-2039	18411	SLU 77	9.03	Si
fin.	3	-578	160	18411	SLU 77	115.23	Si
ini.	3	-475	-1820	18411	SLU 36	10.12	Si
fin.	3	-474	745	18411	SLU 36	24.72	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-1755	304			280	105	SLU 70	0.35	No
fin.	3	0	767	-208			280	105	SLU 70	0.51	No
ini.	3	0	-1474	289			280	105	SLU 72	0.36	No
fin.	3	0	991	-195			280	105	SLU 72	0.54	No
ini.	3	0	-2039	302			280	105	SLU 77	0.35	No
fin.	3	0	160	-219			280	105	SLU 77	0.48	No
ini.	3	0	-1664	286			280	105	SLU 27	0.37	No
fin.	3	0	773	-192			280	105	SLU 27	0.55	No
ini.	3	0	-1538	289			280	105	SLU 71	0.36	No
fin.	3	0	702	-204			280	105	SLU 71	0.52	No
ini.	3	0	-1759	288			280	105	SLU 79	0.37	No
fin.	3	0	384	-206			280	105	SLU 79	0.51	No
ini.	3	0	-1600	286			280	105	SLU 28	0.37	No
fin.	3	0	1062	-183			280	105	SLU 28	0.57	No
ini.	3	0	-1694	288			280	105	SLU 80	0.37	No
fin.	3	0	674	-196			280	105	SLU 80	0.54	No
ini.	3	0	-1975	302			280	105	SLU 78	0.35	No
fin.	3	0	449	-210			280	105	SLU 78	0.5	No
ini.	3	0	-1819	304			280	105	SLU 69	0.35	No
fin.	3	0	477	-217			280	105	SLU 69	0.49	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	626	-13445	27616	SLV 12	2.05	Si
fin.	2	949	15911	27616	SLV 12	1.74	Si
ini.	2	-661	3287	27616	SLV 2	8.4	Si
fin.	2	-803	-12510	27616	SLV 2	2.21	Si
ini.	2	-1843	11954	27616	SLV 6	2.31	Si
fin.	2	-2166	-18465	27616	SLV 6	1.5	Si
ini.	2	-2053	11808	27616	SLV 9	2.34	Si
fin.	2	-2345	-14459	27616	SLV 9	1.91	Si
ini.	2	-2053	11808	27616	SLV 10	2.34	Si
fin.	2	-2345	-14459	27616	SLV 10	1.91	Si
ini.	2	626	-13445	27616	SLV 11	2.05	Si
fin.	2	949	15911	27616	SLV 11	1.74	Si
ini.	2	836	-13298	27616	SLV 7	2.08	Si
fin.	2	1129	11904	27616	SLV 7	2.32	Si
ini.	2	836	-13298	27616	SLV 8	2.08	Si
fin.	2	1129	11904	27616	SLV 8	2.32	Si
ini.	2	-661	3287	27616	SLV 1	8.4	Si

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Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-803	-12510	27616	SLV 1	2.21	Si
ini.	2	-1843	11954	27616	SLV 5	2.31	Si
fin.	2	-2166	-18465	27616	SLV 5	1.5	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-13298	547			419	158	SLV 8	0.29	No
fin.	2	0	11904	323			419	158	SLV 8	0.49	No
ini.	2	0	11954	-405			419	158	SLV 6	0.39	No
fin.	2	0	-18465	-636			419	158	SLV 6	0.25	No
ini.	2	0	-13445	595			419	158	SLV 12	0.27	No
fin.	2	0	15911	397			419	158	SLV 12	0.4	No
ini.	2	0	11808	-357			419	158	SLV 10	0.44	No
fin.	2	0	-14459	-562			419	158	SLV 10	0.28	No
ini.	2	0	3287	-128			419	158	SLV 2	1.23	Si
fin.	2	0	-12510	-386			419	158	SLV 2	0.41	No
ini.	2	0	-13445	595			419	158	SLV 11	0.27	No
fin.	2	0	15911	397			419	158	SLV 11	0.4	No
ini.	2	0	-13298	547			419	158	SLV 7	0.29	No
fin.	2	0	11904	323			419	158	SLV 7	0.49	No
ini.	2	0	11808	-357			419	158	SLV 9	0.44	No
fin.	2	0	-14459	-562			419	158	SLV 9	0.28	No
ini.	2	0	3287	-128			419	158	SLV 1	1.23	Si
fin.	2	0	-12510	-386			419	158	SLV 1	0.41	No
ini.	2	0	11954	-405			419	158	SLV 5	0.39	No
fin.	2	0	-18465	-636			419	158	SLV 5	0.25	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.496	SLV 5	Si
V_SLV	0.248	SLV 5	No
PF_SLU	9.028	SLU 77	Si
V_SLU	0.346	SLU 69	No

Trave di accoppiamento 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	1250	1340	90	-1826.3	-335.9	1250	1340	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1025	27739	103792	SLU 77	3.74	Si
fin.	3	-310	-4439	103792	SLU 77	23.38	Si
ini.	3	-866	26200	103792	SLU 72	3.96	Si
fin.	3	-247	-5282	103792	SLU 72	19.65	Si
ini.	3	-993	28813	103792	SLU 79	3.6	Si
fin.	3	-219	-6889	103792	SLU 79	15.07	Si
ini.	3	-807	27600	103792	SLU 27	3.76	Si
fin.	3	-20	-9805	103792	SLU 27	10.59	Si
ini.	3	-951	27919	103792	SLU 69	3.72	Si
fin.	3	-209	-5878	103792	SLU 69	17.66	Si
ini.	3	-919	28993	103792	SLU 71	3.58	Si
fin.	3	-119	-8328	103792	SLU 71	12.46	Si
ini.	3	-775	28675	103792	SLU 29	3.62	Si
fin.	3	70	-12255	103792	SLU 29	8.47	Si
ini.	3	-940	26020	103792	SLU 80	3.99	Si
fin.	3	-347	-3843	103792	SLU 80	27.01	Si
ini.	3	-881	27420	103792	SLU 35	3.79	Si
fin.	3	-121	-8366	103792	SLU 35	12.41	Si
ini.	3	-849	28494	103792	SLU 37	3.64	Si
fin.	3	-30	-10816	103792	SLU 37	9.6	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	28494	-930			970	365	SLU 37	0.39	No
fin.	3	0	-10816	-885			970	365	SLU 37	0.41	No
ini.	3	0	25723	-930			970	365	SLU 50	0.39	No
fin.	3	0	-6854	-640			970	365	SLU 50	0.57	No
ini.	3	0	25404	-947			970	365	SLU 8	0.39	No
fin.	3	0	-10780	-724			970	365	SLU 8	0.5	No
ini.	3	0	27919	-966			970	365	SLU 69	0.38	No
fin.	3	0	-5878	-671			970	365	SLU 69	0.54	No
ini.	3	0	28813	-914			970	365	SLU 79	0.4	No
fin.	3	0	-6889	-801			970	365	SLU 79	0.46	No
ini.	3	0	24649	-895			970	365	SLU 48	0.41	No
fin.	3	0	-4404	-536			970	365	SLU 48	0.68	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	24330	-911			970	365	SLU 6	0.4	No
fin.	3	0	-8330	-620			970	365	SLU 6	0.59	No
ini.	3	0	28993	-1002			970	365	SLU 71	0.36	No
fin.	3	0	-8328	-775			970	365	SLU 71	0.47	No
ini.	3	0	27600	-983			970	365	SLU 27	0.37	No
fin.	3	0	-9805	-755			970	365	SLU 27	0.48	No
ini.	3	0	28675	-1018			970	365	SLU 29	0.36	No
fin.	3	0	-12255	-859			970	365	SLU 29	0.43	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1101	63964	121694	SLV 1	1.9	Si
fin.	2	715	-40524	121694	SLV 1	3	Si
ini.	2	1122	-19423	121694	SLV 10	6.27	Si
fin.	2	-1355	54839	121694	SLV 10	2.22	Si
ini.	2	1122	-19423	121694	SLV 9	6.27	Si
fin.	2	-1355	54839	121694	SLV 9	2.22	Si
ini.	2	-245	-52597	121694	SLV 16	2.31	Si
fin.	2	-2100	63311	121694	SLV 16	1.92	Si
ini.	2	-2019	68159	121694	SLV 4	1.79	Si
fin.	2	847	-55866	121694	SLV 4	2.18	Si
ini.	2	672	-56793	121694	SLV 14	2.14	Si
fin.	2	-2232	78652	121694	SLV 14	1.55	Si
ini.	2	672	-56793	121694	SLV 13	2.14	Si
fin.	2	-2232	78652	121694	SLV 13	1.55	Si
ini.	2	-245	-52597	121694	SLV 15	2.31	Si
fin.	2	-2100	63311	121694	SLV 15	1.92	Si
ini.	2	-2019	68159	121694	SLV 3	1.79	Si
fin.	2	847	-55866	121694	SLV 3	2.18	Si
ini.	2	-1101	63964	121694	SLV 2	1.9	Si
fin.	2	715	-40524	121694	SLV 2	3	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	63964	-3006			1456	548	SLV 1	0.18	No
fin.	2	0	-40524	-1816			1456	548	SLV 1	0.3	No
ini.	2	0	-19423	179			1456	548	SLV 10	3.06	Si
fin.	2	0	54839	1656			1456	548	SLV 10	0.33	No
ini.	2	0	-56793	2579			1456	548	SLV 13	0.21	No
fin.	2	0	78652	2529			1456	548	SLV 13	0.22	No
ini.	2	0	68159	-2625			1456	548	SLV 3	0.21	No
fin.	2	0	-55866	-2372			1456	548	SLV 3	0.23	No
ini.	2	0	-52597	2961			1456	548	SLV 15	0.19	No
fin.	2	0	63311	1974			1456	548	SLV 15	0.28	No
ini.	2	0	63964	-3006			1456	548	SLV 2	0.18	No
fin.	2	0	-40524	-1816			1456	548	SLV 2	0.3	No
ini.	2	0	-52597	2961			1456	548	SLV 16	0.19	No
fin.	2	0	63311	1974			1456	548	SLV 16	0.28	No
ini.	2	0	-56793	2579			1456	548	SLV 14	0.21	No
fin.	2	0	78652	2529			1456	548	SLV 14	0.22	No
ini.	2	0	-19423	179			1456	548	SLV 9	3.06	Si
fin.	2	0	54839	1656			1456	548	SLV 9	0.33	No
ini.	2	0	68159	-2625			1456	548	SLV 4	0.21	No
fin.	2	0	-55866	-2372			1456	548	SLV 4	0.23	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.547	SLV 13	Si
V_SLV	0.182	SLV 1	No
PF_SLU	3.58	SLU 71	Si
V_SLU	0.359	SLU 29	No

Trave di accoppiamento 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	1520	1566	46	-1826.3	-335.9	1520	1566	46	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-656	10889	30060	SLU 71	2.76	Si
fin.	3	-653	-25655	30060	SLU 71	1.17	Si
ini.	3	-745	10026	30060	SLU 70	3	Si
fin.	3	-741	-25873	30060	SLU 70	1.16	Si
ini.	3	-821	11276	30060	SLU 79	2.67	Si
fin.	3	-818	-26280	30060	SLU 79	1.14	Si
ini.	3	-676	11744	30060	SLU 38	2.56	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-671	-25621	30060	SLU 38	1.17	Si
ini.	3	-733	9747	30060	SLU 69	3.08	Si
fin.	3	-730	-25573	30060	SLU 69	1.18	Si
ini.	3	-910	10414	30060	SLU 78	2.89	Si
fin.	3	-905	-26498	30060	SLU 78	1.13	Si
ini.	3	-834	11556	30060	SLU 80	2.6	Si
fin.	3	-829	-26580	30060	SLU 80	1.13	Si
ini.	3	-753	10601	30060	SLU 36	2.84	Si
fin.	3	-748	-25539	30060	SLU 36	1.18	Si
ini.	3	-898	10134	30060	SLU 77	2.97	Si
fin.	3	-894	-26198	30060	SLU 77	1.15	Si
ini.	3	-669	11169	30060	SLU 72	2.69	Si
fin.	3	-664	-25955	30060	SLU 72	1.16	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	11169	111			331	124	SLU 72	1.12	Si
fin.	3	0	-25955	-865			331	124	SLU 72	0.14	No
ini.	3	0	10026	199			331	124	SLU 70	0.63	No
fin.	3	0	-25873	-921			331	124	SLU 70	0.14	No
ini.	3	0	10134	188			331	124	SLU 77	0.66	No
fin.	3	0	-26198	-923			331	124	SLU 77	0.13	No
ini.	3	0	10601	144			331	124	SLU 36	0.87	No
fin.	3	0	-25539	-876			331	124	SLU 36	0.14	No
ini.	3	0	10414	188			331	124	SLU 78	0.66	No
fin.	3	0	-26498	-933			331	124	SLU 78	0.13	No
ini.	3	0	9747	198			331	124	SLU 69	0.63	No
fin.	3	0	-25573	-911			331	124	SLU 69	0.14	No
ini.	3	0	11556	101			331	124	SLU 80	1.23	Si
fin.	3	0	-26580	-876			331	124	SLU 80	0.14	No
ini.	3	0	11276	100			331	124	SLU 79	1.24	Si
fin.	3	0	-26280	-866			331	124	SLU 79	0.14	No
ini.	3	0	10214	154			331	124	SLU 28	0.81	No
fin.	3	0	-24914	-864			331	124	SLU 28	0.14	No
ini.	3	0	10321	143			331	124	SLU 35	0.87	No
fin.	3	0	-25239	-866			331	124	SLU 35	0.14	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-461	9905	44694	SLD 4	4.51	Si
fin.	2	-299	-16219	44694	SLD 4	2.76	Si
ini.	2	-1463	18297	44694	SLV 1	2.44	Si
fin.	2	-1154	-27223	44694	SLV 1	1.64	Si
ini.	2	-7	21113	44694	SLV 3	2.12	Si
fin.	2	388	-26982	44694	SLV 3	1.66	Si
ini.	2	-7	21113	44694	SLV 4	2.12	Si
fin.	2	388	-26982	44694	SLV 4	1.66	Si
ini.	2	-1058	8801	44694	SLD 1	5.08	Si
fin.	2	-929	-16420	44694	SLD 1	2.72	Si
ini.	2	-461	9905	44694	SLD 3	4.51	Si
fin.	2	-299	-16219	44694	SLD 3	2.76	Si
ini.	2	-1563	-17694	44694	SLV 13	2.53	Si
fin.	2	-1955	10378	44694	SLV 13	4.31	Si
ini.	2	-1563	-17694	44694	SLV 14	2.53	Si
fin.	2	-1955	10378	44694	SLV 14	4.31	Si
ini.	2	-1058	8801	44694	SLD 2	5.08	Si
fin.	2	-929	-16420	44694	SLD 2	2.72	Si
ini.	2	-1463	18297	44694	SLV 2	2.44	Si
fin.	2	-1154	-27223	44694	SLV 2	1.64	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-14878	608			496	187	SLV 16	0.31	No
fin.	2	0	10619	26			496	187	SLV 16	7.29	Si
ini.	2	0	9905	-57			496	187	SLD 3	3.26	Si
fin.	2	0	-16219	-506			496	187	SLD 3	0.37	No
ini.	2	0	21113	-324			496	187	SLV 3	0.58	No
fin.	2	0	-26982	-732			496	187	SLV 3	0.26	No
ini.	2	0	9905	-57			496	187	SLD 4	3.26	Si
fin.	2	0	-16219	-506			496	187	SLD 4	0.37	No
ini.	2	0	18297	-322			496	187	SLV 2	0.58	No
fin.	2	0	-27223	-701			496	187	SLV 2	0.27	No
ini.	2	0	21113	-324			496	187	SLV 4	0.58	No
fin.	2	0	-26982	-732			496	187	SLV 4	0.26	No
ini.	2	0	18297	-322			496	187	SLV 1	0.58	No
fin.	2	0	-27223	-701			496	187	SLV 1	0.27	No
ini.	2	0	-14878	608			496	187	SLV 15	0.31	No
fin.	2	0	10619	26			496	187	SLV 15	7.29	Si
ini.	2	0	-17694	610			496	187	SLV 13	0.31	No
fin.	2	0	10378	56			496	187	SLV 13	3.33	Si
ini.	2	0	-17694	610			496	187	SLV 14	0.31	No
fin.	2	0	10378	56			496	187	SLV 14	3.33	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.642	SLV 1	Si
V_SLV	0.255	SLV 3	No



Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	1.131	SLU 80	Si
V SLU	0.133	SLU 78	No

Trave di accoppiamento 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1375.3	-22.8	1460	1566	106	-1375.3	67.2	1460	1566	106	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	265	-13127	131792	SLU 37	10.04	Si
fin.	3	265	-18031	131792	SLU 37	7.31	Si
ini.	3	274	-11448	131792	SLU 80	11.51	Si
fin.	3	274	-18769	131792	SLU 80	7.02	Si
ini.	3	273	-11963	131792	SLU 79	11.02	Si
fin.	3	273	-18478	131792	SLU 79	7.13	Si
ini.	3	277	-16340	131792	SLU 72	8.07	Si
fin.	3	277	-18426	131792	SLU 72	7.15	Si
ini.	3	276	-16856	131792	SLU 71	7.82	Si
fin.	3	276	-18135	131792	SLU 71	7.27	Si
ini.	3	268	-18020	131792	SLU 29	7.31	Si
fin.	3	268	-17688	131792	SLU 29	7.45	Si
ini.	3	266	-12612	131792	SLU 38	10.45	Si
fin.	3	266	-18321	131792	SLU 38	7.19	Si
ini.	3	269	-17504	131792	SLU 30	7.53	Si
fin.	3	269	-17979	131792	SLU 30	7.33	Si
ini.	3	261	-10149	131792	SLU 78	12.99	Si
fin.	3	261	-18000	131792	SLU 78	7.32	Si
ini.	3	260	-10665	131792	SLU 77	12.36	Si
fin.	3	260	-17709	131792	SLU 77	7.44	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	8249	161			1143	430	SLU 60	2.68	Si
fin.	3	0	-5338	-457			1143	430	SLU 60	0.94	No
ini.	3	0	8765	152			1143	430	SLU 61	2.83	Si
fin.	3	0	-5629	-466			1143	430	SLU 61	0.92	No
ini.	3	0	7012	171			1143	430	SLU 52	2.52	Si
fin.	3	0	-5676	-447			1143	430	SLU 52	0.96	No
ini.	3	0	3701	186			1143	430	SLU 73	2.31	Si
fin.	3	0	-8223	-448			1143	430	SLU 73	0.96	No
ini.	3	0	1362	174			1143	430	SLU 63	2.47	Si
fin.	3	0	-10999	-443			1143	430	SLU 63	0.97	No
ini.	3	0	-1948	190			1143	430	SLU 84	2.26	Si
fin.	3	0	-13546	-445			1143	430	SLU 84	0.97	No
ini.	3	0	5454	167			1143	430	SLU 82	2.57	Si
fin.	3	0	-8176	-467			1143	430	SLU 82	0.92	No
ini.	3	0	4939	176			1143	430	SLU 81	2.44	Si
fin.	3	0	-7885	-458			1143	430	SLU 81	0.94	No
ini.	3	0	846	183			1143	430	SLU 62	2.35	Si
fin.	3	0	-10708	-434			1143	430	SLU 62	0.99	No
ini.	3	0	-2464	199			1143	430	SLU 83	2.16	Si
fin.	3	0	-13255	-436			1143	430	SLU 83	0.99	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1467	-62846	149694	SLV 9	2.38	Si
fin.	2	-1609	4893	149694	SLV 9	30.59	Si
ini.	2	-1467	-62846	149694	SLV 10	2.38	Si
fin.	2	-1609	4893	149694	SLV 10	30.59	Si
ini.	2	876	49011	149694	SLV 16	3.05	Si
fin.	2	793	28503	149694	SLV 16	5.25	Si
ini.	2	1621	63942	149694	SLV 8	2.34	Si
fin.	2	1764	-15348	149694	SLV 8	9.75	Si
ini.	2	1806	80150	149694	SLV 12	1.87	Si
fin.	2	1879	4891	149694	SLV 12	30.61	Si
ini.	2	-1652	-79054	149694	SLV 6	1.89	Si
fin.	2	-1724	-15345	149694	SLV 6	9.76	Si
ini.	2	1806	80150	149694	SLV 11	1.87	Si
fin.	2	1879	4891	149694	SLV 11	30.61	Si
ini.	2	-1652	-79054	149694	SLV 5	1.89	Si
fin.	2	-1724	-15345	149694	SLV 5	9.76	Si
ini.	2	1621	63942	149694	SLV 7	2.34	Si
fin.	2	1764	-15348	149694	SLV 7	9.75	Si
ini.	2	876	49011	149694	SLV 15	3.05	Si
fin.	2	793	28503	149694	SLV 15	5.25	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	80150	-722			1715	645	SLV 11	0.89	No
fin.	2	0	4891	-1198			1715	645	SLV 11	0.54	No
ini.	2	0	-62846	957			1715	645	SLV 9	0.67	No
fin.	2	0	4893	629			1715	645	SLV 9	1.03	Si
ini.	2	0	63942	-598			1715	645	SLV 8	1.08	Si
fin.	2	0	-15348	-1238			1715	645	SLV 8	0.52	No
ini.	2	0	80150	-722			1715	645	SLV 12	0.89	No
fin.	2	0	4891	-1198			1715	645	SLV 12	0.54	No
ini.	2	0	27314	-151			1715	645	SLD 8	4.29	Si
fin.	2	0	-9673	-698			1715	645	SLD 8	0.92	No
ini.	2	0	27314	-151			1715	645	SLD 7	4.29	Si
fin.	2	0	-9673	-698			1715	645	SLD 7	0.92	No
ini.	2	0	-79054	1081			1715	645	SLV 6	0.6	No
fin.	2	0	-15345	588			1715	645	SLV 6	1.1	Si
ini.	2	0	-79054	1081			1715	645	SLV 5	0.6	No
fin.	2	0	-15345	588			1715	645	SLV 5	1.1	Si
ini.	2	0	-62846	957			1715	645	SLV 10	0.67	No
fin.	2	0	4893	629			1715	645	SLV 10	1.03	Si
ini.	2	0	63942	-598			1715	645	SLV 7	1.08	Si
fin.	2	0	-15348	-1238			1715	645	SLV 7	0.52	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 11	Si
V_SLV	0.521	SLV 7	No
PF_SLU	7.022	SLU 80	Si
V_SLU	0.921	SLU 82	No

Trave di accoppiamento 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1074.8	333.1	1440	1566	126	-994.8	333.1	1440	1566	126	80	14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmed	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-167	120677	112766	SLU 82	0.93	No
fin.	3	-167	10457	112766	SLU 82	10.78	Si
ini.	3	-173	124170	112766	SLU 83	0.91	No
fin.	3	-173	10607	112766	SLU 83	10.63	Si
ini.	3	-167	124260	112766	SLU 75	0.91	No
fin.	3	-167	12619	112766	SLU 75	8.94	Si
ini.	3	-173	127838	112766	SLU 78	0.88	No
fin.	3	-173	12773	112766	SLU 78	8.83	Si
ini.	3	-173	127753	112766	SLU 77	0.88	No
fin.	3	-173	12769	112766	SLU 77	8.83	Si
ini.	3	-167	120591	112766	SLU 81	0.94	No
fin.	3	-167	10453	112766	SLU 81	10.79	Si
ini.	3	-166	119131	112766	SLU 79	0.95	No
fin.	3	-166	10498	112766	SLU 79	10.74	Si
ini.	3	-173	124255	112766	SLU 84	0.91	No
fin.	3	-173	10611	112766	SLU 84	10.63	Si
ini.	3	-167	124174	112766	SLU 74	0.91	No
fin.	3	-167	12615	112766	SLU 74	8.94	Si
ini.	3	-166	119216	112766	SLU 80	0.95	No
fin.	3	-166	10502	112766	SLU 80	10.74	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	124170	-1121			679	256	SLU 83	0.23	No
fin.	3	0	10607	-1682			679	256	SLU 83	0.15	No
ini.	3	0	124255	-1122			679	256	SLU 84	0.23	No
fin.	3	0	10611	-1683			679	256	SLU 84	0.15	No
ini.	3	0	119131	-1059			679	256	SLU 79	0.24	No
fin.	3	0	10498	-1621			679	256	SLU 79	0.16	No
ini.	3	0	119216	-1060			679	256	SLU 80	0.24	No
fin.	3	0	10502	-1622			679	256	SLU 80	0.16	No
ini.	3	0	127838	-1069			679	256	SLU 78	0.24	No
fin.	3	0	12773	-1791			679	256	SLU 78	0.14	No
ini.	3	0	120591	-1078			679	256	SLU 81	0.24	No
fin.	3	0	10453	-1639			679	256	SLU 81	0.16	No
ini.	3	0	124174	-1025			679	256	SLU 74	0.25	No
fin.	3	0	12615	-1747			679	256	SLU 74	0.15	No
ini.	3	0	127753	-1068			679	256	SLU 77	0.24	No
fin.	3	0	12769	-1790			679	256	SLU 77	0.14	No
ini.	3	0	124260	-1026			679	256	SLU 75	0.25	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	12619	-1748			679	256	SLU 75	0.15	No
ini.	3	0	120677	-1079			679	256	SLU 82	0.24	No
fin.	3	0	10457	-1640			679	256	SLU 82	0.16	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-150	172869	148889	SLV 11	0.86	No
fin.	2	-108	11856	148889	SLV 11	12.56	Si
ini.	2	-260	204340	148889	SLV 7	0.73	No
fin.	2	-391	12835	148889	SLV 7	11.6	Si
ini.	2	-168	128623	148889	SLD 7	1.16	Si
fin.	2	-221	9777	148889	SLD 7	15.23	Si
ini.	2	-260	204340	148889	SLV 8	0.73	No
fin.	2	-391	12835	148889	SLV 8	11.6	Si
ini.	2	-313	159740	148889	SLV 4	0.93	No
fin.	2	-614	10480	148889	SLV 4	14.21	Si
ini.	2	-168	128623	148889	SLD 8	1.16	Si
fin.	2	-221	9777	148889	SLD 8	15.23	Si
ini.	2	-150	172869	148889	SLV 12	0.86	No
fin.	2	-108	11856	148889	SLV 12	12.56	Si
ini.	2	-313	159740	148889	SLV 3	0.93	No
fin.	2	-614	10480	148889	SLV 3	14.21	Si
ini.	2	-122	115226	148889	SLD 12	1.29	Si
fin.	2	-102	9308	148889	SLD 12	16	Si
ini.	2	-122	115226	148889	SLD 11	1.29	Si
fin.	2	-102	9308	148889	SLD 11	16	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	115226	-1099			1019	383	SLD 12	0.35	No
fin.	2	0	9308	-1570			1019	383	SLD 12	0.24	No
ini.	2	0	128623	-1247			1019	383	SLD 7	0.31	No
fin.	2	0	9777	-1623			1019	383	SLD 7	0.24	No
ini.	2	0	128623	-1247			1019	383	SLD 8	0.31	No
fin.	2	0	9777	-1623			1019	383	SLD 8	0.24	No
ini.	2	0	115226	-1099			1019	383	SLD 11	0.35	No
fin.	2	0	9308	-1570			1019	383	SLD 11	0.24	No
ini.	2	0	204340	-2139			1019	383	SLV 8	0.18	No
fin.	2	0	12835	-2446			1019	383	SLV 8	0.16	No
ini.	2	0	172869	-1791			1019	383	SLV 11	0.21	No
fin.	2	0	11856	-2320			1019	383	SLV 11	0.17	No
ini.	2	0	159740	-1579			1019	383	SLV 4	0.24	No
fin.	2	0	10480	-1633			1019	383	SLV 4	0.23	No
ini.	2	0	172869	-1791			1019	383	SLV 12	0.21	No
fin.	2	0	11856	-2320			1019	383	SLV 12	0.17	No
ini.	2	0	159740	-1579			1019	383	SLV 3	0.24	No
fin.	2	0	10480	-1633			1019	383	SLV 3	0.23	No
ini.	2	0	204340	-2139			1019	383	SLV 7	0.18	No
fin.	2	0	12835	-2446			1019	383	SLV 7	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.729	SLV 7	No
V_SLV	0.157	SLV 7	No
PF_SLU	0.882	SLU 78	No
V_SLU	0.143	SLU 78	No

Trave di accoppiamento 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	1250	1340	90	-1681.8	666.1	1250	1340	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1339	-10239	103792	SLU 28	10.14	Si
fin.	3	873	-1759	103792	SLU 28	59.02	Si
ini.	3	1400	-10194	103792	SLU 72	10.18	Si
fin.	3	908	-1238	103792	SLU 72	83.86	Si
ini.	3	1388	-11052	103792	SLU 30	9.39	Si
fin.	3	871	-1355	103792	SLU 30	76.61	Si
ini.	3	1362	-9996	103792	SLU 36	10.38	Si
fin.	3	957	-2285	103792	SLU 36	45.42	Si
ini.	3	1394	-10000	103792	SLU 71	10.38	Si
fin.	3	913	-1379	103792	SLU 71	75.24	Si
ini.	3	1333	-10046	103792	SLU 27	10.33	Si
fin.	3	879	-1900	103792	SLU 27	54.62	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1405	-10615	103792	SLU 37	9.78	Si
fin.	3	961	-2023	103792	SLU 37	51.3	Si
ini.	3	1411	-10808	103792	SLU 38	9.6	Si
fin.	3	955	-1882	103792	SLU 38	55.16	Si
ini.	3	1381	-10858	103792	SLU 29	9.56	Si
fin.	3	877	-1497	103792	SLU 29	69.35	Si
ini.	3	1423	-9950	103792	SLU 80	10.43	Si
fin.	3	992	-1764	103792	SLU 80	58.83	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-11052	534			970	365	SLU 30	0.68	No
fin.	3	0	-1355	355			970	365	SLU 30	1.03	Si
ini.	3	0	-10858	523			970	365	SLU 29	0.7	No
fin.	3	0	-1497	347			970	365	SLU 29	1.05	Si
ini.	3	0	-9950	518			970	365	SLU 80	0.7	No
fin.	3	0	-1764	281			970	365	SLU 80	1.3	Si
ini.	3	0	-10808	589			970	365	SLU 38	0.62	No
fin.	3	0	-1882	205			970	365	SLU 38	1.78	Si
ini.	3	0	-7525	227			970	365	SLU 49	1.61	Si
fin.	3	0	-1067	526			970	365	SLU 49	0.69	No
ini.	3	0	-10615	579			970	365	SLU 37	0.63	No
fin.	3	0	-2023	197			970	365	SLU 37	1.86	Si
ini.	3	0	-7332	217			970	365	SLU 48	1.69	Si
fin.	3	0	-1208	517			970	365	SLU 48	0.71	No
ini.	3	0	-9757	507			970	365	SLU 79	0.72	No
fin.	3	0	-1906	273			970	365	SLU 79	1.34	Si
ini.	3	0	-8338	332			970	365	SLU 51	1.1	Si
fin.	3	0	-663	488			970	365	SLU 51	0.75	No
ini.	3	0	-9996	484			970	365	SLU 36	0.75	No
fin.	3	0	-2285	243			970	365	SLU 36	1.5	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1116	42919	121694	SLV 9	2.84	Si
fin.	2	320	-5155	121694	SLV 9	23.61	Si
ini.	2	-1597	42310	121694	SLV 16	2.88	Si
fin.	2	910	-16626	121694	SLV 16	7.32	Si
ini.	2	1817	-42364	121694	SLV 7	2.87	Si
fin.	2	438	3994	121694	SLV 7	30.47	Si
ini.	2	-1116	42919	121694	SLV 10	2.84	Si
fin.	2	320	-5155	121694	SLV 10	23.61	Si
ini.	2	1817	-42364	121694	SLV 8	2.87	Si
fin.	2	438	3994	121694	SLV 8	30.47	Si
ini.	2	2784	-58286	121694	SLV 3	2.09	Si
fin.	2	-32	15333	121694	SLV 3	7.94	Si
ini.	2	2784	-58286	121694	SLV 4	2.09	Si
fin.	2	-32	15333	121694	SLV 4	7.94	Si
ini.	2	-1597	42310	121694	SLV 15	2.88	Si
fin.	2	910	-16626	121694	SLV 15	7.32	Si
ini.	2	-2083	58841	121694	SLV 14	2.07	Si
fin.	2	790	-16495	121694	SLV 14	7.38	Si
ini.	2	-2083	58841	121694	SLV 13	2.07	Si
fin.	2	790	-16495	121694	SLV 13	7.38	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	58841	-2121			1456	548	SLV 13	0.26	No
fin.	2	0	-16495	-2072			1456	548	SLV 13	0.26	No
ini.	2	0	-58286	2050			1456	548	SLV 3	0.27	No
fin.	2	0	15333	2332			1456	548	SLV 3	0.23	No
ini.	2	0	58841	-2121			1456	548	SLV 14	0.26	No
fin.	2	0	-16495	-2072			1456	548	SLV 14	0.26	No
ini.	2	0	42310	-1734			1456	548	SLV 15	0.32	No
fin.	2	0	-16626	-1609			1456	548	SLV 15	0.34	No
ini.	2	0	-58286	2050			1456	548	SLV 4	0.27	No
fin.	2	0	15333	2332			1456	548	SLV 4	0.23	No
ini.	2	0	-42364	1177			1456	548	SLV 8	0.47	No
fin.	2	0	3994	1493			1456	548	SLV 8	0.37	No
ini.	2	0	-41755	1663			1456	548	SLV 1	0.33	No
fin.	2	0	15465	1869			1456	548	SLV 1	0.29	No
ini.	2	0	-41755	1663			1456	548	SLV 2	0.33	No
fin.	2	0	15465	1869			1456	548	SLV 2	0.29	No
ini.	2	0	42310	-1734			1456	548	SLV 16	0.32	No
fin.	2	0	-16626	-1609			1456	548	SLV 16	0.34	No
ini.	2	0	-42364	1177			1456	548	SLV 7	0.47	No
fin.	2	0	3994	1493			1456	548	SLV 7	0.37	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.068	SLV 13	Si
V_SLV	0.235	SLV 3	No
PF_SLU	9.391	SLU 30	Si
V_SLU	0.62	SLU 38	No



Trave di accoppiamento 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	1520	1566	46	-1681.8	666.1	1520	1566	46	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1340	12231	30060	SLU 79	2.46	Si
fin.	3	-1332	-9044	30060	SLU 79	3.32	Si
ini.	3	-1338	11619	30060	SLU 29	2.59	Si
fin.	3	-1331	-8693	30060	SLU 29	3.46	Si
ini.	3	-1360	11865	30060	SLU 71	2.53	Si
fin.	3	-1353	-9070	30060	SLU 71	3.31	Si
ini.	3	-1301	11323	30060	SLU 78	2.65	Si
fin.	3	-1295	-8919	30060	SLU 78	3.37	Si
ini.	3	-1365	11804	30060	SLU 72	2.55	Si
fin.	3	-1358	-9008	30060	SLU 72	3.34	Si
ini.	3	-1317	11986	30060	SLU 37	2.51	Si
fin.	3	-1310	-8666	30060	SLU 37	3.47	Si
ini.	3	-1342	11559	30060	SLU 30	2.6	Si
fin.	3	-1336	-8630	30060	SLU 30	3.48	Si
ini.	3	-1297	11383	30060	SLU 77	2.64	Si
fin.	3	-1290	-8981	30060	SLU 77	3.35	Si
ini.	3	-1345	12171	30060	SLU 80	2.47	Si
fin.	3	-1337	-8981	30060	SLU 80	3.35	Si
ini.	3	-1322	11926	30060	SLU 38	2.52	Si
fin.	3	-1315	-8604	30060	SLU 38	3.49	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	11804	89			331	124	SLU 72	1.4	Si
fin.	3	0	-9008	-605			331	124	SLU 72	0.21	No
ini.	3	0	11383	163			331	124	SLU 77	0.76	No
fin.	3	0	-8981	-663			331	124	SLU 77	0.19	No
ini.	3	0	11017	167			331	124	SLU 69	0.75	No
fin.	3	0	-9008	-660			331	124	SLU 69	0.19	No
ini.	3	0	10957	168			331	124	SLU 70	0.74	No
fin.	3	0	-8945	-658			331	124	SLU 70	0.19	No
ini.	3	0	11138	116			331	124	SLU 35	1.07	Si
fin.	3	0	-8603	-604			331	124	SLU 35	0.21	No
ini.	3	0	11865	88			331	124	SLU 71	1.42	Si
fin.	3	0	-9070	-607			331	124	SLU 71	0.21	No
ini.	3	0	11078	118			331	124	SLU 36	1.06	Si
fin.	3	0	-8541	-603			331	124	SLU 36	0.21	No
ini.	3	0	12171	85			331	124	SLU 80	1.46	Si
fin.	3	0	-8981	-608			331	124	SLU 80	0.2	No
ini.	3	0	12231	84			331	124	SLU 79	1.48	Si
fin.	3	0	-9044	-610			331	124	SLU 79	0.2	No
ini.	3	0	11323	164			331	124	SLU 78	0.76	No
fin.	3	0	-8919	-662			331	124	SLU 78	0.19	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2002	-16258	44694	SLV 8	2.75	Si
fin.	2	2067	27184	44694	SLV 8	1.64	Si
ini.	2	2002	-16258	44694	SLV 7	2.75	Si
fin.	2	2067	27184	44694	SLV 7	1.64	Si
ini.	2	-2641	23009	44694	SLV 9	1.94	Si
fin.	2	-2702	-32798	44694	SLV 9	1.36	Si
ini.	2	-925	18316	44694	SLV 16	2.44	Si
fin.	2	-1130	-23628	44694	SLV 16	1.89	Si
ini.	2	1463	-19906	44694	SLV 4	2.25	Si
fin.	2	1673	31085	44694	SLV 4	1.44	Si
ini.	2	-925	18316	44694	SLV 15	2.44	Si
fin.	2	-1130	-23628	44694	SLV 15	1.89	Si
ini.	2	-2103	26656	44694	SLV 14	1.68	Si
fin.	2	-2308	-36698	44694	SLV 14	1.22	Si
ini.	2	1463	-19906	44694	SLV 3	2.25	Si
fin.	2	1673	31085	44694	SLV 3	1.44	Si
ini.	2	-2641	23009	44694	SLV 10	1.94	Si
fin.	2	-2702	-32798	44694	SLV 10	1.36	Si
ini.	2	-2103	26656	44694	SLV 13	1.68	Si
fin.	2	-2308	-36698	44694	SLV 13	1.22	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-19906	751			496	187	SLV 3	0.25	No
fin.	2	0	31085	410			496	187	SLV 3	0.46	No
ini.	2	0	18316	-233			496	187	SLV 16	0.8	No

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Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-23628	-698			496	187	SLV 16	0.27	No
ini.	2	0	-16258	680			496	187	SLV 8	0.27	No
fin.	2	0	27184	350			496	187	SLV 8	0.53	No
ini.	2	0	26656	-467			496	187	SLV 13	0.4	No
fin.	2	0	-36698	-980			496	187	SLV 13	0.19	No
ini.	2	0	-16258	680			496	187	SLV 7	0.27	No
fin.	2	0	27184	350			496	187	SLV 7	0.53	No
ini.	2	0	23009	-395			496	187	SLV 10	0.47	No
fin.	2	0	-32798	-920			496	187	SLV 10	0.2	No
ini.	2	0	23009	-395			496	187	SLV 9	0.47	No
fin.	2	0	-32798	-920			496	187	SLV 9	0.2	No
ini.	2	0	26656	-467			496	187	SLV 14	0.4	No
fin.	2	0	-36698	-980			496	187	SLV 14	0.19	No
ini.	2	0	18316	-233			496	187	SLV 15	0.8	No
fin.	2	0	-23628	-698			496	187	SLV 15	0.27	No
ini.	2	0	-19906	751			496	187	SLV 4	0.25	No
fin.	2	0	31085	410			496	187	SLV 4	0.46	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		1.218	SLV 13
V_SLV		0.191	SLV 13
PF_SLU		2.458	SLU 79
V_SLU		0.188	SLU 77

Trave di accoppiamento 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	1250	1340	90	-1193.8	666.1	1250	1340	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{tk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	259	7743	103792	SLU 70	13.4	Si
fin.	3	519	-1348	103792	SLU 70	76.97	Si
ini.	3	246	8531	103792	SLU 71	12.17	Si
fin.	3	520	-1010	103792	SLU 71	102.79	Si
ini.	3	223	8290	103792	SLU 29	12.52	Si
fin.	3	504	-1309	103792	SLU 29	79.31	Si
ini.	3	238	8659	103792	SLU 72	11.99	Si
fin.	3	514	-921	103792	SLU 72	112.73	Si
ini.	3	152	8297	103792	SLU 50	12.51	Si
fin.	3	371	528	103792	SLU 50	196.42	Si
ini.	3	216	8418	103792	SLU 30	12.33	Si
fin.	3	498	-1220	103792	SLU 30	85.1	Si
ini.	3	145	8425	103792	SLU 51	12.32	Si
fin.	3	365	617	103792	SLU 51	168.11	Si
ini.	3	122	8185	103792	SLU 9	12.68	Si
fin.	3	349	318	103792	SLU 9	325.95	Si
ini.	3	266	7615	103792	SLU 69	13.63	Si
fin.	3	525	-1437	103792	SLU 69	72.21	Si
ini.	3	130	8056	103792	SLU 8	12.88	Si
fin.	3	355	229	103792	SLU 8	452.39	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	6131	-826			970	365	SLU 78	0.44	No
fin.	3	0	-2916	286			970	365	SLU 78	1.28	Si
ini.	3	0	8531	-860			970	365	SLU 71	0.42	No
fin.	3	0	-1010	290			970	365	SLU 71	1.26	Si
ini.	3	0	7509	-829			970	365	SLU 49	0.44	No
fin.	3	0	190	381			970	365	SLU 49	0.96	No
ini.	3	0	7615	-880			970	365	SLU 69	0.41	No
fin.	3	0	-1437	337			970	365	SLU 69	1.08	Si
ini.	3	0	7743	-882			970	365	SLU 70	0.41	No
fin.	3	0	-1348	336			970	365	SLU 70	1.09	Si
ini.	3	0	6003	-825			970	365	SLU 77	0.44	No
fin.	3	0	-3005	287			970	365	SLU 77	1.27	Si
ini.	3	0	8297	-807			970	365	SLU 50	0.45	No
fin.	3	0	528	335			970	365	SLU 50	1.09	Si
ini.	3	0	8659	-861			970	365	SLU 72	0.42	No
fin.	3	0	-921	289			970	365	SLU 72	1.26	Si
ini.	3	0	8425	-808			970	365	SLU 51	0.45	No
fin.	3	0	617	334			970	365	SLU 51	1.09	Si
ini.	3	0	7381	-828			970	365	SLU 48	0.44	No
fin.	3	0	101	382			970	365	SLU 48	0.96	No



Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2736	-53300	121694	SLV 4	2.28	Si
fin.	2	-1538	43737	121694	SLV 4	2.78	Si
ini.	2	-2249	54651	121694	SLV 14	2.23	Si
fin.	2	2137	-47034	121694	SLV 14	2.59	Si
ini.	2	-1731	48892	121694	SLV 15	2.49	Si
fin.	2	2560	-53147	121694	SLV 15	2.29	Si
ini.	2	2736	-53300	121694	SLV 3	2.28	Si
fin.	2	-1538	43737	121694	SLV 3	2.78	Si
ini.	2	-1731	48892	121694	SLV 16	2.49	Si
fin.	2	2560	-53147	121694	SLV 16	2.29	Si
ini.	2	438	6407	121694	SLV 11	18.99	Si
fin.	2	1618	-26370	121694	SLV 11	4.61	Si
ini.	2	2217	-47542	121694	SLV 2	2.56	Si
fin.	2	-1961	49850	121694	SLV 2	2.44	Si
ini.	2	-2249	54651	121694	SLV 13	2.23	Si
fin.	2	2137	-47034	121694	SLV 13	2.59	Si
ini.	2	438	6407	121694	SLV 12	18.99	Si
fin.	2	1618	-26370	121694	SLV 12	4.61	Si
ini.	2	2217	-47542	121694	SLV 1	2.56	Si
fin.	2	-1961	49850	121694	SLV 1	2.44	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	54651	-3540			1456	548	SLV 14	0.15	No
fin.	2	0	-47034	-2803			1456	548	SLV 14	0.2	No
ini.	2	0	-53300	2764			1456	548	SLV 4	0.2	No
fin.	2	0	43737	3255			1456	548	SLV 4	0.17	No
ini.	2	0	-47542	2625			1456	548	SLV 2	0.21	No
fin.	2	0	49850	3368			1456	548	SLV 2	0.16	No
ini.	2	0	-53300	2764			1456	548	SLV 3	0.2	No
fin.	2	0	43737	3255			1456	548	SLV 3	0.17	No
ini.	2	0	23722	-1733			1456	548	SLD 13	0.32	No
fin.	2	0	-21040	-1068			1456	548	SLD 13	0.51	No
ini.	2	0	48892	-3401			1456	548	SLV 15	0.16	No
fin.	2	0	-53147	-2916			1456	548	SLV 15	0.19	No
ini.	2	0	54651	-3540			1456	548	SLV 13	0.15	No
fin.	2	0	-47034	-2803			1456	548	SLV 13	0.2	No
ini.	2	0	-47542	2625			1456	548	SLV 1	0.21	No
fin.	2	0	49850	3368			1456	548	SLV 1	0.16	No
ini.	2	0	23722	-1733			1456	548	SLD 14	0.32	No
fin.	2	0	-21040	-1068			1456	548	SLD 14	0.51	No
ini.	2	0	48892	-3401			1456	548	SLV 16	0.16	No
fin.	2	0	-53147	-2916			1456	548	SLV 16	0.19	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		2.227	SLV 13	Si
V_SLV		0.155	SLV 13	No
PF_SLU		11.987	SLU 72	Si
V_SLU		0.414	SLU 70	No

Trave di accoppiamento 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	1520	1566	46	-1193.8	666.1	1520	1566	46	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-310	922	30060	SLU 9	32.6	Si
fin.	3	-311	-4216	30060	SLU 9	7.13	Si
ini.	3	-272	1647	30060	SLU 29	18.25	Si
fin.	3	-274	-4606	30060	SLU 29	6.53	Si
ini.	3	-223	1748	30060	SLU 28	17.2	Si
fin.	3	-224	-4215	30060	SLU 28	7.13	Si
ini.	3	-282	1616	30060	SLU 30	18.6	Si
fin.	3	-283	-4661	30060	SLU 30	6.45	Si
ini.	3	-301	953	30060	SLU 8	31.54	Si
fin.	3	-302	-4161	30060	SLU 8	7.22	Si
ini.	3	-202	1867	30060	SLU 70	16.1	Si
fin.	3	-203	-4018	30060	SLU 70	7.48	Si
ini.	3	-290	1041	30060	SLU 51	28.87	Si
fin.	3	-291	-4018	30060	SLU 51	7.48	Si
ini.	3	-213	1779	30060	SLU 27	16.9	Si
fin.	3	-214	-4160	30060	SLU 27	7.23	Si
ini.	3	-261	1735	30060	SLU 72	17.33	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-263	-4463	30060	SLU 72	6.74	Si
ini.	3	-252	1766	30060	SLU 71	17.02	Si
fin.	3	-253	-4408	30060	SLU 71	6.82	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	2357	258			331	124	SLU 80	0.48	No
fin.	3	0	-3784	-414			331	124	SLU 80	0.3	No
ini.	3	0	1766	257			331	124	SLU 71	0.48	No
fin.	3	0	-4408	-414			331	124	SLU 71	0.3	No
ini.	3	0	1735	257			331	124	SLU 72	0.48	No
fin.	3	0	-4463	-415			331	124	SLU 72	0.3	No
ini.	3	0	2489	283			331	124	SLU 78	0.44	No
fin.	3	0	-3339	-434			331	124	SLU 78	0.29	No
ini.	3	0	1748	240			331	124	SLU 28	0.52	No
fin.	3	0	-4215	-394			331	124	SLU 28	0.32	No
ini.	3	0	1898	282			331	124	SLU 69	0.44	No
fin.	3	0	-3963	-434			331	124	SLU 69	0.29	No
ini.	3	0	2388	258			331	124	SLU 79	0.48	No
fin.	3	0	-3729	-414			331	124	SLU 79	0.3	No
ini.	3	0	1867	282			331	124	SLU 70	0.44	No
fin.	3	0	-4018	-434			331	124	SLU 70	0.29	No
ini.	3	0	2520	283			331	124	SLU 77	0.44	No
fin.	3	0	-3283	-433			331	124	SLU 77	0.29	No
ini.	3	0	1173	269			331	124	SLU 49	0.46	No
fin.	3	0	-3573	-393			331	124	SLU 49	0.32	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	338	-27596	44694	SLV 3	1.62	Si
fin.	2	508	35664	44694	SLV 3	1.25	Si
ini.	2	-216	-29602	44694	SLV 1	1.51	Si
fin.	2	11	31782	44694	SLV 1	1.41	Si
ini.	2	-216	-29602	44694	SLV 2	1.51	Si
fin.	2	11	31782	44694	SLV 2	1.41	Si
ini.	2	498	32734	44694	SLV 16	1.37	Si
fin.	2	271	-31347	44694	SLV 16	1.43	Si
ini.	2	498	32734	44694	SLV 15	1.37	Si
fin.	2	271	-31347	44694	SLV 15	1.43	Si
ini.	2	-56	30728	44694	SLV 13	1.45	Si
fin.	2	-226	-35229	44694	SLV 13	1.27	Si
ini.	2	-56	30728	44694	SLV 14	1.45	Si
fin.	2	-226	-35229	44694	SLV 14	1.27	Si
ini.	2	1040	-4141	44694	SLV 8	10.79	Si
fin.	2	1005	16739	44694	SLV 8	2.67	Si
ini.	2	338	-27596	44694	SLV 4	1.62	Si
fin.	2	508	35664	44694	SLV 4	1.25	Si
ini.	2	1040	-4141	44694	SLV 7	10.79	Si
fin.	2	1005	16739	44694	SLV 7	2.67	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-27596	873			496	187	SLV 3	0.21	No
fin.	2	0	35664	537			496	187	SLV 3	0.35	No
ini.	2	0	30728	-557			496	187	SLV 14	0.34	No
fin.	2	0	-35229	-927			496	187	SLV 14	0.2	No
ini.	2	0	-29602	855			496	187	SLV 2	0.22	No
fin.	2	0	31782	516			496	187	SLV 2	0.36	No
ini.	2	0	-27596	873			496	187	SLV 4	0.21	No
fin.	2	0	35664	537			496	187	SLV 4	0.35	No
ini.	2	0	30728	-557			496	187	SLV 13	0.34	No
fin.	2	0	-35229	-927			496	187	SLV 13	0.2	No
ini.	2	0	14025	-147			496	187	SLD 13	1.27	Si
fin.	2	0	-14912	-508			496	187	SLD 13	0.37	No
ini.	2	0	32734	-538			496	187	SLV 15	0.35	No
fin.	2	0	-31347	-905			496	187	SLV 15	0.21	No
ini.	2	0	32734	-538			496	187	SLV 16	0.35	No
fin.	2	0	-31347	-905			496	187	SLV 16	0.21	No
ini.	2	0	14025	-147			496	187	SLD 14	1.27	Si
fin.	2	0	-14912	-508			496	187	SLD 14	0.37	No
ini.	2	0	-29602	855			496	187	SLV 1	0.22	No
fin.	2	0	31782	516			496	187	SLV 1	0.36	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.253	SLV 3	Si
V_SLV	0.201	SLV 13	No
PF_SLU	6.449	SLU 30	Si
V_SLU	0.286	SLU 70	No

Trave di accoppiamento 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	1250	1340	90	-705.8	666.1	1250	1340	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	720	-416	103792	SLU 38	249.55	Si
fin.	3	1160	-14362	103792	SLU 38	7.23	Si
ini.	3	650	-323	103792	SLU 28	321.69	Si
fin.	3	1105	-13721	103792	SLU 28	7.56	Si
ini.	3	726	-538	103792	SLU 37	192.97	Si
fin.	3	1154	-14129	103792	SLU 37	7.35	Si
ini.	3	640	70	103792	SLU 29	1491.46	Si
fin.	3	1140	-14679	103792	SLU 29	7.07	Si
ini.	3	634	192	103792	SLU 30	541.87	Si
fin.	3	1147	-14912	103792	SLU 30	6.96	Si
ini.	3	674	198	103792	SLU 71	525.38	Si
fin.	3	1141	-13495	103792	SLU 71	7.69	Si
ini.	3	656	-445	103792	SLU 27	233.45	Si
fin.	3	1099	-13489	103792	SLU 27	7.69	Si
ini.	3	755	-288	103792	SLU 80	360.45	Si
fin.	3	1161	-13177	103792	SLU 80	7.88	Si
ini.	3	737	-930	103792	SLU 36	111.59	Si
fin.	3	1119	-13171	103792	SLU 36	7.88	Si
ini.	3	668	320	103792	SLU 72	324.85	Si
fin.	3	1147	-13727	103792	SLU 72	7.56	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	228	-651			970	365	SLU 6	0.56	No
fin.	3	0	-11127	-201			970	365	SLU 6	1.82	Si
ini.	3	0	870	-701			970	365	SLU 50	0.52	No
fin.	3	0	-11133	-225			970	365	SLU 50	1.62	Si
ini.	3	0	992	-710			970	365	SLU 51	0.51	No
fin.	3	0	-11365	-237			970	365	SLU 51	1.54	Si
ini.	3	0	-317	-690			970	365	SLU 69	0.53	No
fin.	3	0	-12304	-222			970	365	SLU 69	1.64	Si
ini.	3	0	320	-677			970	365	SLU 72	0.54	No
fin.	3	0	-13727	-338			970	365	SLU 72	1.08	Si
ini.	3	0	198	-669			970	365	SLU 71	0.55	No
fin.	3	0	-13495	-327			970	365	SLU 71	1.12	Si
ini.	3	0	356	-722			970	365	SLU 48	0.51	No
fin.	3	0	-9942	-121			970	365	SLU 48	3.03	Si
ini.	3	0	350	-660			970	365	SLU 7	0.55	No
fin.	3	0	-11359	-212			970	365	SLU 7	1.72	Si
ini.	3	0	-195	-698			970	365	SLU 70	0.52	No
fin.	3	0	-12537	-233			970	365	SLU 70	1.56	Si
ini.	3	0	478	-731			970	365	SLU 49	0.5	No
fin.	3	0	-10175	-132			970	365	SLU 49	2.77	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	987	-18952	121694	SLV 3	6.42	Si
fin.	2	-1710	43191	121694	SLV 3	2.82	Si
ini.	2	890	-18285	121694	SLV 1	6.66	Si
fin.	2	-2014	54432	121694	SLV 1	2.24	Si
ini.	2	359	-4968	121694	SLV 5	24.5	Si
fin.	2	-885	33890	121694	SLV 5	3.59	Si
ini.	2	-303	17538	121694	SLV 13	6.94	Si
fin.	2	2226	-41729	121694	SLV 13	2.92	Si
ini.	2	-303	17538	121694	SLV 14	6.94	Si
fin.	2	2226	-41729	121694	SLV 14	2.92	Si
ini.	2	890	-18285	121694	SLV 2	6.66	Si
fin.	2	-2014	54432	121694	SLV 2	2.24	Si
ini.	2	-206	16870	121694	SLV 16	7.21	Si
fin.	2	2530	-52970	121694	SLV 16	2.3	Si
ini.	2	987	-18952	121694	SLV 4	6.42	Si
fin.	2	-1710	43191	121694	SLV 4	2.82	Si
ini.	2	359	-4968	121694	SLV 6	24.5	Si
fin.	2	-885	33890	121694	SLV 6	3.59	Si
ini.	2	-206	16870	121694	SLV 15	7.21	Si
fin.	2	2530	-52970	121694	SLV 15	2.3	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	17538	-2019			1456	548	SLV 14	0.27	No
fin.	2	0	-41729	-1745			1456	548	SLV 14	0.31	No
ini.	2	0	-18952	1728			1456	548	SLV 4	0.32	No
fin.	2	0	43191	1968			1456	548	SLV 4	0.28	No
ini.	2	0	17538	-2019			1456	548	SLV 13	0.27	No
fin.	2	0	-41729	-1745			1456	548	SLV 13	0.31	No
ini.	2	0	3553	-1213			1456	548	SLV 12	0.45	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-32428	-901			1456	548	SLV 12	0.61	No
ini.	2	0	16870	-2297			1456	548	SLV 16	0.24	No
fin.	2	0	-52970	-1996			1456	548	SLV 16	0.27	No
ini.	2	0	16870	-2297			1456	548	SLV 15	0.24	No
fin.	2	0	-52970	-1996			1456	548	SLV 15	0.27	No
ini.	2	0	-18952	1728			1456	548	SLV 3	0.32	No
fin.	2	0	43191	1968			1456	548	SLV 3	0.28	No
ini.	2	0	-18285	2006			1456	548	SLV 2	0.27	No
fin.	2	0	54432	2219			1456	548	SLV 2	0.25	No
ini.	2	0	-18285	2006			1456	548	SLV 1	0.27	No
fin.	2	0	54432	2219			1456	548	SLV 1	0.25	No
ini.	2	0	3553	-1213			1456	548	SLV 11	0.45	No
fin.	2	0	-32428	-901			1456	548	SLV 11	0.61	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		2.236	SLV 1	Si
V_SLV		0.238	SLV 15	No
PF_SLU		6.96	SLU 30	Si
V_SLU		0.5	SLU 49	No

Trave di accoppiamento 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	1520	1566	46	-705.8	666.1	1520	1566	46	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-336	-1841	30060	SLU 72	16.33	Si
fin.	3	-343	4290	30060	SLU 72	7.01	Si
ini.	3	-344	-2570	30060	SLU 78	11.69	Si
fin.	3	-351	4420	30060	SLU 78	6.8	Si
ini.	3	-328	-2084	30060	SLU 80	14.42	Si
fin.	3	-335	4864	30060	SLU 80	6.18	Si
ini.	3	-334	-1929	30060	SLU 71	15.58	Si
fin.	3	-341	4359	30060	SLU 71	6.9	Si
ini.	3	-292	-1491	30060	SLU 38	20.17	Si
fin.	3	-299	4540	30060	SLU 38	6.62	Si
ini.	3	-246	-2600	30060	SLU 84	11.56	Si
fin.	3	-251	4481	30060	SLU 84	6.71	Si
ini.	3	-244	-2688	30060	SLU 83	11.18	Si
fin.	3	-249	4550	30060	SLU 83	6.61	Si
ini.	3	-290	-1579	30060	SLU 37	19.04	Si
fin.	3	-297	4609	30060	SLU 37	6.52	Si
ini.	3	-326	-2172	30060	SLU 79	13.84	Si
fin.	3	-333	4933	30060	SLU 79	6.09	Si
ini.	3	-343	-2659	30060	SLU 77	11.31	Si
fin.	3	-349	4489	30060	SLU 77	6.7	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-2574	456			331	124	SLU 56	0.27	No
fin.	3	0	3698	-325			331	124	SLU 56	0.38	No
ini.	3	0	-2659	493			331	124	SLU 77	0.25	No
fin.	3	0	4489	-339			331	124	SLU 77	0.37	No
ini.	3	0	-2486	454			331	124	SLU 57	0.27	No
fin.	3	0	3629	-327			331	124	SLU 57	0.38	No
ini.	3	0	-2331	447			331	124	SLU 48	0.28	No
fin.	3	0	3124	-334			331	124	SLU 48	0.37	No
ini.	3	0	-2570	492			331	124	SLU 78	0.25	No
fin.	3	0	4420	-341			331	124	SLU 78	0.36	No
ini.	3	0	-3070	454			331	124	SLU 74	0.27	No
fin.	3	0	3859	-321			331	124	SLU 74	0.39	No
ini.	3	0	-2982	452			331	124	SLU 75	0.28	No
fin.	3	0	3790	-322			331	124	SLU 75	0.39	No
ini.	3	0	-2243	445			331	124	SLU 49	0.28	No
fin.	3	0	3055	-336			331	124	SLU 49	0.37	No
ini.	3	0	-2415	485			331	124	SLU 69	0.26	No
fin.	3	0	3914	-349			331	124	SLU 69	0.36	No
ini.	3	0	-2327	483			331	124	SLU 70	0.26	No
fin.	3	0	3846	-350			331	124	SLU 70	0.36	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2015	-23405	44694	SLV 5	1.91	Si
fin.	2	-1978	14911	44694	SLV 5	3	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1752	19069	44694	SLV 12	2.34	Si
fin.	2	1711	-10161	44694	SLV 12	4.4	Si
ini.	2	1764	21919	44694	SLV 16	2.04	Si
fin.	2	1603	-11144	44694	SLV 16	4.01	Si
ini.	2	-2028	-26255	44694	SLV 1	1.7	Si
fin.	2	-1870	15894	44694	SLV 1	2.81	Si
ini.	2	-2028	-26255	44694	SLV 2	1.7	Si
fin.	2	-1870	15894	44694	SLV 2	2.81	Si
ini.	2	-1160	-17018	44694	SLV 4	2.63	Si
fin.	2	-998	10302	44694	SLV 4	4.34	Si
ini.	2	1764	21919	44694	SLV 15	2.04	Si
fin.	2	1603	-11144	44694	SLV 15	4.01	Si
ini.	2	1752	19069	44694	SLV 11	2.34	Si
fin.	2	1711	-10161	44694	SLV 11	4.4	Si
ini.	2	-1160	-17018	44694	SLV 3	2.63	Si
fin.	2	-998	10302	44694	SLV 3	4.34	Si
ini.	2	-2015	-23405	44694	SLV 6	1.91	Si
fin.	2	-1978	14911	44694	SLV 6	3	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt lim	Comb.	c.s.	Verifica
ini.	2	0	21919	-377			496	187	SLV 15	0.49	No
fin.	2	0	-11144	-717			496	187	SLV 15	0.26	No
ini.	2	0	12682	-177			496	187	SLV 13	1.05	Si
fin.	2	0	-5552	-585			496	187	SLV 13	0.32	No
ini.	2	0	-17018	696			496	187	SLV 4	0.27	No
fin.	2	0	10302	236			496	187	SLV 4	0.79	No
ini.	2	0	-23405	753			496	187	SLV 5	0.25	No
fin.	2	0	14911	188			496	187	SLV 5	0.99	No
ini.	2	0	12682	-177			496	187	SLV 14	1.05	Si
fin.	2	0	-5552	-585			496	187	SLV 14	0.32	No
ini.	2	0	-23405	753			496	187	SLV 6	0.25	No
fin.	2	0	14911	188			496	187	SLV 6	0.99	No
ini.	2	0	-26255	896			496	187	SLV 2	0.21	No
fin.	2	0	15894	367			496	187	SLV 2	0.51	No
ini.	2	0	-17018	696			496	187	SLV 3	0.27	No
fin.	2	0	10302	236			496	187	SLV 3	0.79	No
ini.	2	0	-26255	896			496	187	SLV 1	0.21	No
fin.	2	0	15894	367			496	187	SLV 1	0.51	No
ini.	2	0	21919	-377			496	187	SLV 16	0.49	No
fin.	2	0	-11144	-717			496	187	SLV 16	0.26	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.702	SLV 1	Si
V_SLV	0.208	SLV 1	No
PF_SLU	6.093	SLU 79	Si
V_SLU	0.252	SLU 77	No

Trave di accoppiamento 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1986.8	104.6	1460	1566	106	-2066.8	104.6	1460	1566	106	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-619	42320	131792	SLU 50	3.11	Si
fin.	3	-1384	-24661	131792	SLU 50	5.34	Si
ini.	3	-1119	42815	131792	SLU 30	3.08	Si
fin.	3	-2062	-27908	131792	SLU 30	4.72	Si
ini.	3	-1665	42970	131792	SLU 79	3.07	Si
fin.	3	-2807	-30398	131792	SLU 79	4.34	Si
ini.	3	-550	43115	131792	SLU 51	3.06	Si
fin.	3	-1303	-24205	131792	SLU 51	5.44	Si
ini.	3	-1188	42020	131792	SLU 29	3.14	Si
fin.	3	-2143	-28364	131792	SLU 29	4.65	Si
ini.	3	-1191	42750	131792	SLU 70	3.08	Si
fin.	3	-2114	-26810	131792	SLU 70	4.92	Si
ini.	3	-1141	45438	131792	SLU 71	2.9	Si
fin.	3	-2125	-29231	131792	SLU 71	4.51	Si
ini.	3	-1260	41955	131792	SLU 69	3.14	Si
fin.	3	-2195	-27266	131792	SLU 69	4.83	Si
ini.	3	-1072	46233	131792	SLU 72	2.85	Si
fin.	3	-2044	-28775	131792	SLU 72	4.58	Si
ini.	3	-1597	43766	131792	SLU 80	3.01	Si
fin.	3	-2726	-29942	131792	SLU 80	4.4	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	36069	2042			1143	430	SLU 35	0.21	No
fin.	3	0	-27565	-2729			1143	430	SLU 35	0.16	No
ini.	3	0	42970	2098			1143	430	SLU 79	0.21	No
fin.	3	0	-30398	-2910			1143	430	SLU 79	0.15	No
ini.	3	0	41955	2245			1143	430	SLU 69	0.19	No
fin.	3	0	-27266	-2815			1143	430	SLU 69	0.15	No
ini.	3	0	40282	2276			1143	430	SLU 78	0.19	No
fin.	3	0	-27977	-2935			1143	430	SLU 78	0.15	No
ini.	3	0	43766	2156			1143	430	SLU 80	0.2	No
fin.	3	0	-29942	-2915			1143	430	SLU 80	0.15	No
ini.	3	0	46233	2183			1143	430	SLU 72	0.2	No
fin.	3	0	-28775	-2801			1143	430	SLU 72	0.15	No
ini.	3	0	42750	2303			1143	430	SLU 70	0.19	No
fin.	3	0	-26810	-2821			1143	430	SLU 70	0.15	No
ini.	3	0	36864	2100			1143	430	SLU 36	0.2	No
fin.	3	0	-27109	-2735			1143	430	SLU 36	0.16	No
ini.	3	0	45438	2125			1143	430	SLU 71	0.2	No
fin.	3	0	-29231	-2795			1143	430	SLU 71	0.15	No
ini.	3	0	39487	2218			1143	430	SLU 77	0.19	No
fin.	3	0	-28433	-2930			1143	430	SLU 77	0.15	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1462	-66457	149694	SLV 13	2.25	Si
fin.	2	-524	61052	149694	SLV 13	2.45	Si
ini.	2	-1088	-67772	149694	SLV 15	2.21	Si
fin.	2	-378	75456	149694	SLV 15	1.98	Si
ini.	2	-1204	42014	149694	SLV 5	3.56	Si
fin.	2	-1662	-57162	149694	SLV 5	2.62	Si
ini.	2	-394	98060	149694	SLV 1	1.53	Si
fin.	2	-2011	-94962	149694	SLV 1	1.58	Si
ini.	2	-20	96745	149694	SLV 4	1.55	Si
fin.	2	-1864	-80558	149694	SLV 4	1.86	Si
ini.	2	-1462	-66457	149694	SLV 14	2.25	Si
fin.	2	-524	61052	149694	SLV 14	2.45	Si
ini.	2	-20	96745	149694	SLV 3	1.55	Si
fin.	2	-1864	-80558	149694	SLV 3	1.86	Si
ini.	2	-1088	-67772	149694	SLV 16	2.21	Si
fin.	2	-378	75456	149694	SLV 16	1.98	Si
ini.	2	-1204	42014	149694	SLV 6	3.56	Si
fin.	2	-1662	-57162	149694	SLV 6	2.62	Si
ini.	2	-394	98060	149694	SLV 2	1.53	Si
fin.	2	-2011	-94962	149694	SLV 2	1.58	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	98060	-687			1715	645	SLV 2	0.94	No
fin.	2	0	-94962	-4143			1715	645	SLV 2	0.16	No
ini.	2	0	96745	-593			1715	645	SLV 3	1.09	Si
fin.	2	0	-80558	-4507			1715	645	SLV 3	0.14	No
ini.	2	0	37629	582			1715	645	SLV 8	1.11	Si
fin.	2	0	-9148	-2774			1715	645	SLV 8	0.23	No
ini.	2	0	98060	-687			1715	645	SLV 1	0.94	No
fin.	2	0	-94962	-4143			1715	645	SLV 1	0.16	No
ini.	2	0	50020	250			1715	645	SLD 3	2.58	Si
fin.	2	0	-40109	-2632			1715	645	SLD 3	0.25	No
ini.	2	0	50020	250			1715	645	SLD 4	2.58	Si
fin.	2	0	-40109	-2632			1715	645	SLD 4	0.25	No
ini.	2	0	50522	210			1715	645	SLD 2	3.07	Si
fin.	2	0	-45787	-2488			1715	645	SLD 2	0.26	No
ini.	2	0	37629	582			1715	645	SLV 7	1.11	Si
fin.	2	0	-9148	-2774			1715	645	SLV 7	0.23	No
ini.	2	0	96745	-593			1715	645	SLV 4	1.09	Si
fin.	2	0	-80558	-4507			1715	645	SLV 4	0.14	No
ini.	2	0	50522	210			1715	645	SLD 1	3.07	Si
fin.	2	0	-45787	-2488			1715	645	SLD 1	0.26	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.527	SLV 1	Si
V_SLV	0.143	SLV 3	No
PF_SLU	2.851	SLU 72	Si
V_SLU	0.147	SLU 78	No

Trave di accoppiamento 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luca	Spessore	R. Trazione
-1116.3	104.6	1500	1566	66	-1228.3	104.6	1500	1566	66	112	28	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmed	τ0	fv0	μ	φ	fvk,lim	E	G	FC	
12			17.25	0.9		2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1974	-21927	61792	SLU 79	2.82	Si
fin.	3	-1793	-22954	61792	SLU 79	2.69	Si
ini.	3	-1764	-23281	61792	SLU 72	2.65	Si
fin.	3	-1427	-19241	61792	SLU 72	3.21	Si
ini.	3	-1718	-16765	61792	SLU 83	3.69	Si
fin.	3	-1753	-23191	61792	SLU 83	2.66	Si
ini.	3	-1691	-18217	61792	SLU 74	3.39	Si
fin.	3	-1668	-23053	61792	SLU 74	2.68	Si
ini.	3	-1814	-24086	61792	SLU 70	2.57	Si
fin.	3	-1488	-20633	61792	SLU 70	2.99	Si
ini.	3	-1844	-24243	61792	SLU 69	2.55	Si
fin.	3	-1515	-20777	61792	SLU 69	2.97	Si
ini.	3	-1793	-23438	61792	SLU 71	2.64	Si
fin.	3	-1454	-19384	61792	SLU 71	3.19	Si
ini.	3	-1689	-16608	61792	SLU 84	3.72	Si
fin.	3	-1726	-23047	61792	SLU 84	2.68	Si
ini.	3	-2024	-22733	61792	SLU 77	2.72	Si
fin.	3	-1854	-24346	61792	SLU 77	2.54	Si
ini.	3	-1995	-22576	61792	SLU 78	2.74	Si
fin.	3	-1827	-24202	61792	SLU 78	2.55	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-22733	2638			474	179	SLU 77	0.07	No
fin.	3	0	-24346	-2034			474	179	SLU 77	0.09	No
ini.	3	0	-24243	2734			474	179	SLU 69	0.07	No
fin.	3	0	-20777	-1891			474	179	SLU 69	0.09	No
ini.	3	0	-23281	2588			474	179	SLU 72	0.07	No
fin.	3	0	-19241	-1752			474	179	SLU 72	0.1	No
ini.	3	0	-24086	2719			474	179	SLU 70	0.07	No
fin.	3	0	-20633	-1883			474	179	SLU 70	0.09	No
ini.	3	0	-21771	2493			474	179	SLU 80	0.07	No
fin.	3	0	-22810	-1895			474	179	SLU 80	0.09	No
ini.	3	0	-22576	2624			474	179	SLU 78	0.07	No
fin.	3	0	-24202	-2026			474	179	SLU 78	0.09	No
ini.	3	0	-22420	2526			474	179	SLU 48	0.07	No
fin.	3	0	-16659	-1658			474	179	SLU 48	0.11	No
ini.	3	0	-23438	2603			474	179	SLU 71	0.07	No
fin.	3	0	-19384	-1760			474	179	SLU 71	0.1	No
ini.	3	0	-21927	2507			474	179	SLU 79	0.07	No
fin.	3	0	-22954	-1903			474	179	SLU 79	0.09	No
ini.	3	0	-22263	2511			474	179	SLU 49	0.07	No
fin.	3	0	-16515	-1650			474	179	SLU 49	0.11	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1469	35783	79694	SLV 4	2.23	Si
fin.	2	-6927	-121997	79694	SLV 4	0.65	No
ini.	2	-518	22095	79694	SLV 8	3.61	Si
fin.	2	-3579	-64854	79694	SLV 8	1.23	Si
ini.	2	118	-44062	79694	SLV 15	1.81	Si
fin.	2	4631	83311	79694	SLV 15	0.96	No
ini.	2	-221	-56283	79694	SLV 13	1.42	Si
fin.	2	5229	95923	79694	SLV 13	0.83	No
ini.	2	-1808	23562	79694	SLV 1	3.38	Si
fin.	2	-6329	-109384	79694	SLV 1	0.73	No
ini.	2	-1469	35783	79694	SLV 3	2.23	Si
fin.	2	-6927	-121997	79694	SLV 3	0.65	No
ini.	2	118	-44062	79694	SLV 16	1.81	Si
fin.	2	4631	83311	79694	SLV 16	0.96	No
ini.	2	-1808	23562	79694	SLV 2	3.38	Si
fin.	2	-6329	-109384	79694	SLV 2	0.73	No
ini.	2	-221	-56283	79694	SLV 14	1.42	Si
fin.	2	5229	95923	79694	SLV 14	0.83	No
ini.	2	-518	22095	79694	SLV 7	3.61	Si
fin.	2	-3579	-64854	79694	SLV 7	1.23	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	23562	-986			712	268	SLV 1	0.27	No
fin.	2	0	-109384	-4854			712	268	SLV 1	0.06	No
ini.	2	0	-44062	3638			712	268	SLV 16	0.07	No
fin.	2	0	83311	2602			712	268	SLV 16	0.1	No
ini.	2	0	-56283	4513			712	268	SLV 13	0.06	No
fin.	2	0	95923	3237			712	268	SLV 13	0.08	No
ini.	2	0	-56283	4513			712	268	SLV 14	0.06	No
fin.	2	0	95923	3237			712	268	SLV 14	0.08	No
ini.	2	0	-42595	3610			712	268	SLV 9	0.07	No
fin.	2	0	38780	1145			712	268	SLV 9	0.23	No
ini.	2	0	35783	-1862			712	268	SLV 4	0.14	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-121997	-5488			712	268	SLV 4	0.05	No
ini.	2	0	-42595	3610			712	268	SLV 10	0.07	No
fin.	2	0	38780	1145			712	268	SLV 10	0.23	No
ini.	2	0	23562	-986			712	268	SLV 2	0.27	No
fin.	2	0	-109384	-4854			712	268	SLV 2	0.06	No
ini.	2	0	35783	-1862			712	268	SLV 3	0.14	No
fin.	2	0	-121997	-5488			712	268	SLV 3	0.05	No
ini.	2	0	-44062	3638			712	268	SLV 15	0.07	No
fin.	2	0	83311	2602			712	268	SLV 15	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.653	SLV 3	No
V_SLV	0.049	SLV 3	No
PF_SLU	2.538	SLU 77	Si
V_SLU	0.065	SLU 69	No

Trave di accoppiamento 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-938.6	104.6	1500	1566	66	-1046.6	104.6	1500	1566	66	108	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	fvk0	f _h medio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-777	5893	61792	SLU 79	10.49	Si
fin.	3	-1651	-42373	61792	SLU 79	1.46	Si
ini.	3	-782	5207	61792	SLU 80	11.87	Si
fin.	3	-1629	-41724	61792	SLU 80	1.48	Si
ini.	3	-662	3250	61792	SLU 69	19.01	Si
fin.	3	-1480	-41690	61792	SLU 69	1.48	Si
ini.	3	-794	5432	61792	SLU 77	11.38	Si
fin.	3	-1685	-43599	61792	SLU 77	1.42	Si
ini.	3	-800	6066	61792	SLU 36	10.19	Si
fin.	3	-1631	-39968	61792	SLU 36	1.55	Si
ini.	3	-645	3711	61792	SLU 71	16.65	Si
fin.	3	-1446	-40464	61792	SLU 71	1.53	Si
ini.	3	-799	4747	61792	SLU 78	13.02	Si
fin.	3	-1663	-42950	61792	SLU 78	1.44	Si
ini.	3	-667	2565	61792	SLU 70	24.09	Si
fin.	3	-1458	-41041	61792	SLU 70	1.51	Si
ini.	3	-650	3026	61792	SLU 72	20.42	Si
fin.	3	-1424	-39815	61792	SLU 72	1.55	Si
ini.	3	-796	6751	61792	SLU 35	9.15	Si
fin.	3	-1653	-40617	61792	SLU 35	1.52	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	3026	375			474	179	SLU 72	0.48	No
fin.	3	0	-39815	-1753			474	179	SLU 72	0.1	No
ini.	3	0	4747	333			474	179	SLU 78	0.54	No
fin.	3	0	-42950	-1864			474	179	SLU 78	0.1	No
ini.	3	0	2565	415			474	179	SLU 70	0.43	No
fin.	3	0	-41041	-1816			474	179	SLU 70	0.1	No
ini.	3	0	5432	313			474	179	SLU 77	0.57	No
fin.	3	0	-43599	-1888			474	179	SLU 77	0.09	No
ini.	3	0	3711	356			474	179	SLU 71	0.5	No
fin.	3	0	-40464	-1778			474	179	SLU 71	0.1	No
ini.	3	0	3250	395			474	179	SLU 69	0.45	No
fin.	3	0	-41690	-1840			474	179	SLU 69	0.1	No
ini.	3	0	5893	273			474	179	SLU 79	0.65	No
fin.	3	0	-42373	-1826			474	179	SLU 79	0.1	No
ini.	3	0	6066	204			474	179	SLU 36	0.88	No
fin.	3	0	-39968	-1680			474	179	SLU 36	0.11	No
ini.	3	0	5207	293			474	179	SLU 80	0.61	No
fin.	3	0	-41724	-1801			474	179	SLU 80	0.1	No
ini.	3	0	6751	184			474	179	SLU 35	0.97	No
fin.	3	0	-40617	-1704			474	179	SLU 35	0.1	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1171	49696	79694	SLV 5	1.6	Si
fin.	2	-872	-62328	79694	SLV 5	1.28	Si
ini.	2	-2645	-89138	79694	SLV 16	0.89	No
fin.	2	-693	34530	79694	SLV 16	2.31	Si
ini.	2	1824	81143	79694	SLV 4	0.98	No
fin.	2	-417	-60823	79694	SLV 4	1.31	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2245	94136	79694	SLV 1	0.85	No
fin.	2	-582	-76921	79694	SLV 1	1.04	Si
ini.	2	-2224	-76145	79694	SLV 13	1.05	Si
fin.	2	-859	18432	79694	SLV 13	4.32	Si
ini.	2	-2224	-76145	79694	SLV 14	1.05	Si
fin.	2	-859	18432	79694	SLV 14	4.32	Si
ini.	2	1171	49696	79694	SLV 6	1.6	Si
fin.	2	-872	-62328	79694	SLV 6	1.28	Si
ini.	2	2245	94136	79694	SLV 2	0.85	No
fin.	2	-582	-76921	79694	SLV 2	1.04	Si
ini.	2	1824	81143	79694	SLV 3	0.98	No
fin.	2	-417	-60823	79694	SLV 3	1.31	Si
ini.	2	-2645	-89138	79694	SLV 15	0.89	No
fin.	2	-693	34530	79694	SLV 15	2.31	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-76145	2605			712	268	SLV 13	0.1	No
fin.	2	0	18432	305			712	268	SLV 13	0.88	No
ini.	2	0	49696	-1218			712	268	SLV 5	0.22	No
fin.	2	0	-62328	-2263			712	268	SLV 5	0.12	No
ini.	2	0	94136	-2553			712	268	SLV 2	0.1	No
fin.	2	0	-76921	-2773			712	268	SLV 2	0.1	No
ini.	2	0	81143	-2150			712	268	SLV 3	0.12	No
fin.	2	0	-60823	-2287			712	268	SLV 3	0.12	No
ini.	2	0	-76145	2605			712	268	SLV 14	0.1	No
fin.	2	0	18432	305			712	268	SLV 14	0.88	No
ini.	2	0	-89138	3008			712	268	SLV 16	0.09	No
fin.	2	0	34530	792			712	268	SLV 16	0.34	No
ini.	2	0	81143	-2150			712	268	SLV 4	0.12	No
fin.	2	0	-60823	-2287			712	268	SLV 4	0.12	No
ini.	2	0	49696	-1218			712	268	SLV 6	0.22	No
fin.	2	0	-62328	-2263			712	268	SLV 6	0.12	No
ini.	2	0	94136	-2553			712	268	SLV 1	0.1	No
fin.	2	0	-76921	-2773			712	268	SLV 1	0.1	No
ini.	2	0	-89138	3008			712	268	SLV 15	0.09	No
fin.	2	0	34530	792			712	268	SLV 15	0.34	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 1	No
V_SLV	0.089	SLV 15	No
PF_SLU	1.417	SLU 77	Si
V_SLU	0.095	SLU 77	No

Trave di accoppiamento 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-647.8	104.6	1460	1566	106	-727.8	104.6	1460	1566	106	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1108	-18549	131792	SLU 60	7.1	Si
fin.	3	-586	14704	131792	SLU 60	8.96	Si
ini.	3	-1078	-15921	131792	SLU 18	8.28	Si
fin.	3	-609	12341	131792	SLU 18	10.68	Si
ini.	3	-1252	-15692	131792	SLU 53	8.4	Si
fin.	3	-916	9062	131792	SLU 53	14.54	Si
ini.	3	-1409	-18022	131792	SLU 82	7.31	Si
fin.	3	-897	13187	131792	SLU 82	9.99	Si
ini.	3	-1466	-18649	131792	SLU 81	7.07	Si
fin.	3	-922	13379	131792	SLU 81	9.85	Si
ini.	3	-1050	-17921	131792	SLU 61	7.35	Si
fin.	3	-562	14512	131792	SLU 61	9.08	Si
ini.	3	-1379	-15393	131792	SLU 40	8.56	Si
fin.	3	-920	10824	131792	SLU 40	12.18	Si
ini.	3	-1200	-15490	131792	SLU 73	8.51	Si
fin.	3	-789	11265	131792	SLU 73	11.7	Si
ini.	3	-1611	-15792	131792	SLU 74	8.35	Si
fin.	3	-1252	7737	131792	SLU 74	17.03	Si
ini.	3	-1437	-16021	131792	SLU 39	8.23	Si
fin.	3	-945	11016	131792	SLU 39	11.96	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-14263	1988			1143	430	SLU 84	0.22	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	8518	-845			1143	430	SLU 84	0.51	No
ini.	3	0	-18022	1988			1143	430	SLU 82	0.22	No
fin.	3	0	13187	-442			1143	430	SLU 82	0.97	No
ini.	3	0	-11932	1991			1143	430	SLU 56	0.22	No
fin.	3	0	4394	-1224			1143	430	SLU 56	0.35	No
ini.	3	0	-14890	2011			1143	430	SLU 83	0.21	No
fin.	3	0	8711	-808			1143	430	SLU 83	0.53	No
ini.	3	0	-12033	2115			1143	430	SLU 77	0.2	No
fin.	3	0	3069	-1317			1143	430	SLU 77	0.33	No
ini.	3	0	-18649	2010			1143	430	SLU 81	0.21	No
fin.	3	0	13379	-405			1143	430	SLU 81	1.06	Si
ini.	3	0	-15792	2115			1143	430	SLU 74	0.2	No
fin.	3	0	7737	-914			1143	430	SLU 74	0.47	No
ini.	3	0	-11405	2093			1143	430	SLU 78	0.21	No
fin.	3	0	2876	-1355			1143	430	SLU 78	0.32	No
ini.	3	0	-15164	2093			1143	430	SLU 75	0.21	No
fin.	3	0	7545	-952			1143	430	SLU 75	0.45	No
ini.	3	0	-15692	1991			1143	430	SLU 53	0.22	No
fin.	3	0	9062	-821			1143	430	SLU 53	0.52	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	39	53436	149694	SLV 4	2.8	Si
fin.	2	-635	-47617	149694	SLV 4	3.14	Si
ini.	2	-1490	-74063	149694	SLV 13	2.02	Si
fin.	2	-290	61977	149694	SLV 13	2.42	Si
ini.	2	511	68095	149694	SLV 2	2.2	Si
fin.	2	-386	-66810	149694	SLV 2	2.24	Si
ini.	2	-1813	-56070	149694	SLV 11	2.67	Si
fin.	2	-863	58486	149694	SLV 11	2.56	Si
ini.	2	-1962	-88723	149694	SLV 15	1.69	Si
fin.	2	-539	81170	149694	SLV 15	1.84	Si
ini.	2	-1962	-88723	149694	SLV 16	1.69	Si
fin.	2	-539	81170	149694	SLV 16	1.84	Si
ini.	2	39	53436	149694	SLV 3	2.8	Si
fin.	2	-635	-47617	149694	SLV 3	3.14	Si
ini.	2	511	68095	149694	SLV 1	2.2	Si
fin.	2	-386	-66810	149694	SLV 1	2.24	Si
ini.	2	-1813	-56070	149694	SLV 12	2.67	Si
fin.	2	-863	58486	149694	SLV 12	2.56	Si
ini.	2	-1490	-74063	149694	SLV 14	2.02	Si
fin.	2	-290	61977	149694	SLV 14	2.42	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-43735	2505			1715	645	SLD 16	0.26	No
fin.	2	0	38668	608			1715	645	SLD 16	1.06	Si
ini.	2	0	-56070	3161			1715	645	SLV 12	0.2	No
fin.	2	0	58486	1241			1715	645	SLV 12	0.52	No
ini.	2	0	68095	-1421			1715	645	SLV 1	0.45	No
fin.	2	0	-66810	-3103			1715	645	SLV 1	0.21	No
ini.	2	0	-74063	3425			1715	645	SLV 14	0.19	No
fin.	2	0	61977	1466			1715	645	SLV 14	0.44	No
ini.	2	0	-74063	3425			1715	645	SLV 13	0.19	No
fin.	2	0	61977	1466			1715	645	SLV 13	0.44	No
ini.	2	0	68095	-1421			1715	645	SLV 2	0.45	No
fin.	2	0	-66810	-3103			1715	645	SLV 2	0.21	No
ini.	2	0	-88723	4086			1715	645	SLV 16	0.16	No
fin.	2	0	81170	2101			1715	645	SLV 16	0.31	No
ini.	2	0	-56070	3161			1715	645	SLV 11	0.2	No
fin.	2	0	58486	1241			1715	645	SLV 11	0.52	No
ini.	2	0	-43735	2505			1715	645	SLD 15	0.26	No
fin.	2	0	38668	608			1715	645	SLD 15	1.06	Si
ini.	2	0	-88723	4086			1715	645	SLV 15	0.16	No
fin.	2	0	81170	2101			1715	645	SLV 15	0.31	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.687	SLV 15	Si
V_SLV	0.158	SLV 15	No
PF_SLU	7.067	SLU 81	Si
V_SLU	0.203	SLU 77	No

Trave di accoppiamento 168

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-416.8	104.6	1460	1566	106	-496.8	104.6	1460	1566	106	80	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb_	fhk	fvk0	fhmedio	$\tau 0$	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2395	-34080	131792	SLU 78	3.87	Si
fin.	3	-1381	39827	131792	SLU 78	3.31	Si
ini.	3	-2527	-34120	131792	SLU 77	3.86	Si
fin.	3	-1493	40013	131792	SLU 77	3.29	Si
ini.	3	-2301	-33205	131792	SLU 37	3.97	Si
fin.	3	-1279	41977	131792	SLU 37	3.14	Si
ini.	3	-2202	-36511	131792	SLU 80	3.61	Si
fin.	3	-1168	43729	131792	SLU 80	3.01	Si
ini.	3	-1355	-36558	131792	SLU 72	3.61	Si
fin.	3	-495	42156	131792	SLU 72	3.13	Si
ini.	3	-2169	-33165	131792	SLU 38	3.97	Si
fin.	3	-1166	41792	131792	SLU 38	3.15	Si
ini.	3	-1487	-36599	131792	SLU 71	3.6	Si
fin.	3	-607	42342	131792	SLU 71	3.11	Si
ini.	3	-1454	-33252	131792	SLU 29	3.96	Si
fin.	3	-605	40404	131792	SLU 29	3.26	Si
ini.	3	-1322	-33211	131792	SLU 30	3.97	Si
fin.	3	-493	40218	131792	SLU 30	3.28	Si
ini.	3	-2334	-36552	131792	SLU 79	3.61	Si
fin.	3	-1281	43915	131792	SLU 79	3	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-30733	2809			1143	430	SLU 36	0.15	No
fin.	3	0	37889	-802			1143	430	SLU 36	0.54	No
ini.	3	0	-36599	2867			1143	430	SLU 71	0.15	No
fin.	3	0	42342	-761			1143	430	SLU 71	0.56	No
ini.	3	0	-36558	2857			1143	430	SLU 72	0.15	No
fin.	3	0	42156	-794			1143	430	SLU 72	0.54	No
ini.	3	0	-34080	3047			1143	430	SLU 78	0.14	No
fin.	3	0	39827	-899			1143	430	SLU 78	0.48	No
ini.	3	0	-30774	2819			1143	430	SLU 35	0.15	No
fin.	3	0	38075	-770			1143	430	SLU 35	0.56	No
ini.	3	0	-34167	2884			1143	430	SLU 69	0.15	No
fin.	3	0	38439	-909			1143	430	SLU 69	0.47	No
ini.	3	0	-36552	3040			1143	430	SLU 79	0.14	No
fin.	3	0	43915	-719			1143	430	SLU 79	0.6	No
ini.	3	0	-36511	3030			1143	430	SLU 80	0.14	No
fin.	3	0	43729	-752			1143	430	SLU 80	0.57	No
ini.	3	0	-34120	3056			1143	430	SLU 77	0.14	No
fin.	3	0	40013	-866			1143	430	SLU 77	0.5	No
ini.	3	0	-34126	2874			1143	430	SLU 70	0.15	No
fin.	3	0	38253	-942			1143	430	SLU 70	0.46	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2142	79354	149694	SLV 2	1.89	Si
fin.	2	-2098	-46149	149694	SLV 2	3.24	Si
ini.	2	117	-102284	149694	SLV 13	1.46	Si
fin.	2	682	62727	149694	SLV 13	2.39	Si
ini.	2	-2142	79354	149694	SLV 1	1.89	Si
fin.	2	-2098	-46149	149694	SLV 1	3.24	Si
ini.	2	-449	-108515	149694	SLV 16	1.38	Si
fin.	2	408	76668	149694	SLV 16	1.95	Si
ini.	2	-1899	-52212	149694	SLV 12	2.87	Si
fin.	2	-885	54826	149694	SLV 12	2.73	Si
ini.	2	-2708	73123	149694	SLV 3	2.05	Si
fin.	2	-2372	-32208	149694	SLV 3	4.65	Si
ini.	2	-1899	-52212	149694	SLV 11	2.87	Si
fin.	2	-885	54826	149694	SLV 11	2.73	Si
ini.	2	117	-102284	149694	SLV 14	1.46	Si
fin.	2	682	62727	149694	SLV 14	2.39	Si
ini.	2	-449	-108515	149694	SLV 15	1.38	Si
fin.	2	408	76668	149694	SLV 15	1.95	Si
ini.	2	-2708	73123	149694	SLV 4	2.05	Si
fin.	2	-2372	-32208	149694	SLV 4	4.65	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	79354	-677			1715	645	SLV 1	0.95	No
fin.	2	0	-46149	-2365			1715	645	SLV 1	0.27	No
ini.	2	0	-54685	2261			1715	645	SLD 16	0.29	No
fin.	2	0	41346	433			1715	645	SLD 16	1.49	Si
ini.	2	0	-108515	3445			1715	645	SLV 16	0.19	No
fin.	2	0	76668	1557			1715	645	SLV 16	0.41	No
ini.	2	0	79354	-677			1715	645	SLV 2	0.95	No
fin.	2	0	-46149	-2365			1715	645	SLV 2	0.27	No
ini.	2	0	-108515	3445			1715	645	SLV 15	0.19	No
fin.	2	0	76668	1557			1715	645	SLV 15	0.41	No
ini.	2	0	-52212	2768			1715	645	SLV 11	0.23	No
fin.	2	0	54826	425			1715	645	SLV 11	1.52	Si
ini.	2	0	-102284	2940			1715	645	SLV 13	0.22	No
fin.	2	0	62727	1399			1715	645	SLV 13	0.46	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-54685	2261			1715	645	SLD 15	0.29	No
fin.	2	0	41346	433			1715	645	SLD 15	1.49	Si
ini.	2	0	-102284	2940			1715	645	SLV 14	0.22	No
fin.	2	0	62727	1399			1715	645	SLV 14	0.46	No
ini.	2	0	-52212	2768			1715	645	SLV 12	0.23	No
fin.	2	0	54826	425			1715	645	SLV 12	1.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.379	SLV 15	Si
V_SLV	0.187	SLV 15	No
PF_SLU	3.001	SLU 79	Si
V_SLU	0.141	SLU 77	No

Trave di accoppiamento 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	1250	1450	200	-515.8	650.6	1250	1450	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	722	90772	296292	SLU 38	3.26	Si
fin.	3	164	15522	296292	SLU 38	19.09	Si
ini.	3	764	92545	296292	SLU 80	3.2	Si
fin.	3	171	16271	296292	SLU 80	18.21	Si
ini.	3	724	89157	296292	SLU 69	3.32	Si
fin.	3	163	15561	296292	SLU 69	19.04	Si
ini.	3	707	92723	296292	SLU 29	3.2	Si
fin.	3	163	15514	296292	SLU 29	19.1	Si
ini.	3	767	93732	296292	SLU 79	3.16	Si
fin.	3	172	16365	296292	SLU 79	18.1	Si
ini.	3	745	93310	296292	SLU 72	3.18	Si
fin.	3	170	16168	296292	SLU 72	18.33	Si
ini.	3	749	94496	296292	SLU 71	3.14	Si
fin.	3	171	16263	296292	SLU 71	18.22	Si
ini.	3	725	91958	296292	SLU 37	3.22	Si
fin.	3	165	15616	296292	SLU 37	18.97	Si
ini.	3	703	91536	296292	SLU 30	3.24	Si
fin.	3	163	15419	296292	SLU 30	19.22	Si
ini.	3	742	88393	296292	SLU 77	3.35	Si
fin.	3	165	15664	296292	SLU 77	18.92	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	87384	-2660			2157	812	SLU 27	0.31	No
fin.	3	0	14812	351			2157	812	SLU 27	2.31	Si
ini.	3	0	92545	-2768			2157	812	SLU 80	0.29	No
fin.	3	0	16271	425			2157	812	SLU 80	1.91	Si
ini.	3	0	92723	-2834			2157	812	SLU 29	0.29	No
fin.	3	0	15514	342			2157	812	SLU 29	2.37	Si
ini.	3	0	93310	-2801			2157	812	SLU 72	0.29	No
fin.	3	0	16168	363			2157	812	SLU 72	2.23	Si
ini.	3	0	91536	-2795			2157	812	SLU 30	0.29	No
fin.	3	0	15419	350			2157	812	SLU 30	2.32	Si
ini.	3	0	94496	-2840			2157	812	SLU 71	0.29	No
fin.	3	0	16263	356			2157	812	SLU 71	2.28	Si
ini.	3	0	91958	-2801			2157	812	SLU 37	0.29	No
fin.	3	0	15616	403			2157	812	SLU 37	2.01	Si
ini.	3	0	89157	-2666			2157	812	SLU 69	0.3	No
fin.	3	0	15561	364			2157	812	SLU 69	2.23	Si
ini.	3	0	93732	-2806			2157	812	SLU 79	0.29	No
fin.	3	0	16365	417			2157	812	SLU 79	1.95	Si
ini.	3	0	90772	-2762			2157	812	SLU 38	0.29	No
fin.	3	0	15522	411			2157	812	SLU 38	1.97	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1236	52310	314194	SLV 11	6.01	Si
fin.	2	60	41159	314194	SLV 11	7.63	Si
ini.	2	638	38077	314194	SLD 7	8.25	Si
fin.	2	39	18746	314194	SLD 7	16.76	Si
ini.	2	1236	52310	314194	SLV 12	6.01	Si
fin.	2	60	41159	314194	SLV 12	7.63	Si
ini.	2	1171	59356	314194	SLV 8	5.29	Si
fin.	2	14	38835	314194	SLV 8	8.09	Si
ini.	2	449	44996	314194	SLV 3	6.98	Si



Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-26	11910	314194	SLV 3	26.38	Si
ini.	2	449	44996	314194	SLV 4	6.98	Si
fin.	2	-26	11910	314194	SLV 4	26.38	Si
ini.	2	638	38077	314194	SLD 8	8.25	Si
fin.	2	39	18746	314194	SLD 8	16.76	Si
ini.	2	665	34979	314194	SLD 12	8.98	Si
fin.	2	57	19717	314194	SLD 12	15.94	Si
ini.	2	665	34979	314194	SLD 11	8.98	Si
fin.	2	57	19717	314194	SLD 11	15.94	Si
ini.	2	1171	59356	314194	SLV 7	5.29	Si
fin.	2	14	38835	314194	SLV 7	8.09	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	21509	-843			3235	1217	SLV 15	1.44	Si
fin.	2	0	19660	597			3235	1217	SLV 15	2.04	Si
ini.	2	0	38077	-720			3235	1217	SLD 7	1.69	Si
fin.	2	0	18746	151			3235	1217	SLD 7	8.04	Si
ini.	2	0	52310	-1025			3235	1217	SLV 12	1.19	Si
fin.	2	0	41159	364			3235	1217	SLV 12	3.35	Si
ini.	2	0	21509	-843			3235	1217	SLV 16	1.44	Si
fin.	2	0	19660	597			3235	1217	SLV 16	2.04	Si
ini.	2	0	34979	-753			3235	1217	SLD 11	1.62	Si
fin.	2	0	19717	255			3235	1217	SLD 11	4.78	Si
ini.	2	0	34979	-753			3235	1217	SLD 12	1.62	Si
fin.	2	0	19717	255			3235	1217	SLD 12	4.78	Si
ini.	2	0	38077	-720			3235	1217	SLD 8	1.69	Si
fin.	2	0	18746	151			3235	1217	SLD 8	8.04	Si
ini.	2	0	59356	-939			3235	1217	SLV 7	1.3	Si
fin.	2	0	38835	121			3235	1217	SLV 7	10.06	Si
ini.	2	0	59356	-939			3235	1217	SLV 8	1.3	Si
fin.	2	0	38835	121			3235	1217	SLV 8	10.06	Si
ini.	2	0	52310	-1025			3235	1217	SLV 11	1.19	Si
fin.	2	0	41159	364			3235	1217	SLV 11	3.35	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 7	Si
V_SLV	1.188	SLV 11	Si
PF_SLU	3.135	SLU 71	Si
V_SLU	0.286	SLU 71	No

Trave di accoppiamento 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	1530	1566	36	-515.8	650.6	1530	1566	36	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1698	-99629	18411	SLU 69	0.18	No
fin.	3	1698	124710	18411	SLU 69	0.15	No
ini.	3	1710	-101857	18411	SLU 70	0.18	No
fin.	3	1710	124022	18411	SLU 70	0.15	No
ini.	3	1784	-100942	18411	SLU 30	0.18	No
fin.	3	1784	131390	18411	SLU 30	0.14	No
ini.	3	1772	-98714	18411	SLU 29	0.19	No
fin.	3	1772	132078	18411	SLU 29	0.14	No
ini.	3	1794	-105402	18411	SLU 72	0.17	No
fin.	3	1794	132140	18411	SLU 72	0.14	No
ini.	3	1852	-108698	18411	SLU 80	0.17	No
fin.	3	1852	130038	18411	SLU 80	0.14	No
ini.	3	1841	-106470	18411	SLU 79	0.17	No
fin.	3	1841	130726	18411	SLU 79	0.14	No
ini.	3	1783	-103174	18411	SLU 71	0.18	No
fin.	3	1783	132828	18411	SLU 71	0.14	No
ini.	3	1830	-102010	18411	SLU 37	0.18	No
fin.	3	1830	129975	18411	SLU 37	0.14	No
ini.	3	1842	-104238	18411	SLU 38	0.18	No
fin.	3	1842	129288	18411	SLU 38	0.14	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-106470	4800			280	105	SLU 79	0.02	No
fin.	3	0	130726	4680			280	105	SLU 79	0.02	No
ini.	3	0	-104238	4714			280	105	SLU 38	0.02	No
fin.	3	0	129288	4621			280	105	SLU 38	0.02	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-105402	4807			280	105	SLU 72	0.02	No
fin.	3	0	132140	4687			280	105	SLU 72	0.02	No
ini.	3	0	-98714	4660			280	105	SLU 29	0.02	No
fin.	3	0	132078	4567			280	105	SLU 29	0.02	No
ini.	3	0	-102010	4684			280	105	SLU 37	0.02	No
fin.	3	0	129975	4591			280	105	SLU 37	0.02	No
ini.	3	0	-108698	4831			280	105	SLU 80	0.02	No
fin.	3	0	130038	4711			280	105	SLU 80	0.02	No
ini.	3	0	-105153	4598			280	105	SLU 78	0.02	No
fin.	3	0	121920	4478			280	105	SLU 78	0.02	No
ini.	3	0	-103174	4776			280	105	SLU 71	0.02	No
fin.	3	0	132828	4657			280	105	SLU 71	0.02	No
ini.	3	0	-100942	4691			280	105	SLU 30	0.02	No
fin.	3	0	131390	4598			280	105	SLU 30	0.02	No
ini.	3	0	-101857	4574			280	105	SLU 70	0.02	No
fin.	3	0	124022	4454			280	105	SLU 70	0.02	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1094	-8717	27616	SLV 4	3.17	Si
fin.	2	62	54060	27616	SLV 4	0.51	No
ini.	2	2049	-63232	27616	SLV 14	0.44	No
fin.	2	893	292	27616	SLV 14	94.57	Si
ini.	2	-1106	-54118	27616	SLV 9	0.51	No
fin.	2	-1132	32336	27616	SLV 9	0.85	No
ini.	2	3403	-56661	27616	SLV 16	0.49	No
fin.	2	2037	-8428	27616	SLV 16	3.28	Si
ini.	2	-1106	-54118	27616	SLV 10	0.51	No
fin.	2	-1132	32336	27616	SLV 10	0.85	No
ini.	2	3403	-56661	27616	SLV 15	0.49	No
fin.	2	2037	-8428	27616	SLV 15	3.28	Si
ini.	2	-2449	-15288	27616	SLV 2	1.81	Si
fin.	2	-1082	62780	27616	SLV 2	0.44	No
ini.	2	-1094	-8717	27616	SLV 3	3.17	Si
fin.	2	62	54060	27616	SLV 3	0.51	No
ini.	2	-2449	-15288	27616	SLV 1	1.81	Si
fin.	2	-1082	62780	27616	SLV 1	0.44	No
ini.	2	2049	-63232	27616	SLV 13	0.44	No
fin.	2	893	292	27616	SLV 13	94.57	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-32214	1644			419	158	SLV 11	0.1	No
fin.	2	0	3270	2084			419	158	SLV 11	0.08	No
ini.	2	0	-32214	1644			419	158	SLV 12	0.1	No
fin.	2	0	3270	2084			419	158	SLV 12	0.08	No
ini.	2	0	-34549	1451			419	158	SLD 11	0.11	No
fin.	2	0	16327	1574			419	158	SLD 11	0.1	No
ini.	2	0	-56661	1558			419	158	SLV 15	0.1	No
fin.	2	0	-8428	1859			419	158	SLV 15	0.08	No
ini.	2	0	-56661	1558			419	158	SLV 16	0.1	No
fin.	2	0	-8428	1859			419	158	SLV 16	0.08	No
ini.	2	0	-34549	1451			419	158	SLD 12	0.11	No
fin.	2	0	16327	1574			419	158	SLD 12	0.1	No
ini.	2	0	-17831	1545			419	158	SLV 7	0.1	No
fin.	2	0	22016	1831			419	158	SLV 7	0.09	No
ini.	2	0	-44823	1415			419	158	SLD 16	0.11	No
fin.	2	0	11797	1485			419	158	SLD 16	0.11	No
ini.	2	0	-17831	1545			419	158	SLV 8	0.1	No
fin.	2	0	22016	1831			419	158	SLV 8	0.09	No
ini.	2	0	-44823	1415			419	158	SLD 15	0.11	No
fin.	2	0	11797	1485			419	158	SLD 15	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.437	SLV 13	No
V_SLV	0.076	SLV 11	No
PF_SLU	0.139	SLU 71	No
V_SLU	0.022	SLU 80	No

Trave di accoppiamento 171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	1250	1340	90	-296.3	595.1	1250	1340	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{medio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1065	-20788	103792	SLU 79	4.99	Si
fin.	3	566	9015	103792	SLU 79	11.51	Si
ini.	3	1003	-19121	103792	SLU 36	5.43	Si
fin.	3	560	7844	103792	SLU 36	13.23	Si
ini.	3	1055	-19332	103792	SLU 71	5.37	Si
fin.	3	629	6269	103792	SLU 71	16.56	Si
ini.	3	1063	-21083	103792	SLU 80	4.92	Si
fin.	3	546	9606	103792	SLU 80	10.8	Si
ini.	3	1052	-20259	103792	SLU 77	5.12	Si
fin.	3	540	9629	103792	SLU 77	10.78	Si
ini.	3	1039	-19098	103792	SLU 70	5.43	Si
fin.	3	583	7474	103792	SLU 70	13.89	Si
ini.	3	1019	-19355	103792	SLU 37	5.36	Si
fin.	3	607	6640	103792	SLU 37	15.63	Si
ini.	3	1053	-19627	103792	SLU 72	5.29	Si
fin.	3	609	6861	103792	SLU 72	15.13	Si
ini.	3	1049	-20554	103792	SLU 78	5.05	Si
fin.	3	520	10220	103792	SLU 78	10.16	Si
ini.	3	1017	-19651	103792	SLU 38	5.28	Si
fin.	3	587	7231	103792	SLU 38	14.35	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-21083	747			970	365	SLU 80	0.49	No
fin.	3	0	9606	421			970	365	SLU 80	0.87	No
ini.	3	0	-11330	498			970	365	SLU 52	0.73	No
fin.	3	0	15245	763			970	365	SLU 52	0.48	No
ini.	3	0	-9382	304			970	365	SLU 43	1.2	Si
fin.	3	0	11514	729			970	365	SLU 43	0.5	No
ini.	3	0	-11463	529			970	365	SLU 60	0.69	No
fin.	3	0	15437	736			970	365	SLU 60	0.5	No
ini.	3	0	-20788	725			970	365	SLU 79	0.5	No
fin.	3	0	9015	404			970	365	SLU 79	0.91	No
ini.	3	0	-18121	756			970	365	SLU 84	0.48	No
fin.	3	0	13939	571			970	365	SLU 84	0.64	No
ini.	3	0	-17826	734			970	365	SLU 83	0.5	No
fin.	3	0	13348	554			970	365	SLU 83	0.66	No
ini.	3	0	-11758	551			970	365	SLU 61	0.66	No
fin.	3	0	16028	753			970	365	SLU 61	0.48	No
ini.	3	0	-14106	645			970	365	SLU 73	0.57	No
fin.	3	0	16312	728			970	365	SLU 73	0.5	No
ini.	3	0	-9873	341			970	365	SLU 44	1.07	Si
fin.	3	0	12499	757			970	365	SLU 44	0.48	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1355	-41545	121694	SLV 13	2.93	Si
fin.	2	-1646	39255	121694	SLV 13	3.1	Si
ini.	2	-909	33021	121694	SLV 1	3.69	Si
fin.	2	1991	-28210	121694	SLV 1	4.31	Si
ini.	2	-909	33021	121694	SLV 2	3.69	Si
fin.	2	1991	-28210	121694	SLV 2	4.31	Si
ini.	2	1607	-51337	121694	SLV 16	2.37	Si
fin.	2	-2066	48665	121694	SLV 16	2.5	Si
ini.	2	1355	-41545	121694	SLV 14	2.93	Si
fin.	2	-1646	39255	121694	SLV 14	3.1	Si
ini.	2	1607	-51337	121694	SLV 15	2.37	Si
fin.	2	-2066	48665	121694	SLV 15	2.5	Si
ini.	2	1110	-36664	121694	SLV 11	3.32	Si
fin.	2	-1284	36031	121694	SLV 11	3.38	Si
ini.	2	887	-27192	121694	SLD 16	4.48	Si
fin.	2	-904	26601	121694	SLD 16	4.57	Si
ini.	2	887	-27192	121694	SLD 15	4.48	Si
fin.	2	-904	26601	121694	SLD 15	4.57	Si
ini.	2	1110	-36664	121694	SLV 12	3.32	Si
fin.	2	-1284	36031	121694	SLV 12	3.38	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	23229	-1677			1456	548	SLV 4	0.33	No
fin.	2	0	-18800	-1099			1456	548	SLV 4	0.5	No
ini.	2	0	-41545	2396			1456	548	SLV 14	0.23	No
fin.	2	0	39255	2185			1456	548	SLV 14	0.25	No
ini.	2	0	-41545	2396			1456	548	SLV 13	0.23	No
fin.	2	0	39255	2185			1456	548	SLV 13	0.25	No
ini.	2	0	-36664	1936			1456	548	SLV 12	0.28	No
fin.	2	0	36031	2135			1456	548	SLV 12	0.26	No
ini.	2	0	-51337	2927			1456	548	SLV 15	0.19	No
fin.	2	0	48665	2790			1456	548	SLV 15	0.2	No
ini.	2	0	33021	-2208			1456	548	SLV 1	0.25	No
fin.	2	0	-28210	-1704			1456	548	SLV 1	0.32	No
ini.	2	0	-36664	1936			1456	548	SLV 11	0.28	No
fin.	2	0	36031	2135			1456	548	SLV 11	0.26	No
ini.	2	0	-51337	2927			1456	548	SLV 16	0.19	No
fin.	2	0	48665	2790			1456	548	SLV 16	0.2	No
ini.	2	0	33021	-2208			1456	548	SLV 2	0.25	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-28210	-1704			1456	548	SLV 2	0.32	No
ini.	2	0	23229	-1677			1456	548	SLV 3	0.33	No
fin.	2	0	-18800	-1099			1456	548	SLV 3	0.5	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.37	SLV 15	Si
V_SLV	0.187	SLV 15	No
PF_SLU	4.923	SLU 80	Si
V_SLU	0.479	SLU 52	No

Trave di accoppiamento 172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	1520	1566	46	-296.3	595.1	1520	1566	46	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-322	-27262	30060	SLU 69	1.1	Si
fin.	3	-297	19887	30060	SLU 69	1.51	Si
ini.	3	-448	-29535	30060	SLU 78	1.02	Si
fin.	3	-424	21399	30060	SLU 78	1.4	Si
ini.	3	-334	-29151	30060	SLU 79	1.03	Si
fin.	3	-307	22370	30060	SLU 79	1.34	Si
ini.	3	-319	-27859	30060	SLU 72	1.08	Si
fin.	3	-293	21271	30060	SLU 72	1.41	Si
ini.	3	-372	-27725	30060	SLU 38	1.08	Si
fin.	3	-347	21119	30060	SLU 38	1.42	Si
ini.	3	-378	-27753	30060	SLU 70	1.08	Si
fin.	3	-353	20094	30060	SLU 70	1.5	Si
ini.	3	-393	-29044	30060	SLU 77	1.03	Si
fin.	3	-367	21192	30060	SLU 77	1.42	Si
ini.	3	-264	-27369	30060	SLU 71	1.1	Si
fin.	3	-236	21065	30060	SLU 71	1.43	Si
ini.	3	-431	-27618	30060	SLU 36	1.09	Si
fin.	3	-407	19941	30060	SLU 36	1.51	Si
ini.	3	-389	-29642	30060	SLU 80	1.01	Si
fin.	3	-363	22576	30060	SLU 80	1.33	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-29044	1081			331	124	SLU 77	0.12	No
fin.	3	0	21192	21			331	124	SLU 77	5.85	Si
ini.	3	0	-27369	981			331	124	SLU 71	0.13	No
fin.	3	0	21065	106			331	124	SLU 71	1.17	Si
ini.	3	0	-29151	1015			331	124	SLU 79	0.12	No
fin.	3	0	22370	140			331	124	SLU 79	0.89	No
ini.	3	0	-25604	984			331	124	SLU 57	0.13	No
fin.	3	0	18530	-8			331	124	SLU 57	15.1	Si
ini.	3	0	-27262	1046			331	124	SLU 69	0.12	No
fin.	3	0	19887	-13			331	124	SLU 69	9.91	Si
ini.	3	0	-27753	1054			331	124	SLU 70	0.12	No
fin.	3	0	20094	-6			331	124	SLU 70	20.6	Si
ini.	3	0	-29535	1089			331	124	SLU 78	0.11	No
fin.	3	0	21399	28			331	124	SLU 78	4.47	Si
ini.	3	0	-29642	1023			331	124	SLU 80	0.12	No
fin.	3	0	22576	146			331	124	SLU 80	0.85	No
ini.	3	0	-27859	989			331	124	SLU 72	0.13	No
fin.	3	0	21271	113			331	124	SLU 72	1.1	Si
ini.	3	0	-27618	978			331	124	SLU 36	0.13	No
fin.	3	0	19941	50			331	124	SLU 36	2.47	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	61	-33039	44694	SLV 15	1.35	Si
fin.	2	-728	8748	44694	SLV 15	5.11	Si
ini.	2	-78	-21252	44694	SLD 16	2.1	Si
fin.	2	-410	9044	44694	SLD 16	4.94	Si
ini.	2	653	-22371	44694	SLV 12	2	Si
fin.	2	439	11351	44694	SLV 12	3.94	Si
ini.	2	-441	-30600	44694	SLV 13	1.46	Si
fin.	2	-1242	7301	44694	SLV 13	6.12	Si
ini.	2	653	-22371	44694	SLV 11	2	Si
fin.	2	439	11351	44694	SLV 11	3.94	Si
ini.	2	-285	-20115	44694	SLD 14	2.22	Si
fin.	2	-622	8372	44694	SLD 14	5.34	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-285	-20115	44694	SLD 13	2.22	Si
fin.	2	-622	8372	44694	SLD 13	5.34	Si
ini.	2	61	-33039	44694	SLV 16	1.35	Si
fin.	2	-728	8748	44694	SLV 16	5.11	Si
ini.	2	-78	-21252	44694	SLD 15	2.1	Si
fin.	2	-410	9044	44694	SLD 15	4.94	Si
ini.	2	-441	-30600	44694	SLV 14	1.46	Si
fin.	2	-1242	7301	44694	SLV 14	6.12	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-20115	678			496	187	SLD 13	0.28	No
fin.	2	0	8372	157			496	187	SLD 13	1.19	Si
ini.	2	0	-30600	881			496	187	SLV 13	0.21	No
fin.	2	0	7301	385			496	187	SLV 13	0.48	No
ini.	2	0	-33039	941			496	187	SLV 15	0.2	No
fin.	2	0	8748	537			496	187	SLV 15	0.35	No
ini.	2	0	-21252	704			496	187	SLD 16	0.27	No
fin.	2	0	9044	220			496	187	SLD 16	0.85	No
ini.	2	0	-22371	743			496	187	SLV 12	0.25	No
fin.	2	0	11351	381			496	187	SLV 12	0.49	No
ini.	2	0	-33039	941			496	187	SLV 16	0.2	No
fin.	2	0	8748	537			496	187	SLV 16	0.35	No
ini.	2	0	-20115	678			496	187	SLD 14	0.28	No
fin.	2	0	8372	157			496	187	SLD 14	1.19	Si
ini.	2	0	-30600	881			496	187	SLV 14	0.21	No
fin.	2	0	7301	385			496	187	SLV 14	0.48	No
ini.	2	0	-22371	743			496	187	SLV 11	0.25	No
fin.	2	0	11351	381			496	187	SLV 11	0.49	No
ini.	2	0	-21252	704			496	187	SLD 15	0.27	No
fin.	2	0	9044	220			496	187	SLD 15	0.85	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		1.353	SLV 15	Si
V_SLV		0.198	SLV 15	No
PF_SLU		1.014	SLU 80	Si
V_SLU		0.114	SLU 78	No

Trave di accoppiamento 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1705.3	-486.2	1462	1499.9	37.9	-1705.3	-377.2	1462	1550.3	88.3	109	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	105	1087	21841	SLU 65	20.1	Si
fin.	3	-227	26241	104315	SLU 65	3.98	Si
ini.	3	-131	329	21841	SLU 8	66.38	Si
fin.	3	37	-26596	104315	SLU 8	3.92	Si
ini.	3	130	1078	21841	SLU 73	20.25	Si
fin.	3	-259	31292	104315	SLU 73	3.33	Si
ini.	3	109	953	21841	SLU 2	22.91	Si
fin.	3	-205	27215	104315	SLU 2	3.83	Si
ini.	3	-136	463	21841	SLU 71	47.21	Si
fin.	3	15	-27569	104315	SLU 71	3.78	Si
ini.	3	133	807	21841	SLU 31	27.05	Si
fin.	3	-252	30912	104315	SLU 31	3.37	Si
ini.	3	107	1224	21841	SLU 44	17.84	Si
fin.	3	-212	27595	104315	SLU 44	3.78	Si
ini.	3	-133	192	21841	SLU 29	114	Si
fin.	3	22	-27950	104315	SLU 29	3.73	Si
ini.	3	132	1216	21841	SLU 52	17.96	Si
fin.	3	-245	32645	104315	SLU 52	3.2	Si
ini.	3	135	945	21841	SLU 10	23.12	Si
fin.	3	-238	32265	104315	SLU 10	3.23	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	1216	539			292	110	SLU 52	0.2	No
fin.	3	0	32645	-6			826	311	SLU 52	49.57	Si
ini.	3	0	870	473			292	110	SLU 76	0.23	No
fin.	3	0	18134	-138			826	311	SLU 76	2.25	Si
ini.	3	0	807	507			292	110	SLU 31	0.22	No
fin.	3	0	30912	26			826	311	SLU 31	11.98	Si
ini.	3	0	1007	464			292	110	SLU 55	0.24	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	19487	-120			826	311	SLU 55	2.58	Si
ini.	3	0	1087	495			292	110	SLU 65	0.22	No
fin.	3	0	26241	-61			826	311	SLU 65	5.13	Si
ini.	3	0	1224	485			292	110	SLU 44	0.23	No
fin.	3	0	27595	-43			826	311	SLU 44	7.27	Si
ini.	3	0	945	497			292	110	SLU 10	0.22	No
fin.	3	0	32265	44			826	311	SLU 10	7.1	Si
ini.	3	0	816	453			292	110	SLU 23	0.24	No
fin.	3	0	25861	-11			826	311	SLU 23	29.52	Si
ini.	3	0	1078	549			292	110	SLU 73	0.2	No
fin.	3	0	31292	-24			826	311	SLU 73	12.88	Si
ini.	3	0	992	455			292	110	SLU 82	0.24	No
fin.	3	0	22458	-86			826	311	SLU 82	3.6	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	660	-20375	32761	SLV 9	1.61	Si
fin.	2	-1697	145420	121024	SLV 9	0.83	No
ini.	2	-939	22164	32761	SLV 11	1.48	Si
fin.	2	1313	-142392	121024	SLV 11	0.85	No
ini.	2	-667	21784	32761	SLV 8	1.5	Si
fin.	2	1590	-143867	121024	SLV 8	0.84	No
ini.	2	255	-7572	32761	SLD 10	4.33	Si
fin.	2	-706	57666	121024	SLD 10	2.1	Si
ini.	2	660	-20375	32761	SLV 10	1.61	Si
fin.	2	-1697	145420	121024	SLV 10	0.83	No
ini.	2	255	-7572	32761	SLD 9	4.33	Si
fin.	2	-706	57666	121024	SLD 9	2.1	Si
ini.	2	-667	21784	32761	SLV 7	1.5	Si
fin.	2	1590	-143867	121024	SLV 7	0.84	No
ini.	2	932	-20755	32761	SLV 6	1.58	Si
fin.	2	-1420	143944	121024	SLV 6	0.84	No
ini.	2	932	-20755	32761	SLV 5	1.58	Si
fin.	2	-1420	143944	121024	SLV 5	0.84	No
ini.	2	-939	22164	32761	SLV 12	1.48	Si
fin.	2	1313	-142392	121024	SLV 12	0.85	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	6453	1215			438	165	SLV 4	0.14	No
fin.	2	0	-44854	-542			1238	466	SLV 4	0.86	No
ini.	2	0	-20375	-1956			438	165	SLV 10	0.08	No
fin.	2	0	145420	1069			1238	466	SLV 10	0.44	No
ini.	2	0	-20755	-1687			438	165	SLV 6	0.1	No
fin.	2	0	143944	1080			1238	466	SLV 6	0.43	No
ini.	2	0	6453	1215			438	165	SLV 3	0.14	No
fin.	2	0	-44854	-542			1238	466	SLV 3	0.86	No
ini.	2	0	-20375	-1956			438	165	SLV 9	0.08	No
fin.	2	0	145420	1069			1238	466	SLV 9	0.44	No
ini.	2	0	22164	2024			438	165	SLV 12	0.08	No
fin.	2	0	-142392	-1444			1238	466	SLV 12	0.32	No
ini.	2	0	22164	2024			438	165	SLV 11	0.08	No
fin.	2	0	-142392	-1444			1238	466	SLV 11	0.32	No
ini.	2	0	21784	2293			438	165	SLV 8	0.07	No
fin.	2	0	-143867	-1433			1238	466	SLV 8	0.33	No
ini.	2	0	21784	2293			438	165	SLV 7	0.07	No
fin.	2	0	-143867	-1433			1238	466	SLV 7	0.33	No
ini.	2	0	-20755	-1687			438	165	SLV 5	0.1	No
fin.	2	0	143944	1080			1238	466	SLV 5	0.43	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.832	SLV 9	No
V_SLV	0.072	SLV 7	No
PF_SLU	3.195	SLU 52	Si
V_SLU	0.2	SLU 73	No

Trave di accoppiamento 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1543.3	-335.9	1460	1569.2	109.2	-1633.3	-335.9	1460	1569.3	109.3	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _w	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1020	-25088	137383	SLU 61	5.48	Si
fin.	3	-1019	28522	137500	SLU 61	4.82	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1275	-19782	137383	SLU 74	6.94	Si
fin.	3	-1273	27754	137500	SLU 74	4.95	Si
ini.	3	-1232	-26920	137383	SLU 81	5.1	Si
fin.	3	-1231	32424	137500	SLU 81	4.24	Si
ini.	3	-1023	-22115	137383	SLU 64	6.21	Si
fin.	3	-1022	27558	137500	SLU 64	4.99	Si
ini.	3	-1226	-27765	137383	SLU 82	4.95	Si
fin.	3	-1225	31534	137500	SLU 82	4.36	Si
ini.	3	-1098	-23141	137383	SLU 39	5.94	Si
fin.	3	-1097	27554	137500	SLU 39	4.99	Si
ini.	3	-1025	-24243	137383	SLU 60	5.67	Si
fin.	3	-1026	29413	137500	SLU 60	4.67	Si
ini.	3	-1159	-26887	137383	SLU 73	5.11	Si
fin.	3	-1158	29480	137500	SLU 73	4.66	Si
ini.	3	-1270	-20627	137383	SLU 75	6.66	Si
fin.	3	-1267	26864	137500	SLU 75	5.12	Si
ini.	3	-1289	-20143	137383	SLU 83	6.82	Si
fin.	3	-1286	27530	137500	SLU 83	4.99	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-13850	1328			1177	443	SLU 78	0.33	No
fin.	3	0	21970	-476			1178	443	SLU 78	0.93	No
ini.	3	0	-20627	1314			1177	443	SLU 75	0.34	No
fin.	3	0	26864	-231			1178	443	SLU 75	1.92	Si
ini.	3	0	-12769	1267			1177	443	SLU 80	0.35	No
fin.	3	0	20285	-463			1178	443	SLU 80	0.96	No
ini.	3	0	-19782	1314			1177	443	SLU 74	0.34	No
fin.	3	0	27754	-230			1178	443	SLU 74	1.93	Si
ini.	3	0	-27765	1270			1177	443	SLU 82	0.35	No
fin.	3	0	31534	61			1178	443	SLU 82	7.29	Si
ini.	3	0	-13005	1329			1177	443	SLU 77	0.33	No
fin.	3	0	22860	-476			1178	443	SLU 77	0.93	No
ini.	3	0	-20988	1284			1177	443	SLU 84	0.35	No
fin.	3	0	26639	-185			1178	443	SLU 84	2.4	Si
ini.	3	0	-20143	1284			1177	443	SLU 83	0.34	No
fin.	3	0	27530	-184			1178	443	SLU 83	2.41	Si
ini.	3	0	-11924	1267			1177	443	SLU 79	0.35	No
fin.	3	0	21176	-462			1178	443	SLU 79	0.96	No
ini.	3	0	-26920	1270			1177	443	SLU 81	0.35	No
fin.	3	0	32424	61			1178	443	SLU 81	7.21	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	254	-65358	155285	SLV 16	2.38	Si
fin.	2	188	84539	155403	SLV 16	1.84	Si
ini.	2	-162	35583	155285	SLV 4	4.36	Si
fin.	2	-296	-74345	155403	SLV 4	2.09	Si
ini.	2	-1404	-70352	155285	SLV 14	2.21	Si
fin.	2	-1270	117364	155403	SLV 14	1.32	Si
ini.	2	-3485	-40849	155285	SLV 9	3.8	Si
fin.	2	-3139	100051	155403	SLV 9	1.55	Si
ini.	2	-1036	-39661	155285	SLD 13	3.92	Si
fin.	2	-975	61986	155403	SLD 13	2.51	Si
ini.	2	-1036	-39661	155285	SLD 14	3.92	Si
fin.	2	-975	61986	155403	SLD 14	2.51	Si
ini.	2	-1404	-70352	155285	SLV 13	2.21	Si
fin.	2	-1270	117364	155403	SLV 13	1.32	Si
ini.	2	-162	35583	155285	SLV 3	4.36	Si
fin.	2	-296	-74345	155403	SLV 3	2.09	Si
ini.	2	-3485	-40849	155285	SLV 10	3.8	Si
fin.	2	-3139	100051	155403	SLV 10	1.55	Si
ini.	2	254	-65358	155285	SLV 15	2.38	Si
fin.	2	188	84539	155403	SLV 15	1.84	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	35583	-909			1766	665	SLV 3	0.73	No
fin.	2	0	-74345	-1809			1767	665	SLV 3	0.37	No
ini.	2	0	-65358	2071			1766	665	SLV 16	0.32	No
fin.	2	0	84539	1170			1767	665	SLV 16	0.57	No
ini.	2	0	-70352	2679			1766	665	SLV 14	0.25	No
fin.	2	0	117364	1781			1767	665	SLV 14	0.37	No
ini.	2	0	-70352	2679			1766	665	SLV 13	0.25	No
fin.	2	0	117364	1781			1767	665	SLV 13	0.37	No
ini.	2	0	-39661	1641			1766	665	SLD 14	0.41	No
fin.	2	0	61986	743			1767	665	SLD 14	0.9	No
ini.	2	0	35583	-909			1766	665	SLV 4	0.73	No
fin.	2	0	-74345	-1809			1767	665	SLV 4	0.37	No
ini.	2	0	-65358	2071			1766	665	SLV 15	0.32	No
fin.	2	0	84539	1170			1767	665	SLV 15	0.57	No
ini.	2	0	-40849	2345			1766	665	SLV 9	0.28	No
fin.	2	0	100051	1453			1767	665	SLV 9	0.46	No
ini.	2	0	-39661	1641			1766	665	SLD 13	0.41	No
fin.	2	0	61986	743			1767	665	SLD 13	0.9	No
ini.	2	0	-40849	2345			1766	665	SLV 10	0.28	No
fin.	2	0	100051	1453			1767	665	SLV 10	0.46	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		1.324	SLV 13
V_SLV		0.248	SLV 13
PF_SLU		4.241	SLU 81
V_SLU		0.334	SLU 77

Trave di accoppiamento 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1443.8	-485.9	1462	1499.8	37.8	-1627.8	-485.9	1462	1500	38	184	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	66	-11687	21786	SLU 47	1.86	Si
fin.	3	59	-334	21944	SLU 47	65.66	Si
ini.	3	40	-11379	21786	SLU 46	1.91	Si
fin.	3	35	-344	21944	SLU 46	63.78	Si
ini.	3	23	-12435	21786	SLU 43	1.75	Si
fin.	3	24	1624	21944	SLU 43	13.51	Si
ini.	3	99	-10751	21786	SLU 2	2.03	Si
fin.	3	96	1868	21944	SLU 2	11.75	Si
ini.	3	95	-12232	21786	SLU 65	1.78	Si
fin.	3	90	563	21944	SLU 65	39	Si
ini.	3	-10	-10369	21786	SLU 45	2.1	Si
fin.	3	-14	-1077	21944	SLU 45	20.38	Si
ini.	3	101	-11715	21786	SLU 52	1.86	Si
fin.	3	99	363	21944	SLU 52	60.49	Si
ini.	3	-88	82	21786	SLU 37	264.26	Si
fin.	3	-101	-10475	21944	SLU 37	2.09	Si
ini.	3	108	-14118	21786	SLU 44	1.54	Si
fin.	3	106	2845	21944	SLU 44	7.71	Si
ini.	3	10	-10549	21786	SLU 64	2.07	Si
fin.	3	8	-658	21944	SLU 64	33.34	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-5688	242			291	110	SLU 71	0.45	No
fin.	3	0	-7016	-286			292	110	SLU 71	0.39	No
ini.	3	0	-3285	216			291	110	SLU 79	0.51	No
fin.	3	0	-9498	-313			292	110	SLU 79	0.35	No
ini.	3	0	-4659	226			291	110	SLU 78	0.48	No
fin.	3	0	-8287	-294			292	110	SLU 78	0.37	No
ini.	3	0	-12435	283			291	110	SLU 43	0.39	No
fin.	3	0	1624	-145			292	110	SLU 43	0.76	No
ini.	3	0	-4294	224			291	110	SLU 80	0.49	No
fin.	3	0	-8766	-303			292	110	SLU 80	0.36	No
ini.	3	0	-3649	218			291	110	SLU 77	0.5	No
fin.	3	0	-9020	-304			292	110	SLU 77	0.36	No
ini.	3	0	-11687	284			291	110	SLU 47	0.39	No
fin.	3	0	-334	-183			292	110	SLU 47	0.6	No
ini.	3	0	-14118	297			291	110	SLU 44	0.37	No
fin.	3	0	2845	-129			292	110	SLU 44	0.85	No
ini.	3	0	82	147			291	110	SLU 37	0.75	No
fin.	3	0	-10475	-288			292	110	SLU 37	0.38	No
ini.	3	0	-12232	282			291	110	SLU 65	0.39	No
fin.	3	0	563	-162			292	110	SLU 65	0.68	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-307	59730	32678	SLV 2	0.55	No
fin.	2	-352	-65096	32916	SLV 2	0.51	No
ini.	2	447	-68836	32678	SLV 11	0.47	No
fin.	2	358	57856	32916	SLV 11	0.57	No
ini.	2	99	-48566	32678	SLV 14	0.67	No
fin.	2	209	37786	32916	SLV 14	0.87	No
ini.	2	-307	59730	32678	SLV 1	0.55	No
fin.	2	-352	-65096	32916	SLV 1	0.51	No
ini.	2	325	-75416	32678	SLV 15	0.43	No
fin.	2	368	63669	32916	SLV 15	0.52	No
ini.	2	447	-68836	32678	SLV 12	0.47	No
fin.	2	358	57856	32916	SLV 12	0.57	No
ini.	2	325	-75416	32678	SLV 16	0.43	No
fin.	2	368	63669	32916	SLV 16	0.52	No
ini.	2	-429	53151	32678	SLV 5	0.61	No
fin.	2	-342	-59284	32916	SLV 5	0.56	No
ini.	2	-429	53151	32678	SLV 6	0.61	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-342	-59284	32916	SLV 6	0.56	No
ini.	2	99	-48566	32678	SLV 13	0.67	No
fin.	2	209	37786	32916	SLV 13	0.87	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	59730	-544			437	164	SLV 1	0.3	No
fin.	2	0	-65096	-826			439	165	SLV 1	0.2	No
ini.	2	0	53151	-480			437	164	SLV 5	0.34	No
fin.	2	0	-59284	-743			439	165	SLV 5	0.22	No
ini.	2	0	-48566	645			437	164	SLV 14	0.25	No
fin.	2	0	37786	288			439	165	SLV 14	0.57	No
ini.	2	0	-75416	948			437	164	SLV 16	0.17	No
fin.	2	0	63669	551			439	165	SLV 16	0.3	No
ini.	2	0	-75416	948			437	164	SLV 15	0.17	No
fin.	2	0	63669	551			439	165	SLV 15	0.3	No
ini.	2	0	-68836	884			437	164	SLV 12	0.19	No
fin.	2	0	57856	468			439	165	SLV 12	0.35	No
ini.	2	0	-68836	884			437	164	SLV 11	0.19	No
fin.	2	0	57856	468			439	165	SLV 11	0.35	No
ini.	2	0	59730	-544			437	164	SLV 2	0.3	No
fin.	2	0	-65096	-826			439	165	SLV 2	0.2	No
ini.	2	0	-48566	645			437	164	SLV 13	0.25	No
fin.	2	0	37786	288			439	165	SLV 13	0.57	No
ini.	2	0	53151	-480			437	164	SLV 6	0.34	No
fin.	2	0	-59284	-743			439	165	SLV 6	0.22	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.433	SLV 15	No
V_SLV	0.174	SLV 15	No
PF_SLU	1.543	SLU 44	Si
V_SLU	0.352	SLU 79	No

Trave di accoppiamento 176

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-867.8	-485.9	1462	1499.4	37.4	-1051.8	-485.9	1462	1499.5	37.5	184	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _u	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	257	-7018	21293	SLU 78	3.03	Si
fin.	3	121	-960	21449	SLU 78	22.35	Si
ini.	3	201	-6988	21293	SLU 41	3.05	Si
fin.	3	-31	464	21449	SLU 41	46.19	Si
ini.	3	203	-7196	21293	SLU 77	2.96	Si
fin.	3	45	-489	21449	SLU 77	43.87	Si
ini.	3	255	-6810	21293	SLU 42	3.13	Si
fin.	3	45	-6	21449	SLU 42	3329.33	Si
ini.	3	200	-7801	21293	SLU 35	2.73	Si
fin.	3	-75	751	21449	SLU 35	28.55	Si
ini.	3	206	-7612	21293	SLU 79	2.8	Si
fin.	3	20	-268	21449	SLU 79	80.12	Si
ini.	3	253	-7623	21293	SLU 36	2.79	Si
fin.	3	1	280	21449	SLU 36	76.48	Si
ini.	3	203	-8217	21293	SLU 37	2.59	Si
fin.	3	-100	972	21449	SLU 37	22.06	Si
ini.	3	256	-8039	21293	SLU 38	2.65	Si
fin.	3	-24	502	21449	SLU 38	42.76	Si
ini.	3	260	-7434	21293	SLU 80	2.86	Si
fin.	3	96	-739	21449	SLU 80	29.04	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-6205	156			288	108	SLU 84	0.7	No
fin.	3	0	-1247	-41			289	109	SLU 84	2.65	Si
ini.	3	0	-7434	160			288	108	SLU 80	0.68	No
fin.	3	0	-739	-55			289	109	SLU 80	1.96	Si
ini.	3	0	-7612	156			288	108	SLU 79	0.69	No
fin.	3	0	-268	-64			289	109	SLU 79	1.69	Si
ini.	3	0	-6383	152			288	108	SLU 83	0.71	No
fin.	3	0	-776	-50			289	109	SLU 83	2.18	Si
ini.	3	0	-5114	155			288	108	SLU 76	0.7	No
fin.	3	0	-2112	-29			289	109	SLU 76	3.75	Si
ini.	3	0	-7018	159			288	108	SLU 78	0.68	No
fin.	3	0	-960	-52			289	109	SLU 78	2.1	Si



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-5355	152			288	108	SLU 57	0.71	No
fin.	3	0	-1753	-39			289	109	SLU 57	2.78	Si
ini.	3	0	-5165	152			288	108	SLU 72	0.71	No
fin.	3	0	-2026	-41			289	109	SLU 72	2.64	Si
ini.	3	0	-7196	155			288	108	SLU 77	0.7	No
fin.	3	0	-489	-61			289	109	SLU 77	1.79	Si
ini.	3	0	-5771	153			288	108	SLU 59	0.71	No
fin.	3	0	-1531	-43			289	109	SLU 59	2.55	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1009	43801	31939	SLV 3	0.73	No
fin.	2	-1922	11517	32174	SLV 3	2.79	Si
ini.	2	835	-35757	31939	SLV 16	0.89	No
fin.	2	2619	-28336	32174	SLV 16	1.14	Si
ini.	2	930	-29704	31939	SLV 9	1.08	Si
fin.	2	667	10641	32174	SLV 9	3.02	Si
ini.	2	835	-35757	31939	SLV 15	0.89	No
fin.	2	2619	-28336	32174	SLV 15	1.14	Si
ini.	2	1176	-45815	31939	SLV 13	0.7	No
fin.	2	2452	-16784	32174	SLV 13	1.92	Si
ini.	2	930	-29704	31939	SLV 10	1.08	Si
fin.	2	667	10641	32174	SLV 10	3.02	Si
ini.	2	-667	33743	31939	SLV 1	0.95	No
fin.	2	-2089	23069	32174	SLV 1	1.39	Si
ini.	2	1176	-45815	31939	SLV 14	0.7	No
fin.	2	2452	-16784	32174	SLV 14	1.92	Si
ini.	2	-667	33743	31939	SLV 2	0.95	No
fin.	2	-2089	23069	32174	SLV 2	1.39	Si
ini.	2	-1009	43801	31939	SLV 4	0.73	No
fin.	2	-1922	11517	32174	SLV 4	2.79	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-35757	181			432	163	SLV 16	0.9	No
fin.	2	0	-28336	-262			434	163	SLV 16	0.62	No
ini.	2	0	43801	71			432	163	SLV 3	2.28	Si
fin.	2	0	11517	356			434	163	SLV 3	0.46	No
ini.	2	0	27691	164			432	163	SLV 8	0.99	No
fin.	2	0	-15908	270			434	163	SLV 8	0.61	No
ini.	2	0	-35757	181			432	163	SLV 15	0.9	No
fin.	2	0	-28336	-262			434	163	SLV 15	0.62	No
ini.	2	0	43801	71			432	163	SLV 4	2.28	Si
fin.	2	0	11517	356			434	163	SLV 4	0.46	No
ini.	2	0	-29704	41			432	163	SLV 10	3.95	Si
fin.	2	0	10641	-286			434	163	SLV 10	0.57	No
ini.	2	0	-45815	134			432	163	SLV 14	1.21	Si
fin.	2	0	-16784	-373			434	163	SLV 14	0.44	No
ini.	2	0	27691	164			432	163	SLV 7	0.99	No
fin.	2	0	-15908	270			434	163	SLV 7	0.61	No
ini.	2	0	-29704	41			432	163	SLV 9	3.95	Si
fin.	2	0	10641	-286			434	163	SLV 9	0.57	No
ini.	2	0	-45815	134			432	163	SLV 13	1.21	Si
fin.	2	0	-16784	-373			434	163	SLV 13	0.44	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.697	SLV 13	No
V_SLV	0.438	SLV 13	No
PF_SLU	2.591	SLU 37	Si
V_SLU	0.677	SLU 80	No

Trave di accoppiamento 177

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-854.8	-335.9	1460	1568.7	108.7	-944.8	-335.9	1460	1568.8	108.8	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1122	25695	136538	SLU 61	5.31	Si
fin.	3	-1126	-19756	136656	SLU 61	6.92	Si
ini.	3	-1331	26357	136538	SLU 83	5.18	Si
fin.	3	-1337	-17197	136656	SLU 83	7.95	Si
ini.	3	-1105	26498	136538	SLU 60	5.15	Si
fin.	3	-1108	-18794	136656	SLU 60	7.27	Si
ini.	3	-1191	26141	136538	SLU 39	5.22	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1195	-19572	136656	SLU 39	6.98	Si
ini.	3	-1355	26091	136538	SLU 75	5.23	Si
fin.	3	-1361	-17146	136656	SLU 75	7.97	Si
ini.	3	-1338	26894	136538	SLU 74	5.08	Si
fin.	3	-1343	-16184	136656	SLU 74	8.44	Si
ini.	3	-1348	25554	136538	SLU 84	5.34	Si
fin.	3	-1355	-18160	136656	SLU 84	7.53	Si
ini.	3	-1282	27449	136538	SLU 73	4.97	Si
fin.	3	-1288	-22216	136656	SLU 73	6.15	Si
ini.	3	-1329	30197	136538	SLU 81	4.52	Si
fin.	3	-1333	-21998	136656	SLU 81	6.21	Si
ini.	3	-1346	29394	136538	SLU 82	4.65	Si
fin.	3	-1351	-22960	136656	SLU 82	5.95	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	22251	567			1172	441	SLU 78	0.78	No
fin.	3	0	-12346	-1300			1173	441	SLU 78	0.34	No
ini.	3	0	20305	528			1172	441	SLU 80	0.84	No
fin.	3	0	-11973	-1211			1173	441	SLU 80	0.36	No
ini.	3	0	19767	641			1172	441	SLU 69	0.69	No
fin.	3	0	-8150	-1225			1173	441	SLU 69	0.36	No
ini.	3	0	25554	245			1172	441	SLU 84	1.8	Si
fin.	3	0	-18160	-1188			1173	441	SLU 84	0.37	No
ini.	3	0	23054	569			1172	441	SLU 77	0.78	No
fin.	3	0	-11383	-1298			1173	441	SLU 77	0.34	No
ini.	3	0	26894	316			1172	441	SLU 74	1.39	Si
fin.	3	0	-16184	-1243			1173	441	SLU 74	0.36	No
ini.	3	0	26091	315			1172	441	SLU 75	1.4	Si
fin.	3	0	-17146	-1245			1173	441	SLU 75	0.35	No
ini.	3	0	21108	530			1172	441	SLU 79	0.83	No
fin.	3	0	-11011	-1209			1173	441	SLU 79	0.36	No
ini.	3	0	18964	639			1172	441	SLU 70	0.69	No
fin.	3	0	-9112	-1227			1173	441	SLU 70	0.36	No
ini.	3	0	26357	247			1172	441	SLU 83	1.79	Si
fin.	3	0	-17197	-1186			1173	441	SLU 83	0.37	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1595	-57594	154441	SLV 15	2.68	Si
fin.	2	-916	41834	154559	SLV 15	3.69	Si
ini.	2	-67	97079	154441	SLV 2	1.59	Si
fin.	2	-752	-69010	154559	SLV 2	2.24	Si
ini.	2	-2265	55817	154441	SLV 8	2.77	Si
fin.	2	-2044	-27623	154559	SLV 8	5.6	Si
ini.	2	-1595	-57594	154441	SLV 16	2.68	Si
fin.	2	-916	41834	154559	SLV 16	3.69	Si
ini.	2	-679	-64681	154441	SLV 13	2.39	Si
fin.	2	-237	40407	154559	SLV 13	3.83	Si
ini.	2	-2265	55817	154441	SLV 7	2.77	Si
fin.	2	-2044	-27623	154559	SLV 7	5.6	Si
ini.	2	-67	97079	154441	SLV 1	1.59	Si
fin.	2	-752	-69010	154559	SLV 1	2.24	Si
ini.	2	-983	104165	154441	SLV 4	1.48	Si
fin.	2	-1431	-67584	154559	SLV 4	2.29	Si
ini.	2	-679	-64681	154441	SLV 14	2.39	Si
fin.	2	-237	40407	154559	SLV 14	3.83	Si
ini.	2	-983	104165	154441	SLV 3	1.48	Si
fin.	2	-1431	-67584	154559	SLV 3	2.29	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-57594	1956			1758	662	SLV 16	0.34	No
fin.	2	0	41834	1159			1760	662	SLV 16	0.57	No
ini.	2	0	104165	-1253			1758	662	SLV 3	0.53	No
fin.	2	0	-67584	-2055			1760	662	SLV 3	0.32	No
ini.	2	0	52766	-752			1758	662	SLD 1	0.88	No
fin.	2	0	-37256	-1594			1760	662	SLD 1	0.42	No
ini.	2	0	-57594	1956			1758	662	SLV 15	0.34	No
fin.	2	0	41834	1159			1760	662	SLV 15	0.57	No
ini.	2	0	104165	-1253			1758	662	SLV 4	0.53	No
fin.	2	0	-67584	-2055			1760	662	SLV 4	0.32	No
ini.	2	0	32196	-1427			1758	662	SLV 6	0.46	No
fin.	2	0	-32379	-2350			1760	662	SLV 6	0.28	No
ini.	2	0	97079	-1851			1758	662	SLV 1	0.36	No
fin.	2	0	-69010	-2710			1760	662	SLV 1	0.24	No
ini.	2	0	97079	-1851			1758	662	SLV 2	0.36	No
fin.	2	0	-69010	-2710			1760	662	SLV 2	0.24	No
ini.	2	0	32196	-1427			1758	662	SLV 5	0.46	No
fin.	2	0	-32379	-2350			1760	662	SLV 5	0.28	No
ini.	2	0	52766	-752			1758	662	SLD 2	0.88	No
fin.	2	0	-37256	-1594			1760	662	SLD 2	0.42	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.483	SLV 3	Si
V_SLV	0.244	SLV 1	No



Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	4.522	SLU 81	Si
V SLU	0.34	SLU 78	No

Trave di accoppiamento 178

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-772.3	-486.1	1462	1499.2	37.2	-772.3	-377.1	1462	1549.6	87.6	109	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	243	1626	21080	SLU 73	12.97	Si
fin.	3	-323	35775	103151	SLU 73	2.88	Si
ini.	3	203	1389	21080	SLU 82	15.17	Si
fin.	3	-282	28284	103151	SLU 82	3.65	Si
ini.	3	221	1412	21080	SLU 10	14.93	Si
fin.	3	-273	33676	103151	SLU 10	3.06	Si
ini.	3	212	1572	21080	SLU 65	13.41	Si
fin.	3	-294	31307	103151	SLU 65	3.29	Si
ini.	3	235	1625	21080	SLU 52	12.97	Si
fin.	3	-297	35181	103151	SLU 52	2.93	Si
ini.	3	229	1413	21080	SLU 31	14.92	Si
fin.	3	-299	34270	103151	SLU 31	3.01	Si
ini.	3	196	1620	21080	SLU 76	13.01	Si
fin.	3	-320	28556	103151	SLU 76	3.61	Si
ini.	3	190	1359	21080	SLU 2	15.52	Si
fin.	3	-244	29208	103151	SLU 2	3.53	Si
ini.	3	204	1572	21080	SLU 44	13.41	Si
fin.	3	-267	30713	103151	SLU 44	3.36	Si
ini.	3	198	1359	21080	SLU 23	15.51	Si
fin.	3	-270	29802	103151	SLU 23	3.46	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	1389	478			287	108	SLU 82	0.23	No
fin.	3	0	28284	-8			813	306	SLU 82	39.27	Si
ini.	3	0	1620	498			287	108	SLU 55	0.22	No
fin.	3	0	27962	-7			813	306	SLU 55	43.93	Si
ini.	3	0	1572	517			287	108	SLU 65	0.21	No
fin.	3	0	31307	14			813	306	SLU 65	22.19	Si
ini.	3	0	1626	569			287	108	SLU 73	0.19	No
fin.	3	0	35775	48			813	306	SLU 73	6.37	Si
ini.	3	0	1572	501			287	108	SLU 44	0.22	No
fin.	3	0	30713	6			813	306	SLU 44	49.28	Si
ini.	3	0	1620	514			287	108	SLU 76	0.21	No
fin.	3	0	28556	1			813	306	SLU 76	499.63	Si
ini.	3	0	1412	508			287	108	SLU 10	0.21	No
fin.	3	0	33676	82			813	306	SLU 10	3.74	Si
ini.	3	0	1413	523			287	108	SLU 31	0.21	No
fin.	3	0	34270	89			813	306	SLU 31	3.43	Si
ini.	3	0	1625	554			287	108	SLU 52	0.19	No
fin.	3	0	35181	40			813	306	SLU 52	7.56	Si
ini.	3	0	1359	471			287	108	SLU 23	0.23	No
fin.	3	0	29802	55			813	306	SLU 23	5.56	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1276	-22570	31621	SLV 5	1.4	Si
fin.	2	-1588	132635	119860	SLV 5	0.9	No
ini.	2	-1141	24023	31621	SLV 11	1.32	Si
fin.	2	1337	-118355	119860	SLV 11	1.01	Si
ini.	2	-908	19761	31621	SLV 8	1.6	Si
fin.	2	1166	-127700	119860	SLV 8	0.94	No
ini.	2	6	1480	31621	SLV 13	21.36	Si
fin.	2	-253	61765	119860	SLV 13	1.94	Si
ini.	2	1043	-18308	31621	SLV 9	1.73	Si
fin.	2	-1417	141980	119860	SLV 9	0.84	No
ini.	2	-908	19761	31621	SLV 7	1.6	Si
fin.	2	1166	-127700	119860	SLV 7	0.94	No
ini.	2	1276	-22570	31621	SLV 6	1.4	Si
fin.	2	-1588	132635	119860	SLV 6	0.9	No
ini.	2	1043	-18308	31621	SLV 10	1.73	Si
fin.	2	-1417	141980	119860	SLV 10	0.84	No
ini.	2	-1141	24023	31621	SLV 12	1.32	Si
fin.	2	1337	-118355	119860	SLV 12	1.01	Si
ini.	2	6	1480	31621	SLV 14	21.36	Si
fin.	2	-253	61765	119860	SLV 14	1.94	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	19761	-636			430	162	SLV 7	0.25	No
fin.	2	0	-127700	-1321			1220	459	SLV 7	0.35	No
ini.	2	0	14180	704			430	162	SLV 16	0.23	No
fin.	2	0	-16335	-320			1220	459	SLV 16	1.44	Si
ini.	2	0	1480	1074			430	162	SLV 13	0.15	No
fin.	2	0	61765	377			1220	459	SLV 13	1.22	Si
ini.	2	0	-18308	1017			430	162	SLV 10	0.16	No
fin.	2	0	141980	1087			1220	459	SLV 10	0.42	No
ini.	2	0	14180	704			430	162	SLV 15	0.23	No
fin.	2	0	-16335	-320			1220	459	SLV 15	1.44	Si
ini.	2	0	19761	-636			430	162	SLV 8	0.25	No
fin.	2	0	-127700	-1321			1220	459	SLV 8	0.35	No
ini.	2	0	-18308	1017			430	162	SLV 9	0.16	No
fin.	2	0	141980	1087			1220	459	SLV 9	0.42	No
ini.	2	0	-28	-694			430	162	SLV 3	0.23	No
fin.	2	0	-47485	-611			1220	459	SLV 3	0.75	No
ini.	2	0	1480	1074			430	162	SLV 14	0.15	No
fin.	2	0	61765	377			1220	459	SLV 14	1.22	Si
ini.	2	0	-28	-694			430	162	SLV 4	0.23	No
fin.	2	0	-47485	-611			1220	459	SLV 4	0.75	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		0.844	SLV 9	No
V_SLV		0.151	SLV 13	No
PF_SLU		2.883	SLU 73	Si
V_SLU		0.189	SLU 73	No

Trave di accoppiamento 179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	1250	1340	90	-741.3	-335.9	1250	1340	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-212	915	103792	SLU 80	113.43	Si
fin.	3	-746	24339	103792	SLU 80	4.26	Si
ini.	3	-156	126	103792	SLU 77	820.74	Si
fin.	3	-825	26922	103792	SLU 77	3.86	Si
ini.	3	-41	-2383	103792	SLU 35	43.56	Si
fin.	3	-709	25273	103792	SLU 35	4.11	Si
ini.	3	-98	-1396	103792	SLU 79	74.36	Si
fin.	3	-793	26900	103792	SLU 79	3.86	Si
ini.	3	16	-3905	103792	SLU 37	26.58	Si
fin.	3	-677	25251	103792	SLU 37	4.11	Si
ini.	3	54	-4625	103792	SLU 29	22.44	Si
fin.	3	-619	24372	103792	SLU 29	4.26	Si
ini.	3	-4	-3103	103792	SLU 27	33.45	Si
fin.	3	-652	24394	103792	SLU 27	4.25	Si
ini.	3	-61	-2116	103792	SLU 71	49.06	Si
fin.	3	-735	26021	103792	SLU 71	3.99	Si
ini.	3	-270	2437	103792	SLU 78	42.58	Si
fin.	3	-779	24362	103792	SLU 78	4.26	Si
ini.	3	-119	-593	103792	SLU 69	174.89	Si
fin.	3	-768	26043	103792	SLU 69	3.99	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	126	318			970	365	SLU 77	1.15	Si
fin.	3	0	26922	824			970	365	SLU 77	0.44	No
ini.	3	0	-1927	207			970	365	SLU 50	1.77	Si
fin.	3	0	23225	820			970	365	SLU 50	0.45	No
ini.	3	0	-3103	327			970	365	SLU 27	1.12	Si
fin.	3	0	24394	836			970	365	SLU 27	0.44	No
ini.	3	0	-593	243			970	365	SLU 69	1.5	Si
fin.	3	0	26043	869			970	365	SLU 69	0.42	No
ini.	3	0	-405	143			970	365	SLU 48	2.55	Si
fin.	3	0	23248	818			970	365	SLU 48	0.45	No
ini.	3	0	-1396	381			970	365	SLU 79	0.96	No
fin.	3	0	26900	826			970	365	SLU 79	0.44	No
ini.	3	0	-2116	306			970	365	SLU 71	1.19	Si
fin.	3	0	26021	871			970	365	SLU 71	0.42	No
ini.	3	0	-2383	403			970	365	SLU 35	0.91	No
fin.	3	0	25273	792			970	365	SLU 35	0.46	No
ini.	3	0	-3905	466			970	365	SLU 37	0.78	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	25251	794			970	365	SLU 37	0.46	No
ini.	3	0	-4625	391			970	365	SLU 29	0.94	No
fin.	3	0	24372	838			970	365	SLU 29	0.44	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1537	46654	121694	SLV 5	2.61	Si
fin.	2	1054	-24187	121694	SLV 5	5.03	Si
ini.	2	-1753	63647	121694	SLV 3	1.91	Si
fin.	2	69	-51018	121694	SLV 3	2.39	Si
ini.	2	-2144	75619	121694	SLV 1	1.61	Si
fin.	2	850	-59661	121694	SLV 1	2.04	Si
ini.	2	-1753	63647	121694	SLV 4	1.91	Si
fin.	2	69	-51018	121694	SLV 4	2.39	Si
ini.	2	894	-47045	121694	SLV 13	2.59	Si
fin.	2	-1172	70501	121694	SLV 13	1.73	Si
ini.	2	1285	-59017	121694	SLV 15	2.06	Si
fin.	2	-1953	79144	121694	SLV 15	1.54	Si
ini.	2	894	-47045	121694	SLV 14	2.59	Si
fin.	2	-1172	70501	121694	SLV 14	1.73	Si
ini.	2	-1537	46654	121694	SLV 6	2.61	Si
fin.	2	1054	-24187	121694	SLV 6	5.03	Si
ini.	2	1285	-59017	121694	SLV 16	2.06	Si
fin.	2	-1953	79144	121694	SLV 16	1.54	Si
ini.	2	-2144	75619	121694	SLV 2	1.61	Si
fin.	2	850	-59661	121694	SLV 2	2.04	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-47045	2075			1456	548	SLV 13	0.26	No
fin.	2	0	70501	2788			1456	548	SLV 13	0.2	No
ini.	2	0	75619	-2864			1456	548	SLV 1	0.19	No
fin.	2	0	-59661	-3127			1456	548	SLV 1	0.18	No
ini.	2	0	-30053	1539			1456	548	SLV 11	0.36	No
fin.	2	0	43670	2183			1456	548	SLV 11	0.25	No
ini.	2	0	63647	-2313			1456	548	SLV 4	0.24	No
fin.	2	0	-51018	-2450			1456	548	SLV 4	0.22	No
ini.	2	0	-59017	2625			1456	548	SLV 15	0.21	No
fin.	2	0	79144	3465			1456	548	SLV 15	0.16	No
ini.	2	0	-30053	1539			1456	548	SLV 12	0.36	No
fin.	2	0	43670	2183			1456	548	SLV 12	0.25	No
ini.	2	0	-47045	2075			1456	548	SLV 14	0.26	No
fin.	2	0	70501	2788			1456	548	SLV 14	0.2	No
ini.	2	0	-59017	2625			1456	548	SLV 16	0.21	No
fin.	2	0	79144	3465			1456	548	SLV 16	0.16	No
ini.	2	0	75619	-2864			1456	548	SLV 2	0.19	No
fin.	2	0	-59661	-3127			1456	548	SLV 2	0.18	No
ini.	2	0	63647	-2313			1456	548	SLV 3	0.24	No
fin.	2	0	-51018	-2450			1456	548	SLV 3	0.22	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		1.538	SLV 15	Si
V_SLV		0.158	SLV 15	No
PF_SLU		3.855	SLU 77	Si
V_SLU		0.419	SLU 71	No

Trave di accoppiamento 180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	1520	1568.6	48.6	-741.3	-335.9	1520	1568.6	48.6	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb _m	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-720	-22472	33499	SLU 72	1.49	Si
fin.	3	-725	9194	33592	SLU 72	3.65	Si
ini.	3	-899	-23354	33499	SLU 80	1.43	Si
fin.	3	-904	9824	33592	SLU 80	3.42	Si
ini.	3	-869	-23059	33499	SLU 79	1.45	Si
fin.	3	-873	9458	33592	SLU 79	3.55	Si
ini.	3	-759	-22128	33499	SLU 38	1.51	Si
fin.	3	-765	9559	33592	SLU 38	3.51	Si
ini.	3	-989	-23516	33499	SLU 78	1.42	Si
fin.	3	-994	8991	33592	SLU 78	3.74	Si
ini.	3	-810	-22635	33499	SLU 70	1.48	Si
fin.	3	-815	8361	33592	SLU 70	4.02	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-690	-22177	33499	SLU 71	1.51	Si
fin.	3	-694	8828	33592	SLU 71	3.81	Si
ini.	3	-850	-22291	33499	SLU 36	1.5	Si
fin.	3	-855	8725	33592	SLU 36	3.85	Si
ini.	3	-781	-22340	33499	SLU 69	1.5	Si
fin.	3	-784	7995	33592	SLU 69	4.2	Si
ini.	3	-959	-23222	33499	SLU 77	1.44	Si
fin.	3	-963	8625	33592	SLU 77	3.89	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-22340	1034			349	131	SLU 69	0.13	No
fin.	3	0	7995	-368			350	132	SLU 69	0.36	No
ini.	3	0	-21997	980			349	131	SLU 35	0.13	No
fin.	3	0	8359	-308			350	132	SLU 35	0.43	No
ini.	3	0	-22291	992			349	131	SLU 36	0.13	No
fin.	3	0	8725	-307			350	132	SLU 36	0.43	No
ini.	3	0	-21409	974			349	131	SLU 28	0.13	No
fin.	3	0	8095	-324			350	132	SLU 28	0.41	No
ini.	3	0	-22635	1045			349	131	SLU 70	0.13	No
fin.	3	0	8361	-367			350	132	SLU 70	0.36	No
ini.	3	0	-23516	1063			349	131	SLU 78	0.12	No
fin.	3	0	8991	-351			350	132	SLU 78	0.37	No
ini.	3	0	-22472	981			349	131	SLU 72	0.13	No
fin.	3	0	9194	-294			350	132	SLU 72	0.45	No
ini.	3	0	-23059	987			349	131	SLU 79	0.13	No
fin.	3	0	9458	-279			350	132	SLU 79	0.47	No
ini.	3	0	-23222	1051			349	131	SLU 77	0.12	No
fin.	3	0	8625	-352			350	132	SLU 77	0.37	No
ini.	3	0	-23354	998			349	131	SLU 80	0.13	No
fin.	3	0	9824	-278			350	132	SLU 80	0.47	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1828	15213	49175	SLV 5	3.23	Si
fin.	2	-1359	-36106	49293	SLV 5	1.37	Si
ini.	2	66	-35865	49175	SLV 15	1.37	Si
fin.	2	-30	36375	49293	SLV 15	1.36	Si
ini.	2	66	-35865	49175	SLV 16	1.37	Si
fin.	2	-30	36375	49293	SLV 16	1.36	Si
ini.	2	-1624	18957	49175	SLV 1	2.59	Si
fin.	2	-1530	-31207	49293	SLV 1	1.58	Si
ini.	2	-1828	15213	49175	SLV 6	3.23	Si
fin.	2	-1359	-36106	49293	SLV 6	1.37	Si
ini.	2	270	-32121	49175	SLV 11	1.53	Si
fin.	2	-202	41274	49293	SLV 11	1.19	Si
ini.	2	-1624	18957	49175	SLV 2	2.59	Si
fin.	2	-1530	-31207	49293	SLV 2	1.58	Si
ini.	2	-80	-18730	49175	SLV 8	2.63	Si
fin.	2	-582	26648	49293	SLV 8	1.85	Si
ini.	2	270	-32121	49175	SLV 12	1.53	Si
fin.	2	-202	41274	49293	SLV 12	1.19	Si
ini.	2	-80	-18730	49175	SLV 7	2.63	Si
fin.	2	-582	26648	49293	SLV 7	1.85	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	8774	18			524	197	SLV 3	11.08	Si
fin.	2	0	-12381	-660			524	197	SLV 3	0.3	No
ini.	2	0	8774	18			524	197	SLV 4	11.08	Si
fin.	2	0	-12381	-660			524	197	SLV 4	0.3	No
ini.	2	0	-35865	898			524	197	SLV 15	0.22	No
fin.	2	0	36375	388			524	197	SLV 15	0.51	No
ini.	2	0	18957	-92			524	197	SLV 1	2.15	Si
fin.	2	0	-31207	-735			524	197	SLV 1	0.27	No
ini.	2	0	-35865	898			524	197	SLV 16	0.22	No
fin.	2	0	36375	388			524	197	SLV 16	0.51	No
ini.	2	0	18957	-92			524	197	SLV 2	2.15	Si
fin.	2	0	-31207	-735			524	197	SLV 2	0.27	No
ini.	2	0	-25683	789			524	197	SLV 14	0.25	No
fin.	2	0	17549	313			524	197	SLV 14	0.63	No
ini.	2	0	-32121	718			524	197	SLV 12	0.27	No
fin.	2	0	41274	109			524	197	SLV 12	1.81	Si
ini.	2	0	-32121	718			524	197	SLV 11	0.27	No
fin.	2	0	41274	109			524	197	SLV 11	1.81	Si
ini.	2	0	-25683	789			524	197	SLV 13	0.25	No
fin.	2	0	17549	313			524	197	SLV 13	0.63	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.194	SLV 11	Si
V_SLV	0.219	SLV 15	No
PF_SLU	1.424	SLU 78	Si
V_SLU	0.124	SLU 78	No



Trave di accoppiamento 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	1250	1450	200	-600.8	-335.9	1250	1450	200	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-637	52582	296292	SLU 78	5.63	Si
fin.	3	-483	40636	296292	SLU 78	7.29	Si
ini.	3	-881	49079	296292	SLU 75	6.04	Si
fin.	3	-752	34600	296292	SLU 75	8.56	Si
ini.	3	-482	47464	296292	SLU 36	6.24	Si
fin.	3	-337	37416	296292	SLU 36	7.92	Si
ini.	3	-757	49335	296292	SLU 74	6.01	Si
fin.	3	-616	37542	296292	SLU 74	7.89	Si
ini.	3	-422	50038	296292	SLU 79	5.92	Si
fin.	3	-260	41734	296292	SLU 79	7.1	Si
ini.	3	-357	47720	296292	SLU 35	6.21	Si
fin.	3	-201	40358	296292	SLU 35	7.34	Si
ini.	3	-547	49782	296292	SLU 80	5.95	Si
fin.	3	-396	38792	296292	SLU 80	7.64	Si
ini.	3	-512	52838	296292	SLU 77	5.61	Si
fin.	3	-347	43578	296292	SLU 77	6.8	Si
ini.	3	-828	49196	296292	SLU 84	6.02	Si
fin.	3	-688	34533	296292	SLU 84	8.58	Si
ini.	3	-703	49452	296292	SLU 83	5.99	Si
fin.	3	-552	37475	296292	SLU 83	7.91	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	49079	-435			2157	812	SLU 75	1.87	Si
fin.	3	0	34600	-324			2157	812	SLU 75	2.5	Si
ini.	3	0	45693	-429			2157	812	SLU 82	1.89	Si
fin.	3	0	28497	-423			2157	812	SLU 82	1.92	Si
ini.	3	0	49196	-439			2157	812	SLU 84	1.85	Si
fin.	3	0	34533	-392			2157	812	SLU 84	2.07	Si
ini.	3	0	49335	-425			2157	812	SLU 74	1.91	Si
fin.	3	0	37542	-244			2157	812	SLU 74	3.32	Si
ini.	3	0	52838	-435			2157	812	SLU 77	1.87	Si
fin.	3	0	43578	-214			2157	812	SLU 77	3.8	Si
ini.	3	0	52582	-445			2157	812	SLU 78	1.82	Si
fin.	3	0	40636	-294			2157	812	SLU 78	2.76	Si
ini.	3	0	37487	-358			2157	812	SLU 31	2.26	Si
fin.	3	0	21539	-418			2157	812	SLU 31	1.94	Si
ini.	3	0	45949	-419			2157	812	SLU 81	1.94	Si
fin.	3	0	31439	-343			2157	812	SLU 81	2.37	Si
ini.	3	0	49452	-429			2157	812	SLU 83	1.89	Si
fin.	3	0	37475	-312			2157	812	SLU 83	2.6	Si
ini.	3	0	40575	-395			2157	812	SLU 40	2.06	Si
fin.	3	0	25277	-426			2157	812	SLU 40	1.91	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1390	89989	314194	SLV 8	3.49	Si
fin.	2	-916	-2635	314194	SLV 8	119.26	Si
ini.	2	-1192	56778	314194	SLD 4	5.53	Si
fin.	2	-1176	8888	314194	SLD 4	35.35	Si
ini.	2	-1672	67694	314194	SLV 1	4.64	Si
fin.	2	-2019	3457	314194	SLV 1	90.89	Si
ini.	2	-1192	56778	314194	SLD 3	5.53	Si
fin.	2	-1176	8888	314194	SLD 3	35.35	Si
ini.	2	-1672	67694	314194	SLV 2	4.64	Si
fin.	2	-2019	3457	314194	SLV 2	90.89	Si
ini.	2	-1913	95119	314194	SLV 3	3.3	Si
fin.	2	-1968	-6127	314194	SLV 3	51.28	Si
ini.	2	-701	58167	314194	SLV 12	5.4	Si
fin.	2	-66	9942	314194	SLV 12	31.6	Si
ini.	2	-701	58167	314194	SLV 11	5.4	Si
fin.	2	-66	9942	314194	SLV 11	31.6	Si
ini.	2	-1913	95119	314194	SLV 4	3.3	Si
fin.	2	-1968	-6127	314194	SLV 4	51.28	Si
ini.	2	-1390	89989	314194	SLV 7	3.49	Si
fin.	2	-916	-2635	314194	SLV 7	119.26	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	95119	-2601			3235	1217	SLV 3	0.47	No
fin.	2	0	-6127	-2914			3235	1217	SLV 3	0.42	No
ini.	2	0	58167	-1834			3235	1217	SLV 12	0.66	No

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Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	9942	-1551			3235	1217	SLV 12	0.78	No
ini.	2	0	-33249	2420			3235	1217	SLV 9	0.5	No
fin.	2	0	41887	2584			3235	1217	SLV 9	0.47	No
ini.	2	0	-38379	2145			3235	1217	SLV 13	0.57	No
fin.	2	0	45380	2650			3235	1217	SLV 13	0.46	No
ini.	2	0	-33249	2420			3235	1217	SLV 10	0.5	No
fin.	2	0	41887	2584			3235	1217	SLV 10	0.47	No
ini.	2	0	89989	-2876			3235	1217	SLV 8	0.42	No
fin.	2	0	-2635	-2848			3235	1217	SLV 8	0.43	No
ini.	2	0	95119	-2601			3235	1217	SLV 4	0.47	No
fin.	2	0	-6127	-2914			3235	1217	SLV 4	0.42	No
ini.	2	0	-38379	2145			3235	1217	SLV 14	0.57	No
fin.	2	0	45380	2650			3235	1217	SLV 14	0.46	No
ini.	2	0	89989	-2876			3235	1217	SLV 7	0.42	No
fin.	2	0	-2635	-2848			3235	1217	SLV 7	0.43	No
ini.	2	0	58167	-1834			3235	1217	SLV 11	0.66	No
fin.	2	0	9942	-1551			3235	1217	SLV 11	0.78	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		3.303	SLV 3
V_SLV		0.418	SLV 3
PF_SLU		5.608	SLU 77
V_SLU		1.825	SLU 78

Trave di accoppiamento 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	1530	1568.5	38.5	-600.8	-335.9	1530	1568.5	38.5	50	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{tk}	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-500	2720	21041	SLU 70	7.73	Si
fin.	3	-504	-10169	21081	SLU 70	2.07	Si
ini.	3	-624	1924	21041	SLU 77	10.93	Si
fin.	3	-628	-10234	21081	SLU 77	2.06	Si
ini.	3	-431	3264	21041	SLU 72	6.45	Si
fin.	3	-434	-10318	21081	SLU 72	2.04	Si
ini.	3	-478	2975	21041	SLU 38	7.07	Si
fin.	3	-482	-10242	21081	SLU 38	2.06	Si
ini.	3	-584	2783	21041	SLU 80	7.56	Si
fin.	3	-588	-10688	21081	SLU 80	1.97	Si
ini.	3	-654	2239	21041	SLU 78	9.4	Si
fin.	3	-658	-10539	21081	SLU 78	2	Si
ini.	3	-548	2431	21041	SLU 36	8.66	Si
fin.	3	-551	-10093	21081	SLU 36	2.09	Si
ini.	3	-554	2468	21041	SLU 79	8.52	Si
fin.	3	-558	-10383	21081	SLU 79	2.03	Si
ini.	3	-448	2660	21041	SLU 37	7.91	Si
fin.	3	-452	-9938	21081	SLU 37	2.12	Si
ini.	3	-401	2950	21041	SLU 71	7.13	Si
fin.	3	-404	-10013	21081	SLU 71	2.11	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	2239	169			319	120	SLU 78	0.71	No
fin.	3	0	-10539	-426			320	120	SLU 78	0.28	No
ini.	3	0	2406	184			319	120	SLU 69	0.65	No
fin.	3	0	-9864	-417			320	120	SLU 69	0.29	No
ini.	3	0	2783	118			319	120	SLU 80	1.01	Si
fin.	3	0	-10688	-430			320	120	SLU 80	0.28	No
ini.	3	0	2468	137			319	120	SLU 79	0.88	No
fin.	3	0	-10383	-420			320	120	SLU 79	0.29	No
ini.	3	0	2720	166			319	120	SLU 70	0.72	No
fin.	3	0	-10169	-427			320	120	SLU 70	0.28	No
ini.	3	0	2975	96			319	120	SLU 38	1.25	Si
fin.	3	0	-10242	-407			320	120	SLU 38	0.3	No
ini.	3	0	3456	94			319	120	SLU 30	1.28	Si
fin.	3	0	-9873	-409			320	120	SLU 30	0.29	No
ini.	3	0	2950	134			319	120	SLU 71	0.9	No
fin.	3	0	-10013	-421			320	120	SLU 71	0.29	No
ini.	3	0	1924	187			319	120	SLU 77	0.64	No
fin.	3	0	-10234	-416			320	120	SLU 77	0.29	No
ini.	3	0	3264	116			319	120	SLU 72	1.04	Si
fin.	3	0	-10318	-432			320	120	SLU 72	0.28	No



Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-754	-24961	31561	SLV 13	1.26	Si
fin.	2	112	1701	31622	SLV 13	18.59	Si
ini.	2	-264	23640	31561	SLV 11	1.34	Si
fin.	2	-129	-30592	31622	SLV 11	1.03	Si
ini.	2	-956	-34673	31561	SLV 10	0.91	No
fin.	2	-594	22235	31622	SLV 10	1.42	Si
ini.	2	-230	32809	31561	SLV 7	0.96	No
fin.	2	-595	-28839	31622	SLV 7	1.1	Si
ini.	2	-754	-24961	31561	SLV 14	1.26	Si
fin.	2	112	1701	31622	SLV 14	18.59	Si
ini.	2	-956	-34673	31561	SLV 9	0.91	No
fin.	2	-594	22235	31622	SLV 9	1.42	Si
ini.	2	-922	-25504	31561	SLV 6	1.24	Si
fin.	2	-1059	23987	31622	SLV 6	1.32	Si
ini.	2	-264	23640	31561	SLV 12	1.34	Si
fin.	2	-129	-30592	31622	SLV 12	1.03	Si
ini.	2	-922	-25504	31561	SLV 5	1.24	Si
fin.	2	-1059	23987	31622	SLV 5	1.32	Si
ini.	2	-230	32809	31561	SLV 8	0.96	No
fin.	2	-595	-28839	31622	SLV 8	1.1	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-24961	409			479	180	SLV 14	0.44	No
fin.	2	0	1701	50			480	181	SLV 14	3.59	Si
ini.	2	0	32809	-449			479	180	SLV 7	0.4	No
fin.	2	0	-28839	-629			480	181	SLV 7	0.29	No
ini.	2	0	-34673	670			479	180	SLV 10	0.27	No
fin.	2	0	22235	370			480	181	SLV 10	0.49	No
ini.	2	0	-25504	584			479	180	SLV 6	0.31	No
fin.	2	0	23987	351			480	181	SLV 6	0.52	No
ini.	2	0	23640	-363			479	180	SLV 12	0.5	No
fin.	2	0	-30592	-609			480	181	SLV 12	0.3	No
ini.	2	0	32809	-449			479	180	SLV 8	0.4	No
fin.	2	0	-28839	-629			480	181	SLV 8	0.29	No
ini.	2	0	-24961	409			479	180	SLV 13	0.44	No
fin.	2	0	1701	50			480	181	SLV 13	3.59	Si
ini.	2	0	-25504	584			479	180	SLV 5	0.31	No
fin.	2	0	23987	351			480	181	SLV 5	0.52	No
ini.	2	0	23640	-363			479	180	SLV 11	0.5	No
fin.	2	0	-30592	-609			480	181	SLV 11	0.3	No
ini.	2	0	-34673	670			479	180	SLV 9	0.27	No
fin.	2	0	22235	370			480	181	SLV 9	0.49	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.91	SLV 9	No
V_SLV	0.269	SLV 9	No
PF_SLU	1.972	SLU 80	Si
V_SLU	0.279	SLU 72	No

Trave di accoppiamento 183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	1250	1340	90	-318.3	-335.9	1250	1340	90	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-184	-18309	103792	SLU 81	5.67	Si
fin.	3	-1227	32455	103792	SLU 81	3.2	Si
ini.	3	191	-25816	103792	SLU 78	4.02	Si
fin.	3	-1012	32938	103792	SLU 78	3.15	Si
ini.	3	-113	-22692	103792	SLU 73	4.57	Si
fin.	3	-1319	35217	103792	SLU 73	2.95	Si
ini.	3	23	-23113	103792	SLU 75	4.49	Si
fin.	3	-1152	33805	103792	SLU 75	3.07	Si
ini.	3	16	-24311	103792	SLU 84	4.27	Si
fin.	3	-1185	34246	103792	SLU 84	3.03	Si
ini.	3	-17	-21013	103792	SLU 83	4.94	Si
fin.	3	-1087	31588	103792	SLU 83	3.29	Si
ini.	3	55	-25395	103792	SLU 76	4.09	Si
fin.	3	-1179	34350	103792	SLU 76	3.02	Si
ini.	3	200	-25900	103792	SLU 80	4.01	Si
fin.	3	-974	31710	103792	SLU 80	3.27	Si
ini.	3	-152	-21607	103792	SLU 82	4.8	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1325	35114	103792	SLU 82	2.96	Si
ini.	3	-72	-20093	103792	SLU 65	5.17	Si
fin.	3	-1152	31323	103792	SLU 65	3.31	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-25816	1216			970	365	SLU 78	0.3	No
fin.	3	0	32938	1425			970	365	SLU 78	0.26	No
ini.	3	0	-22518	1077			970	365	SLU 77	0.34	No
fin.	3	0	30279	1308			970	365	SLU 77	0.28	No
ini.	3	0	-25900	1218			970	365	SLU 80	0.3	No
fin.	3	0	31710	1361			970	365	SLU 80	0.27	No
ini.	3	0	-22796	1112			970	365	SLU 68	0.33	No
fin.	3	0	30456	1302			970	365	SLU 68	0.28	No
ini.	3	0	-20514	1018			970	365	SLU 67	0.36	No
fin.	3	0	29911	1287			970	365	SLU 67	0.28	No
ini.	3	0	-24311	1278			970	365	SLU 84	0.29	No
fin.	3	0	34246	1332			970	365	SLU 84	0.27	No
ini.	3	0	-25395	1293			970	365	SLU 76	0.28	No
fin.	3	0	34350	1378			970	365	SLU 76	0.27	No
ini.	3	0	-23113	1199			970	365	SLU 75	0.3	No
fin.	3	0	33805	1364			970	365	SLU 75	0.27	No
ini.	3	0	-23217	1035			970	365	SLU 70	0.35	No
fin.	3	0	29044	1349			970	365	SLU 70	0.27	No
ini.	3	0	-22692	1275			970	365	SLU 73	0.29	No
fin.	3	0	35217	1316			970	365	SLU 73	0.28	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	780	-45040	121694	SLV 15	2.7	Si
fin.	2	-1443	38893	121694	SLV 15	3.13	Si
ini.	2	780	-45040	121694	SLV 16	2.7	Si
fin.	2	-1443	38893	121694	SLV 16	3.13	Si
ini.	2	444	-32507	121694	SLD 14	3.74	Si
fin.	2	-1047	31692	121694	SLD 14	3.84	Si
ini.	2	-1414	39158	121694	SLV 4	3.11	Si
fin.	2	-130	-4783	121694	SLV 4	25.45	Si
ini.	2	444	-32507	121694	SLD 13	3.74	Si
fin.	2	-1047	31692	121694	SLD 13	3.84	Si
ini.	2	893	-50960	121694	SLV 9	2.39	Si
fin.	2	-940	40091	121694	SLV 9	3.04	Si
ini.	2	-1414	39158	121694	SLV 3	3.11	Si
fin.	2	-130	-4783	121694	SLV 3	25.45	Si
ini.	2	1186	-61373	121694	SLV 14	1.98	Si
fin.	2	-1423	46501	121694	SLV 14	2.62	Si
ini.	2	1186	-61373	121694	SLV 13	1.98	Si
fin.	2	-1423	46501	121694	SLV 13	2.62	Si
ini.	2	893	-50960	121694	SLV 10	2.39	Si
fin.	2	-940	40091	121694	SLV 10	3.04	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-50960	1756			1456	548	SLV 10	0.31	No
fin.	2	0	40091	1955			1456	548	SLV 10	0.28	No
ini.	2	0	-61373	2537			1456	548	SLV 14	0.22	No
fin.	2	0	46501	2532			1456	548	SLV 14	0.22	No
ini.	2	0	-32507	1468			1456	548	SLD 14	0.37	No
fin.	2	0	31692	1530			1456	548	SLD 14	0.36	No
ini.	2	0	-32507	1468			1456	548	SLD 13	0.37	No
fin.	2	0	31692	1530			1456	548	SLD 13	0.36	No
ini.	2	0	-61373	2537			1456	548	SLV 13	0.22	No
fin.	2	0	46501	2532			1456	548	SLV 13	0.22	No
ini.	2	0	-25667	1324			1456	548	SLD 16	0.41	No
fin.	2	0	28589	1358			1456	548	SLD 16	0.4	No
ini.	2	0	-50960	1756			1456	548	SLV 9	0.31	No
fin.	2	0	40091	1955			1456	548	SLV 9	0.28	No
ini.	2	0	-45040	2192			1456	548	SLV 16	0.25	No
fin.	2	0	38893	2110			1456	548	SLV 16	0.26	No
ini.	2	0	-25667	1324			1456	548	SLD 15	0.41	No
fin.	2	0	28589	1358			1456	548	SLD 15	0.4	No
ini.	2	0	-45040	2192			1456	548	SLV 15	0.25	No
fin.	2	0	38893	2110			1456	548	SLV 15	0.26	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.983	SLV 13	Si
V_SLV	0.216	SLV 13	No
PF_SLU	2.947	SLU 73	Si
V_SLU	0.256	SLU 78	No

Trave di accoppiamento 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	1520	1568.2	48.2	-318.3	-335.9	1520	1568.3	48.3	90	28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-546	-17015	33064	SLU 78	1.94	Si
fin.	3	-552	8949	33157	SLU 78	3.7	Si
ini.	3	-703	-17268	33064	SLU 84	1.91	Si
fin.	3	-707	9333	33157	SLU 84	3.55	Si
ini.	3	-751	-17143	33064	SLU 75	1.93	Si
fin.	3	-754	8380	33157	SLU 75	3.96	Si
ini.	3	-434	-16222	33064	SLU 80	2.04	Si
fin.	3	-440	9413	33157	SLU 80	3.52	Si
ini.	3	-752	-15712	33064	SLU 83	2.1	Si
fin.	3	-755	7561	33157	SLU 83	4.39	Si
ini.	3	-690	-15713	33064	SLU 31	2.1	Si
fin.	3	-692	8842	33157	SLU 31	3.75	Si
ini.	3	-956	-15839	33064	SLU 81	2.09	Si
fin.	3	-957	6992	33157	SLU 81	4.74	Si
ini.	3	-606	-17387	33064	SLU 76	1.9	Si
fin.	3	-610	10025	33157	SLU 76	3.31	Si
ini.	3	-811	-17515	33064	SLU 73	1.89	Si
fin.	3	-812	9456	33157	SLU 73	3.51	Si
ini.	3	-908	-17396	33064	SLU 82	1.9	Si
fin.	3	-909	8764	33157	SLU 82	3.78	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-16222	678			347	131	SLU 80	0.19	No
fin.	3	0	9413	-134			347	131	SLU 80	0.97	No
ini.	3	0	-17143	670			347	131	SLU 75	0.19	No
fin.	3	0	8380	-119			347	131	SLU 75	1.1	Si
ini.	3	0	-13316	669			347	131	SLU 69	0.2	No
fin.	3	0	6035	-281			347	131	SLU 69	0.46	No
ini.	3	0	-17015	730			347	131	SLU 78	0.18	No
fin.	3	0	8949	-180			347	131	SLU 78	0.73	No
ini.	3	0	-15213	653			347	131	SLU 36	0.2	No
fin.	3	0	8336	-154			347	131	SLU 36	0.85	No
ini.	3	0	-14696	656			347	131	SLU 57	0.2	No
fin.	3	0	7689	-180			347	131	SLU 57	0.73	No
ini.	3	0	-14665	653			347	131	SLU 79	0.2	No
fin.	3	0	7641	-199			347	131	SLU 79	0.66	No
ini.	3	0	-14872	694			347	131	SLU 70	0.19	No
fin.	3	0	7807	-217			347	131	SLU 70	0.6	No
ini.	3	0	-15587	646			347	131	SLU 74	0.2	No
fin.	3	0	6607	-184			347	131	SLU 74	0.71	No
ini.	3	0	-15459	706			347	131	SLU 77	0.18	No
fin.	3	0	7177	-245			347	131	SLU 77	0.53	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1292	-18897	48622	SLV 9	2.57	Si
fin.	2	1392	21450	48740	SLV 9	2.27	Si
ini.	2	531	-27081	48622	SLV 14	1.8	Si
fin.	2	776	26376	48740	SLV 14	1.85	Si
ini.	2	1292	-18897	48622	SLV 10	2.57	Si
fin.	2	1392	21450	48740	SLV 10	2.27	Si
ini.	2	-1709	7217	48622	SLV 4	6.74	Si
fin.	2	-1958	-18031	48740	SLV 4	2.7	Si
ini.	2	-488	-24561	48622	SLV 16	1.98	Si
fin.	2	-260	19376	48740	SLV 16	2.52	Si
ini.	2	-1709	7217	48622	SLV 3	6.74	Si
fin.	2	-1958	-18031	48740	SLV 3	2.7	Si
ini.	2	-488	-24561	48622	SLV 15	1.98	Si
fin.	2	-260	19376	48740	SLV 15	2.52	Si
ini.	2	-111	-17244	48622	SLD 14	2.82	Si
fin.	2	-7	13636	48740	SLD 14	3.57	Si
ini.	2	531	-27081	48622	SLV 13	1.8	Si
fin.	2	776	26376	48740	SLV 13	1.85	Si
ini.	2	-111	-17244	48622	SLD 13	2.82	Si
fin.	2	-7	13636	48740	SLD 13	3.57	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-27081	782			520	196	SLV 13	0.25	No
fin.	2	0	26376	467			521	196	SLV 13	0.42	No
ini.	2	0	-27081	782			520	196	SLV 14	0.25	No
fin.	2	0	26376	467			521	196	SLV 14	0.42	No
ini.	2	0	-18897	702			520	196	SLV 9	0.28	No
fin.	2	0	21450	361			521	196	SLV 9	0.54	No
ini.	2	0	-17244	548			520	196	SLD 13	0.36	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	13636	154			521	196	SLD 13	1.27	Si
ini.	2	0	-24561	647			520	196	SLV 15	0.3	No
fin.	2	0	19376	286			521	196	SLV 15	0.69	No
ini.	2	0	7217	-30			520	196	SLV 4	6.57	Si
fin.	2	0	-18031	-621			521	196	SLV 4	0.32	No
ini.	2	0	7217	-30			520	196	SLV 3	6.57	Si
fin.	2	0	-18031	-621			521	196	SLV 3	0.32	No
ini.	2	0	-17244	548			520	196	SLD 14	0.36	No
fin.	2	0	13636	154			521	196	SLD 14	1.27	Si
ini.	2	0	-18897	702			520	196	SLV 10	0.28	No
fin.	2	0	21450	361			521	196	SLV 10	0.54	No
ini.	2	0	-24561	647			520	196	SLV 16	0.3	No
fin.	2	0	19376	286			521	196	SLV 16	0.69	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica	
PF_SLV		1.795	SLV 13	Si
V_SLV		0.25	SLV 13	No
PF_SLU		1.888	SLU 73	Si
V_SLU		0.179	SLU 78	No

Trave di accoppiamento 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1314.3	-485.9	352	369.8	17.8	-1293.3	-485.9	352	368	16	21	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1234	-9411	4812	SLU 80	0.51	No
fin.	3	-888	2576	3896	SLU 80	1.51	Si
ini.	3	-1211	-9298	4812	SLU 79	0.52	No
fin.	3	-863	2600	3896	SLU 79	1.5	Si
ini.	3	-1198	-9156	4812	SLU 81	0.53	No
fin.	3	-860	2642	3896	SLU 81	1.47	Si
ini.	3	-1225	-9373	4812	SLU 83	0.51	No
fin.	3	-874	2684	3896	SLU 83	1.45	Si
ini.	3	-1232	-9399	4812	SLU 78	0.51	No
fin.	3	-887	2580	3896	SLU 78	1.51	Si
ini.	3	-1222	-9270	4812	SLU 76	0.52	No
fin.	3	-890	2518	3896	SLU 76	1.55	Si
ini.	3	-1205	-9182	4812	SLU 75	0.52	No
fin.	3	-873	2537	3896	SLU 75	1.54	Si
ini.	3	-1220	-9269	4812	SLU 82	0.52	No
fin.	3	-884	2618	3896	SLU 82	1.49	Si
ini.	3	-1210	-9285	4812	SLU 77	0.52	No
fin.	3	-863	2603	3896	SLU 77	1.5	Si
ini.	3	-1247	-9487	4812	SLU 84	0.51	No
fin.	3	-898	2661	3896	SLU 84	1.46	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-9411	3715			174	65	SLU 80	0.02	No
fin.	3	0	2576	482			141	53	SLU 80	0.11	No
ini.	3	0	-9399	3708			174	65	SLU 78	0.02	No
fin.	3	0	2580	481			141	53	SLU 78	0.11	No
ini.	3	0	-9156	3630			174	65	SLU 81	0.02	No
fin.	3	0	2642	474			141	53	SLU 81	0.11	No
ini.	3	0	-9373	3733			174	65	SLU 83	0.02	No
fin.	3	0	2684	486			141	53	SLU 83	0.11	No
ini.	3	0	-9182	3605			174	65	SLU 75	0.02	No
fin.	3	0	2537	469			141	53	SLU 75	0.11	No
ini.	3	0	-9269	3643			174	65	SLU 82	0.02	No
fin.	3	0	2618	476			141	53	SLU 82	0.11	No
ini.	3	0	-9298	3702			174	65	SLU 79	0.02	No
fin.	3	0	2600	480			141	53	SLU 79	0.11	No
ini.	3	0	-9270	3621			174	65	SLU 76	0.02	No
fin.	3	0	2518	471			141	53	SLU 76	0.11	No
ini.	3	0	-9487	3746			174	65	SLU 84	0.02	No
fin.	3	0	2661	488			141	53	SLU 84	0.11	No
ini.	3	0	-9285	3694			174	65	SLU 77	0.02	No
fin.	3	0	2603	479			141	53	SLU 77	0.11	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1591	9319	7218	SLV 15	0.77	No
fin.	2	1755	12895	5845	SLV 15	0.45	No



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1591	9319	7218	SLV 16	0.77	No
fin.	2	1755	12895	5845	SLV 16	0.45	No
ini.	2	999	5080	7218	SLV 14	1.42	Si
fin.	2	1188	12837	5845	SLV 14	0.46	No
ini.	2	-3260	-22124	7218	SLV 1	0.33	No
fin.	2	-2970	-9384	5845	SLV 1	0.62	No
ini.	2	-2460	-17548	7218	SLV 5	0.41	No
fin.	2	-2176	-1674	5845	SLV 5	3.49	Si
ini.	2	-2668	-17885	7218	SLV 3	0.4	No
fin.	2	-2403	-9326	5845	SLV 3	0.63	No
ini.	2	-2668	-17885	7218	SLV 4	0.4	No
fin.	2	-2403	-9326	5845	SLV 4	0.63	No
ini.	2	999	5080	7218	SLV 13	1.42	Si
fin.	2	1188	12837	5845	SLV 13	0.46	No
ini.	2	-3260	-22124	7218	SLV 2	0.33	No
fin.	2	-2970	-9384	5845	SLV 2	0.62	No
ini.	2	-2460	-17548	7218	SLV 6	0.41	No
fin.	2	-2176	-1674	5845	SLV 6	3.49	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-22124	6429			261	98	SLV 1	0.02	No
fin.	2	0	-9384	320			211	79	SLV 1	0.25	No
ini.	2	0	-22124	6429			261	98	SLV 2	0.02	No
fin.	2	0	-9384	320			211	79	SLV 2	0.25	No
ini.	2	0	-13108	4174			261	98	SLD 2	0.02	No
fin.	2	0	-2998	322			211	79	SLD 2	0.25	No
ini.	2	0	-13108	4174			261	98	SLD 1	0.02	No
fin.	2	0	-2998	322			211	79	SLD 1	0.25	No
ini.	2	0	-11154	3762			261	98	SLD 5	0.03	No
fin.	2	0	287	392			211	79	SLD 5	0.2	No
ini.	2	0	-17548	5469			261	98	SLV 6	0.02	No
fin.	2	0	-1674	485			211	79	SLV 6	0.16	No
ini.	2	0	-17885	5247			261	98	SLV 4	0.02	No
fin.	2	0	-9326	213			211	79	SLV 4	0.37	No
ini.	2	0	-11154	3762			261	98	SLD 6	0.03	No
fin.	2	0	287	392			211	79	SLD 6	0.2	No
ini.	2	0	-17885	5247			261	98	SLV 3	0.02	No
fin.	2	0	-9326	213			211	79	SLV 3	0.37	No
ini.	2	0	-17548	5469			261	98	SLV 5	0.02	No
fin.	2	0	-1674	485			211	79	SLV 5	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.326	SLV 1	No
V_SLV	0.015	SLV 1	No
PF_SLU	0.507	SLU 84	No
V_SLU	0.017	SLU 84	No

Trave di accoppiamento 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	352	368	16	-1193.3	-485.9	352	368	16	100	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-496	-731	3896	SLU 72	5.33	Si
fin.	3	-496	1544	3896	SLU 72	2.52	Si
ini.	3	-469	-724	3896	SLU 71	5.38	Si
fin.	3	-469	1521	3896	SLU 71	2.56	Si
ini.	3	-520	-637	3896	SLU 57	6.11	Si
fin.	3	-520	1538	3896	SLU 57	2.53	Si
ini.	3	-491	-661	3896	SLU 58	5.89	Si
fin.	3	-491	1546	3896	SLU 58	2.52	Si
ini.	3	-518	-668	3896	SLU 59	5.84	Si
fin.	3	-518	1569	3896	SLU 59	2.48	Si
ini.	3	-546	-519	3896	SLU 84	7.51	Si
fin.	3	-546	1527	3896	SLU 84	2.55	Si
ini.	3	-503	-640	3896	SLU 77	6.09	Si
fin.	3	-503	1600	3896	SLU 77	2.44	Si
ini.	3	-500	-670	3896	SLU 79	5.82	Si
fin.	3	-500	1631	3896	SLU 79	2.39	Si
ini.	3	-527	-676	3896	SLU 80	5.76	Si
fin.	3	-527	1654	3896	SLU 80	2.36	Si
ini.	3	-530	-646	3896	SLU 78	6.03	Si
fin.	3	-530	1623	3896	SLU 78	2.4	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-668	79			123	46	SLU 59	0.59	No
fin.	3	0	1569	-34			123	46	SLU 59	1.36	Si
ini.	3	0	-724	79			123	46	SLU 71	0.58	No
fin.	3	0	1521	-34			123	46	SLU 71	1.35	Si
ini.	3	0	-731	80			123	46	SLU 72	0.58	No
fin.	3	0	1544	-34			123	46	SLU 72	1.36	Si
ini.	3	0	-646	80			123	46	SLU 78	0.58	No
fin.	3	0	1623	-34			123	46	SLU 78	1.36	Si
ini.	3	0	-640	79			123	46	SLU 77	0.59	No
fin.	3	0	1600	-34			123	46	SLU 77	1.34	Si
ini.	3	0	-670	80			123	46	SLU 79	0.58	No
fin.	3	0	1631	-34			123	46	SLU 79	1.37	Si
ini.	3	0	-676	80			123	46	SLU 80	0.58	No
fin.	3	0	1654	-34			123	46	SLU 80	1.38	Si
ini.	3	0	-700	79			123	46	SLU 70	0.59	No
fin.	3	0	1513	-35			123	46	SLU 70	1.33	Si
ini.	3	0	-661	79			123	46	SLU 58	0.59	No
fin.	3	0	1546	-34			123	46	SLU 58	1.35	Si
ini.	3	0	-694	79			123	46	SLU 69	0.59	No
fin.	3	0	1490	-35			123	46	SLU 69	1.32	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	62	28298	5845	SLV 15	0.21	No
fin.	2	60	-28706	5845	SLV 15	0.2	No
ini.	2	-636	29555	5845	SLV 14	0.2	No
fin.	2	-649	-28461	5845	SLV 14	0.21	No
ini.	2	-636	29555	5845	SLV 13	0.2	No
fin.	2	-649	-28461	5845	SLV 13	0.21	No
ini.	2	62	28298	5845	SLV 16	0.21	No
fin.	2	60	-28706	5845	SLV 16	0.2	No
ini.	2	-564	-12549	5845	SLD 2	0.47	No
fin.	2	-563	13552	5845	SLD 2	0.43	No
ini.	2	-815	-28965	5845	SLV 1	0.2	No
fin.	2	-813	30535	5845	SLV 1	0.19	No
ini.	2	-815	-28965	5845	SLV 2	0.2	No
fin.	2	-813	30535	5845	SLV 2	0.19	No
ini.	2	-117	-30221	5845	SLV 4	0.19	No
fin.	2	-104	30290	5845	SLV 4	0.19	No
ini.	2	-564	-12549	5845	SLD 1	0.47	No
fin.	2	-563	13552	5845	SLD 1	0.43	No
ini.	2	-117	-30221	5845	SLV 3	0.19	No
fin.	2	-104	30290	5845	SLV 3	0.19	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-7018	382			185	70	SLV 6	0.18	No
fin.	2	0	10171	-11			185	70	SLV 6	6.33	Si
ini.	2	0	-7018	382			185	70	SLV 5	0.18	No
fin.	2	0	10171	-11			185	70	SLV 5	6.33	Si
ini.	2	0	-30221	597			185	70	SLV 4	0.12	No
fin.	2	0	30290	602			185	70	SLV 4	0.12	No
ini.	2	0	-30221	597			185	70	SLV 3	0.12	No
fin.	2	0	30290	602			185	70	SLV 3	0.12	No
ini.	2	0	-28965	687			185	70	SLV 2	0.1	No
fin.	2	0	30535	509			185	70	SLV 2	0.14	No
ini.	2	0	29555	-485			185	70	SLV 14	0.14	No
fin.	2	0	-28461	-664			185	70	SLV 14	0.1	No
ini.	2	0	-28965	687			185	70	SLV 1	0.1	No
fin.	2	0	30535	509			185	70	SLV 1	0.14	No
ini.	2	0	28298	-575			185	70	SLV 16	0.12	No
fin.	2	0	-28706	-571			185	70	SLV 16	0.12	No
ini.	2	0	29555	-485			185	70	SLV 13	0.14	No
fin.	2	0	-28461	-664			185	70	SLV 13	0.1	No
ini.	2	0	28298	-575			185	70	SLV 15	0.12	No
fin.	2	0	-28706	-571			185	70	SLV 15	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.191	SLV 1	No
V_SLV	0.101	SLV 1	No
PF_SLU	2.356	SLU 80	Si
V_SLU	0.578	SLU 80	No

Trave di accoppiamento 187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1193.3	-485.9	352	368	16	-1174.3	-485.9	352	369.4	17.4	19	30	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC	
12			17.25	0.9		2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-676	2925	3896	SLU 83	1.33	Si
fin.	3	-964	-7708	4619	SLU 83	0.6	No
ini.	3	-703	2738	3896	SLU 82	1.42	Si
fin.	3	-972	-7700	4619	SLU 82	0.6	No
ini.	3	-653	2961	3896	SLU 77	1.32	Si
fin.	3	-942	-7591	4619	SLU 77	0.61	No
ini.	3	-673	2974	3896	SLU 80	1.31	Si
fin.	3	-960	-7694	4619	SLU 80	0.6	No
ini.	3	-650	2987	3896	SLU 79	1.3	Si
fin.	3	-941	-7588	4619	SLU 79	0.61	No
ini.	3	-681	2750	3896	SLU 81	1.42	Si
fin.	3	-953	-7594	4619	SLU 81	0.61	No
ini.	3	-676	2949	3896	SLU 78	1.32	Si
fin.	3	-961	-7697	4619	SLU 78	0.6	No
ini.	3	-698	2912	3896	SLU 84	1.34	Si
fin.	3	-983	-7814	4619	SLU 84	0.59	No
ini.	3	-681	2775	3896	SLU 75	1.4	Si
fin.	3	-950	-7583	4619	SLU 75	0.61	No
ini.	3	-693	2792	3896	SLU 76	1.4	Si
fin.	3	-962	-7651	4619	SLU 76	0.6	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	2925	-482			156	59	SLU 83	0.12	No
fin.	3	0	-7708	-3591			185	69	SLU 83	0.02	No
ini.	3	0	2738	-467			156	59	SLU 82	0.13	No
fin.	3	0	-7700	-3490			185	69	SLU 82	0.02	No
ini.	3	0	2961	-479			156	59	SLU 77	0.12	No
fin.	3	0	-7591	-3563			185	69	SLU 77	0.02	No
ini.	3	0	2949	-481			156	59	SLU 78	0.12	No
fin.	3	0	-7697	-3573			185	69	SLU 78	0.02	No
ini.	3	0	2912	-484			156	59	SLU 84	0.12	No
fin.	3	0	-7814	-3601			185	69	SLU 84	0.02	No
ini.	3	0	2987	-481			156	59	SLU 79	0.12	No
fin.	3	0	-7588	-3573			185	69	SLU 79	0.02	No
ini.	3	0	2974	-483			156	59	SLU 80	0.12	No
fin.	3	0	-7694	-3584			185	69	SLU 80	0.02	No
ini.	3	0	2750	-465			156	59	SLU 81	0.13	No
fin.	3	0	-7594	-3480			185	69	SLU 81	0.02	No
ini.	3	0	2792	-468			156	59	SLU 76	0.13	No
fin.	3	0	-7651	-3479			185	69	SLU 76	0.02	No
ini.	3	0	2775	-465			156	59	SLU 75	0.13	No
fin.	3	0	-7583	-3462			185	69	SLU 75	0.02	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2081	-2501	5845	SLV 10	2.34	Si
fin.	2	-2345	-15971	6928	SLV 10	0.43	No
ini.	2	-2081	-2501	5845	SLV 9	2.34	Si
fin.	2	-2345	-15971	6928	SLV 9	0.43	No
ini.	2	-2677	-9657	5845	SLV 14	0.61	No
fin.	2	-3032	-19786	6928	SLV 14	0.35	No
ini.	2	1716	13390	5845	SLV 4	0.44	No
fin.	2	1713	9127	6928	SLV 4	0.76	No
ini.	2	1096	12789	5845	SLV 1	0.46	No
fin.	2	1071	4970	6928	SLV 1	1.39	Si
ini.	2	-2056	-9056	5845	SLV 16	0.65	No
fin.	2	-2390	-15630	6928	SLV 16	0.44	No
ini.	2	1096	12789	5845	SLV 2	0.46	No
fin.	2	1071	4970	6928	SLV 2	1.39	Si
ini.	2	-2677	-9657	5845	SLV 13	0.61	No
fin.	2	-3032	-19786	6928	SLV 13	0.35	No
ini.	2	-2056	-9056	5845	SLV 15	0.65	No
fin.	2	-2390	-15630	6928	SLV 15	0.44	No
ini.	2	1716	13390	5845	SLV 3	0.44	No
fin.	2	1713	9127	6928	SLV 3	0.76	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-2501	-497			234	88	SLV 9	0.18	No
fin.	2	0	-15971	-5586			277	104	SLV 9	0.02	No
ini.	2	0	0	-394			234	88	SLD 10	0.22	No
fin.	2	0	-9864	-3750			277	104	SLD 10	0.03	No
ini.	2	0	-2501	-497			234	88	SLV 10	0.18	No
fin.	2	0	-15971	-5586			277	104	SLV 10	0.02	No
ini.	2	0	-3051	-331			234	88	SLD 14	0.27	No
fin.	2	0	-11495	-4175			277	104	SLD 14	0.02	No
ini.	2	0	-3051	-331			234	88	SLD 13	0.27	No
fin.	2	0	-11495	-4175			277	104	SLD 13	0.02	No
ini.	2	0	-9056	-235			234	88	SLV 15	0.37	No



Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	0	-15630	-5299			277	104	SLV 15	0.02	No
ini.	2	0	-9056	-235			234	88	SLV 16	0.37	No
fin.	2	0	-15630	-5299			277	104	SLV 16	0.02	No
ini.	2	0	0	-394			234	88	SLD 9	0.22	No
fin.	2	0	-9864	-3750			277	104	SLD 9	0.03	No
ini.	2	0	-9657	-347			234	88	SLV 13	0.25	No
fin.	2	0	-19786	-6577			277	104	SLV 13	0.02	No
ini.	2	0	-9657	-347			234	88	SLV 14	0.25	No
fin.	2	0	-19786	-6577			277	104	SLV 14	0.02	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.35	SLV 13	No
V_SLV	0.016	SLV 13	No
PF_SLU	0.591	SLU 84	No
V_SLU	0.019	SLU 84	No

Trave di accoppiamento 188

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	1265	1499.7	234.7	-1193.3	-485.9	1265	1499.6	234.6	100	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ_0	f _{v0}	μ	ϕ	f _{vk,lim}	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-83	56936	360633	SLU 37	6.33	Si
fin.	3	-84	48709	360502	SLU 37	7.4	Si
ini.	3	-56	51476	360633	SLU 29	7.01	Si
fin.	3	-56	43558	360502	SLU 29	8.28	Si
ini.	3	-51	44917	360633	SLU 38	8.03	Si
fin.	3	-52	37799	360502	SLU 38	9.54	Si
ini.	3	-76	53394	360633	SLU 35	6.75	Si
fin.	3	-76	44990	360502	SLU 35	8.01	Si
ini.	3	-52	49726	360633	SLU 77	7.25	Si
fin.	3	-53	40705	360502	SLU 77	8.86	Si
ini.	3	-32	47808	360633	SLU 71	7.54	Si
fin.	3	-33	39273	360502	SLU 71	9.18	Si
ini.	3	-60	53268	360633	SLU 79	6.77	Si
fin.	3	-61	44424	360502	SLU 79	8.12	Si
ini.	3	-62	46733	360633	SLU 16	7.72	Si
fin.	3	-63	40007	360502	SLU 16	9.01	Si
ini.	3	-24	44266	360633	SLU 69	8.15	Si
fin.	3	-25	35554	360502	SLU 69	10.14	Si
ini.	3	-48	47934	360633	SLU 27	7.52	Si
fin.	3	-48	39840	360502	SLU 27	9.05	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	37708	909			2712	1021	SLU 78	1.12	Si
fin.	3	0	29794	-1277			2711	1020	SLU 78	0.8	No
ini.	3	0	49726	893			2712	1021	SLU 77	1.14	Si
fin.	3	0	40705	-1282			2711	1020	SLU 77	0.8	No
ini.	3	0	32248	912			2712	1021	SLU 70	1.12	Si
fin.	3	0	24644	-1274			2711	1020	SLU 70	0.8	No
ini.	3	0	35789	932			2712	1021	SLU 72	1.1	Si
fin.	3	0	28363	-1295			2711	1020	SLU 72	0.79	No
ini.	3	0	53268	913			2712	1021	SLU 79	1.12	Si
fin.	3	0	44424	-1304			2711	1020	SLU 79	0.78	No
ini.	3	0	37606	875			2712	1021	SLU 50	1.17	Si
fin.	3	0	30571	-1217			2711	1020	SLU 50	0.84	No
ini.	3	0	47808	916			2712	1021	SLU 71	1.11	Si
fin.	3	0	39273	-1301			2711	1020	SLU 71	0.78	No
ini.	3	0	41249	928			2712	1021	SLU 80	1.1	Si
fin.	3	0	33513	-1298			2711	1020	SLU 80	0.79	No
ini.	3	0	43066	872			2712	1021	SLU 58	1.17	Si
fin.	3	0	35722	-1220			2711	1020	SLU 58	0.84	No
ini.	3	0	44266	896			2712	1021	SLU 69	1.14	Si
fin.	3	0	35554	-1279			2711	1020	SLU 69	0.8	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	256	103228	377342	SLV 15	3.66	Si
fin.	2	-94	-138792	377211	SLV 15	2.72	Si
ini.	2	-29	189107	377342	SLV 13	2	Si
fin.	2	69	-175579	377211	SLV 13	2.15	Si
ini.	2	-29	189107	377342	SLV 14	2	Si
fin.	2	69	-175579	377211	SLV 14	2.15	Si



Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	108	-181289	377342	SLV 3	2.08	Si
fin.	2	10	174814	377211	SLV 3	2.16	Si
ini.	2	492	-181900	377342	SLV 8	2.07	Si
fin.	2	-217	107971	377211	SLV 8	3.49	Si
ini.	2	492	-181900	377342	SLV 7	2.07	Si
fin.	2	-217	107971	377211	SLV 7	3.49	Si
ini.	2	-413	189718	377342	SLV 10	1.99	Si
fin.	2	295	-108735	377211	SLV 10	3.47	Si
ini.	2	256	103228	377342	SLV 16	3.66	Si
fin.	2	-94	-138792	377211	SLV 16	2.72	Si
ini.	2	-413	189718	377342	SLV 9	1.99	Si
fin.	2	295	-108735	377211	SLV 9	3.47	Si
ini.	2	108	-181289	377342	SLV 4	2.08	Si
fin.	2	10	174814	377211	SLV 4	2.16	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	189718	-1915			4068	1531	SLV 9	0.8	No
fin.	2	0	-108735	-3441			4066	1530	SLV 9	0.44	No
ini.	2	0	-95411	3200			4068	1531	SLV 2	0.48	No
fin.	2	0	138027	1850			4066	1530	SLV 2	0.83	No
ini.	2	0	-95411	3200			4068	1531	SLV 1	0.48	No
fin.	2	0	138027	1850			4066	1530	SLV 1	0.83	No
ini.	2	0	189718	-1915			4068	1531	SLV 10	0.8	No
fin.	2	0	-108735	-3441			4066	1530	SLV 10	0.44	No
ini.	2	0	189107	-3018			4068	1531	SLV 13	0.51	No
fin.	2	0	-175579	-4399			4066	1530	SLV 13	0.35	No
ini.	2	0	189107	-3018			4068	1531	SLV 14	0.51	No
fin.	2	0	-175579	-4399			4066	1530	SLV 14	0.35	No
ini.	2	0	103228	-2098			4068	1531	SLV 16	0.73	No
fin.	2	0	-138792	-3346			4066	1530	SLV 16	0.46	No
ini.	2	0	-181289	4120			4068	1531	SLV 4	0.37	No
fin.	2	0	174814	2903			4066	1530	SLV 4	0.53	No
ini.	2	0	-181289	4120			4068	1531	SLV 3	0.37	No
fin.	2	0	174814	2903			4066	1530	SLV 3	0.53	No
ini.	2	0	103228	-2098			4068	1531	SLV 15	0.73	No
fin.	2	0	-138792	-3346			4066	1530	SLV 15	0.46	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.989	SLV 9	Si
V_SLV	0.348	SLV 13	No
PF_SLU	6.334	SLU 37	Si
V_SLU	0.782	SLU 79	No

Trave di accoppiamento 189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	568	713	145	-1193.3	-485.9	568	713	145	100	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti

fb	fhk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γ_M	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-850	-40212	203622	SLU 58	5.06	Si
fin.	3	-850	-5185	203622	SLU 58	39.27	Si
ini.	3	-809	-39318	203622	SLU 70	5.18	Si
fin.	3	-809	-2365	203622	SLU 70	86.11	Si
ini.	3	-799	-40150	203622	SLU 71	5.07	Si
fin.	3	-799	-3307	203622	SLU 71	61.58	Si
ini.	3	-860	-39380	203622	SLU 57	5.17	Si
fin.	3	-860	-4243	203622	SLU 57	47.99	Si
ini.	3	-921	-41325	203622	SLU 78	4.93	Si
fin.	3	-921	-4746	203622	SLU 78	42.9	Si
ini.	3	-921	-42262	203622	SLU 80	4.82	Si
fin.	3	-921	-4135	203622	SLU 80	49.25	Si
ini.	3	-861	-40317	203622	SLU 59	5.05	Si
fin.	3	-861	-3631	203622	SLU 59	56.07	Si
ini.	3	-810	-40255	203622	SLU 72	5.06	Si
fin.	3	-810	-1753	203622	SLU 72	116.13	Si
ini.	3	-911	-42158	203622	SLU 79	4.83	Si
fin.	3	-911	-5688	203622	SLU 79	35.8	Si
ini.	3	-910	-41221	203622	SLU 77	4.94	Si
fin.	3	-910	-6299	203622	SLU 77	32.32	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-40150	880			1675	630	SLU 71	0.72	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	0	-3307	-142			1675	630	SLU 71	4.45	Si
ini.	3	0	-37373	861			1675	630	SLU 49	0.73	No
fin.	3	0	-1861	-150			1675	630	SLU 49	4.2	Si
ini.	3	0	-42262	893			1675	630	SLU 80	0.71	No
fin.	3	0	-4135	-129			1675	630	SLU 80	4.9	Si
ini.	3	0	-39213	864			1675	630	SLU 69	0.73	No
fin.	3	0	-3918	-157			1675	630	SLU 69	4.01	Si
ini.	3	0	-42158	876			1675	630	SLU 79	0.72	No
fin.	3	0	-5688	-145			1675	630	SLU 79	4.34	Si
ini.	3	0	-38309	876			1675	630	SLU 51	0.72	No
fin.	3	0	-1250	-135			1675	630	SLU 51	4.68	Si
ini.	3	0	-40255	897			1675	630	SLU 72	0.7	No
fin.	3	0	-1753	-125			1675	630	SLU 72	5.04	Si
ini.	3	0	-41325	877			1675	630	SLU 78	0.72	No
fin.	3	0	-4746	-144			1675	630	SLU 78	4.37	Si
ini.	3	0	-39318	881			1675	630	SLU 70	0.72	No
fin.	3	0	-2365	-141			1675	630	SLU 70	4.49	Si
ini.	3	0	-40317	873			1675	630	SLU 59	0.72	No
fin.	3	0	-3631	-138			1675	630	SLU 59	4.55	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2123	717042	220331	SLV 14	0.31	No
fin.	2	-2325	-717688	220331	SLV 14	0.31	No
ini.	2	172	723119	220331	SLV 16	0.3	No
fin.	2	-7	-714785	220331	SLV 16	0.31	No
ini.	2	-919	-342562	220331	SLD 1	0.64	No
fin.	2	-842	294888	220331	SLD 1	0.75	No
ini.	2	-1356	-770858	220331	SLV 1	0.29	No
fin.	2	-1177	700664	220331	SLV 1	0.31	No
ini.	2	-1356	-770858	220331	SLV 2	0.29	No
fin.	2	-1177	700664	220331	SLV 2	0.31	No
ini.	2	939	-764780	220331	SLV 4	0.29	No
fin.	2	1141	703567	220331	SLV 4	0.31	No
ini.	2	939	-764780	220331	SLV 3	0.29	No
fin.	2	1141	703567	220331	SLV 3	0.31	No
ini.	2	-919	-342562	220331	SLD 2	0.64	No
fin.	2	-842	294888	220331	SLD 2	0.75	No
ini.	2	172	723119	220331	SLV 15	0.3	No
fin.	2	-7	-714785	220331	SLV 15	0.31	No
ini.	2	-2123	717042	220331	SLV 13	0.31	No
fin.	2	-2325	-717688	220331	SLV 13	0.31	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	717042	-13798			2513	946	SLV 13	0.07	No
fin.	2	0	-717688	-14663			2513	946	SLV 13	0.06	No
ini.	2	0	-770858	15189			2513	946	SLV 1	0.06	No
fin.	2	0	700664	13715			2513	946	SLV 1	0.07	No
ini.	2	0	717042	-13798			2513	946	SLV 14	0.07	No
fin.	2	0	-717688	-14663			2513	946	SLV 14	0.06	No
ini.	2	0	-342562	6803			2513	946	SLD 2	0.14	No
fin.	2	0	294888	5724			2513	946	SLD 2	0.17	No
ini.	2	0	-764780	14919			2513	946	SLV 3	0.06	No
fin.	2	0	703567	14216			2513	946	SLV 3	0.07	No
ini.	2	0	723119	-14068			2513	946	SLV 15	0.07	No
fin.	2	0	-714785	-14161			2513	946	SLV 15	0.07	No
ini.	2	0	723119	-14068			2513	946	SLV 16	0.07	No
fin.	2	0	-714785	-14161			2513	946	SLV 16	0.07	No
ini.	2	0	-342562	6803			2513	946	SLD 1	0.14	No
fin.	2	0	294888	5724			2513	946	SLD 1	0.17	No
ini.	2	0	-764780	14919			2513	946	SLV 4	0.06	No
fin.	2	0	703567	14216			2513	946	SLV 4	0.07	No
ini.	2	0	-770858	15189			2513	946	SLV 2	0.06	No
fin.	2	0	700664	13715			2513	946	SLV 2	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.286	SLV 1	No
V_SLV	0.062	SLV 1	No
PF_SLU	4.818	SLU 80	Si
V_SLU	0.703	SLU 72	No

Trave di accoppiamento 190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	913	1065	152	-1193.3	-485.9	913	1065	152	100	30	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2_Corti



fb_	fhk	fvk0	fhmedio	τ_0	fv0	μ	ϕ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-10	12694	215872	SLU 65	17.01	Si
fin.	3	-10	9856	215872	SLU 65	21.9	Si
ini.	3	87	14463	215872	SLU 60	14.93	Si
fin.	3	87	7979	215872	SLU 60	27.06	Si
ini.	3	-37	13387	215872	SLU 44	16.13	Si
fin.	3	-37	11128	215872	SLU 44	19.4	Si
ini.	3	-27	14515	215872	SLU 52	14.87	Si
fin.	3	-27	10517	215872	SLU 52	20.53	Si
ini.	3	48	14091	215872	SLU 82	15.32	Si
fin.	3	48	8073	215872	SLU 82	26.74	Si
ini.	3	99	12159	215872	SLU 64	17.75	Si
fin.	3	99	7580	215872	SLU 64	28.48	Si
ini.	3	21	14785	215872	SLU 61	14.6	Si
fin.	3	21	9344	215872	SLU 61	23.1	Si
ini.	3	0	13822	215872	SLU 73	15.62	Si
fin.	3	0	9245	215872	SLU 73	23.35	Si
ini.	3	114	13770	215872	SLU 81	15.68	Si
fin.	3	114	6707	215872	SLU 81	32.19	Si
ini.	3	72	12852	215872	SLU 43	16.8	Si
fin.	3	72	8852	215872	SLU 43	24.39	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	14785	498			1756	661	SLU 61	1.33	Si
fin.	3	0	9344	-604			1756	661	SLU 61	1.09	Si
ini.	3	0	14515	512			1756	661	SLU 52	1.29	Si
fin.	3	0	10517	-589			1756	661	SLU 52	1.12	Si
ini.	3	0	14463	488			1756	661	SLU 60	1.36	Si
fin.	3	0	7979	-614			1756	661	SLU 60	1.08	Si
ini.	3	0	14091	497			1756	661	SLU 82	1.33	Si
fin.	3	0	8073	-614			1756	661	SLU 82	1.08	Si
ini.	3	0	13822	511			1756	661	SLU 73	1.29	Si
fin.	3	0	9245	-600			1756	661	SLU 73	1.1	Si
ini.	3	0	12852	512			1756	661	SLU 43	1.29	Si
fin.	3	0	8852	-589			1756	661	SLU 43	1.12	Si
ini.	3	0	9962	514			1756	661	SLU 83	1.29	Si
fin.	3	0	5669	-597			1756	661	SLU 83	1.11	Si
ini.	3	0	12159	511			1756	661	SLU 64	1.29	Si
fin.	3	0	7580	-600			1756	661	SLU 64	1.1	Si
ini.	3	0	13770	486			1756	661	SLU 81	1.36	Si
fin.	3	0	6707	-624			1756	661	SLU 81	1.06	Si
ini.	3	0	10299	513			1756	661	SLU 74	1.29	Si
fin.	3	0	5879	-598			1756	661	SLU 74	1.11	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	γM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-106	232553	232581	SLV 10	1	Si
fin.	2	-336	-199037	232581	SLV 10	1.17	Si
ini.	2	-70	-440977	232581	SLV 3	0.53	No
fin.	2	169	419267	232581	SLV 3	0.55	No
ini.	2	217	460632	232581	SLV 14	0.5	No
fin.	2	-23	-407396	232581	SLV 14	0.57	No
ini.	2	-217	-383295	232581	SLV 2	0.61	No
fin.	2	-81	365878	232581	SLV 2	0.64	No
ini.	2	363	402951	232581	SLV 16	0.58	No
fin.	2	228	-354007	232581	SLV 16	0.66	No
ini.	2	217	460632	232581	SLV 13	0.5	No
fin.	2	-23	-407396	232581	SLV 13	0.57	No
ini.	2	-106	232553	232581	SLV 9	1	Si
fin.	2	-336	-199037	232581	SLV 9	1.17	Si
ini.	2	-70	-440977	232581	SLV 4	0.53	No
fin.	2	169	419267	232581	SLV 4	0.55	No
ini.	2	-217	-383295	232581	SLV 1	0.61	No
fin.	2	-81	365878	232581	SLV 1	0.64	No
ini.	2	363	402951	232581	SLV 15	0.58	No
fin.	2	228	-354007	232581	SLV 15	0.66	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	γM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	402951	-7563			2634	991	SLV 15	0.13	No
fin.	2	0	-354007	-8290			2634	991	SLV 15	0.12	No
ini.	2	0	-440977	8593			2634	991	SLV 4	0.12	No
fin.	2	0	419267	7885			2634	991	SLV 4	0.13	No
ini.	2	0	-383295	8340			2634	991	SLV 1	0.12	No
fin.	2	0	365878	7362			2634	991	SLV 1	0.13	No
ini.	2	0	402951	-7563			2634	991	SLV 16	0.13	No
fin.	2	0	-354007	-8290			2634	991	SLV 16	0.12	No
ini.	2	0	460632	-7816			2634	991	SLV 13	0.13	No
fin.	2	0	-407396	-8813			2634	991	SLV 13	0.11	No
ini.	2	0	460632	-7816			2634	991	SLV 14	0.13	No
fin.	2	0	-407396	-8813			2634	991	SLV 14	0.11	No
ini.	2	0	202228	-3112			2634	991	SLD 13	0.32	No
fin.	2	0	-170447	-4027			2634	991	SLD 13	0.25	No



Sezione	γ_M	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	0	-383295	8340			2634	991	SLV 2	0.12	No
fin.	2	0	365878	7362			2634	991	SLV 2	0.13	No
ini.	2	0	202228	-3112			2634	991	SLD 14	0.32	No
fin.	2	0	-170447	-4027			2634	991	SLD 14	0.25	No
ini.	2	0	-440977	8593			2634	991	SLV 3	0.12	No
fin.	2	0	419267	7885			2634	991	SLV 3	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.505	SLV 13	No
V_SLV	0.112	SLV 13	No
PF_SLU	14.601	SLU 61	Si
V_SLU	1.058	SLU 81	Si